

LG&E Energy LLC
220 West Main Street (40202)
P.O. Box 32030
Louisville, Kentucky 40232

March 13, 2006

RECEIVED

MAR 13 2006

**PUBLIC SERVICE
COMMISSION**

Elizabeth O'Donnell
Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
Frankfort, Kentucky 40602-0615

RE: Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for the Construction of Transmission Facilities In Jefferson, Bullitt, Meade, and Hardin Counties
Case No. 2005-00467

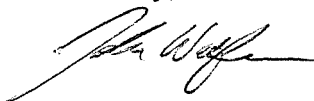
Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for the Construction of Alternative Transmission Facilities in Jefferson, Bullitt, Meade, and Hardin Counties, Kentucky
Case No. 2005-00472

Dear Ms. O'Donnell:

Enclosed please find an original and eight (8) copies of Louisville Gas and Electric Company's ("LG&E") and Kentucky Utilities Company's ("KU") Response to Intervenor Dennis and Cathy Cunningham; CDH Preserve, LLC; Harrison and Hardin First Data Request dated March 6, 2006.

Should you have any questions concerning the enclosed, please do not hesitate to contact me at (502) 627-4110.

Sincerely,



John Wolfram
Manager, Regulatory Affairs

cc: Parties of Record

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

**JOINT APPLICATION OF LOUISVILLE)
GAS AND ELECTRIC COMPANY AND)
KENTUCKY UTILITIES COMPANY)
FOR THE CONSTRUCTION OF TRANS-)
MISSION FACILITIES IN JEFFERSON,) CASE NO. 2005-00467
BULLITT, MEADE, AND HARDIN)
COUNTIES, KENTUCKY)**

**JOINT APPLICATION OF LOUISVILLE)
GAS AND ELECTRIC COMPANY AND)
KENTUCKY UTILITIES COMPANY FOR)
THE CONSTRUCTION OF ALTERNA-) CASE NO. 2005-00472
TIVE TRANSMISSION FACILITIES IN)
JEFFERSON, BULLITT, MEADE, AND)
HARDIN COUNTIES, KENTUCKY)**

**JOINT RESPONSE OF
LOUISVILLE GAS AND ELECTRIC COMPANY
AND KENTUCKY UTILITIES COMPANY
TO
INTERVENORS DENNIS AND CATHY CUNNINGHAM;
CDH PRESERVE, LLC; HARRISON AND HARDIN
FIRST DATA REQUEST
DATED MARCH 6, 2006**

FILED: March 13, 2006

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 1

**Witness: Mark S. Johnson / Brandon Grillon /
Clay Doherty / John Wolfram / Counsel**

- Q-1. Any studies, evaluations, discussions, and/or communications concerning alternative routes or alternative configurations for the proposed transmission facilities and all related documents performed by or for LG&E/KU that relate to the location of a transmission line from LG&E's Mill Creek Station, in Jefferson County to the KU Hardin County Substation, near Elizabethtown, Ky.
- A-1. The Companies object to this request to the extent that it seeks the production of any item protected by the attorney-client privilege or the work product doctrine. Without waiver of that objection, and without production of privileged or work-product protected documents, the Companies provide the requested information in paper and/or electronic form in the attachments. See also the Companies' Application, Testimony and Exhibits and the Companies' responses to the Commission Staff's data requests in this proceeding.

MEMORANDUM

To: File
From: Brandon Grillon
Date: October 19, 2005
Re: Mill Creek – Hardin County Route Selection – Part I

This memorandum is to document the process by which the transmission team has selected the routes to be studied in detail by Photo Science in the next few weeks.

The electrical feasibility study was conducted by the MISO (Midwest Independent System Operator) and verified internally by the LG&E transmission planning department under the direction of Mike Toll. The need for this line was verified by the Public Service Commission's response to the original filing of the Mill Creek to Hardin County 345 KV line CCN. The transmission team was then requested to review all the necessary information and map the routes that should be evaluated between Mill Creek and Hardin County based upon the additional guidance provided by the PSC in order to submit a new application for a transmission CCN for the line.

Establishing the Study Area

In order to establish the study area for the Mill Creek to Hardin County line, we looked at the route as a general north south corridor and bounded this corridor on the east and west sides with the most easterly and westerly routes that would allow for 100% co-location, in order to study the widest possible range of feasible routes that would further the goal of making use of existing facilities and utility corridors. Given that the surrounding area consisted of generally the same factors (the extent to which the area was inhabited; environmental considerations, etc.), using co-location as the method for "bounding" the study area was the most logical thing to do since placing a corridor outside of these bounds would not make the route any more feasible than routes inside of the study area, would not make any greater use of existing facilities or existing utility corridors, and would result in a longer line which would impact more properties, create more engineering hurdles and cost more money.

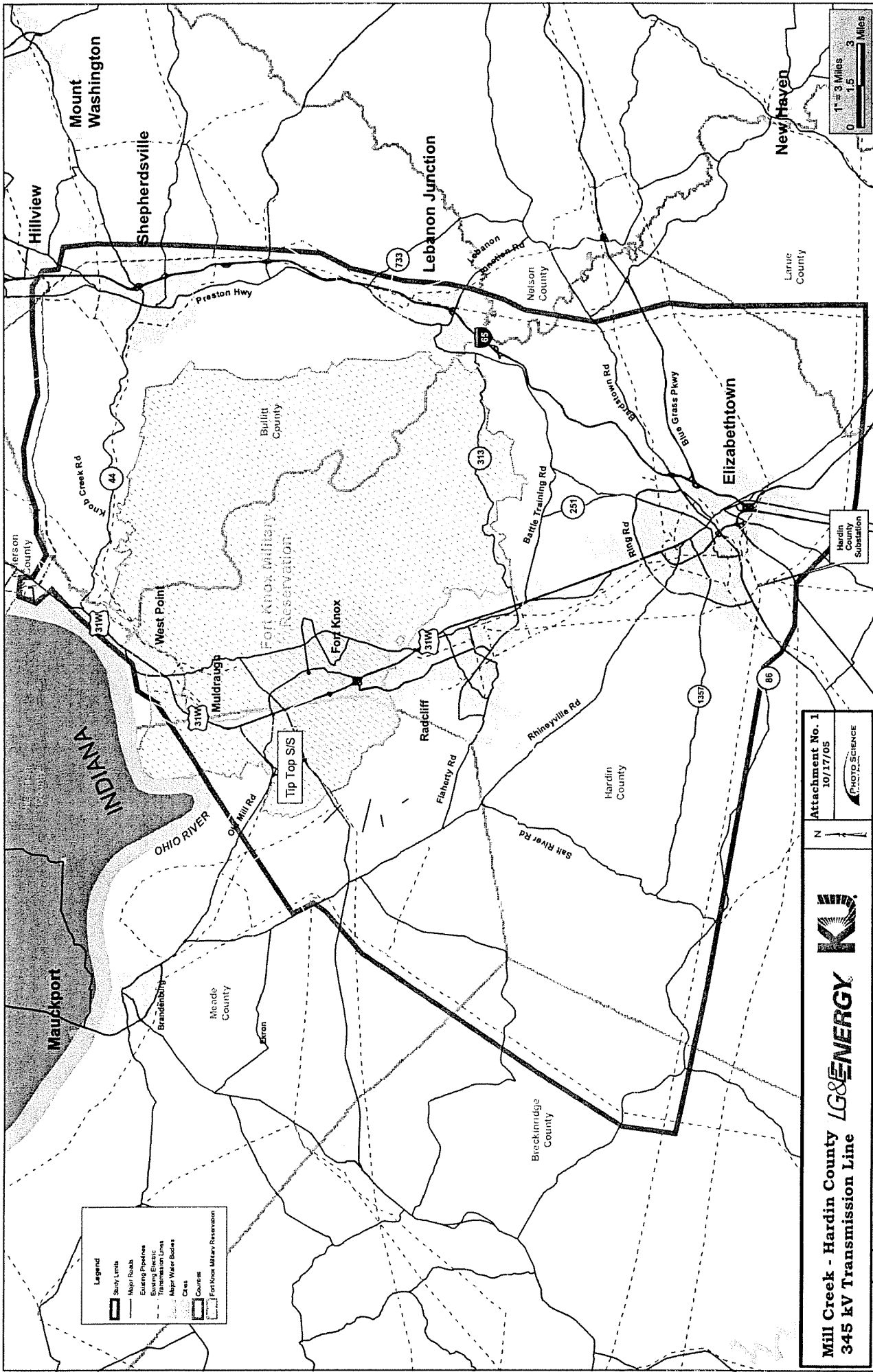
We examined maps of the study area, including aerial photography, topographic maps, and street maps, along with ancillary data such as existing facility maps from the KY PSC, wetland boundaries, NRHP sites and floodplain areas, and made field visits. These maps and data were collected and viewed in a digital format in order to facilitate the identification of constraints on the built, natural, and engineering environment. Based on these maps and data, routes were identified as far to the east and as far to the west as necessary to find routes which would allow 100% co-location with existing linear facilities. These routes that bound the study area are identified in Attachment #1.

Identifying Routes to be Studied Within the Study Area

Once the study area had been established, we further examined aerial photography and conducted field visits in order to look for the possible corridors to be used for routing a 345 KV transmission line. The general paths we looked for were ones that would maximize the use of roadways, existing transmission lines, gas pipelines, large open areas, and minimize the impact on both the built and natural environments. Due to meetings with Fort Knox personnel, areas on the Fort Knox Military Reservation were taken out of the study area since it did not fit into the current mission of Fort Knox. However several routes were identified across the reservation in order to identify other alternatives on the reservation. This analysis resulted in several opportunities for the location of a 345 KV transmission line.. Based on these opportunities many route segments were created and these segments were then combined into individual alternative routes identified on the map labeled Attachment #2. The routes identified in Attachment #2, therefore, are a comprehensive set of the full array of variations of the routes that are possible within the study area.

These routes will be the subject of further, detailed study, which is the next phase of the route selection process.

END OF MEMO



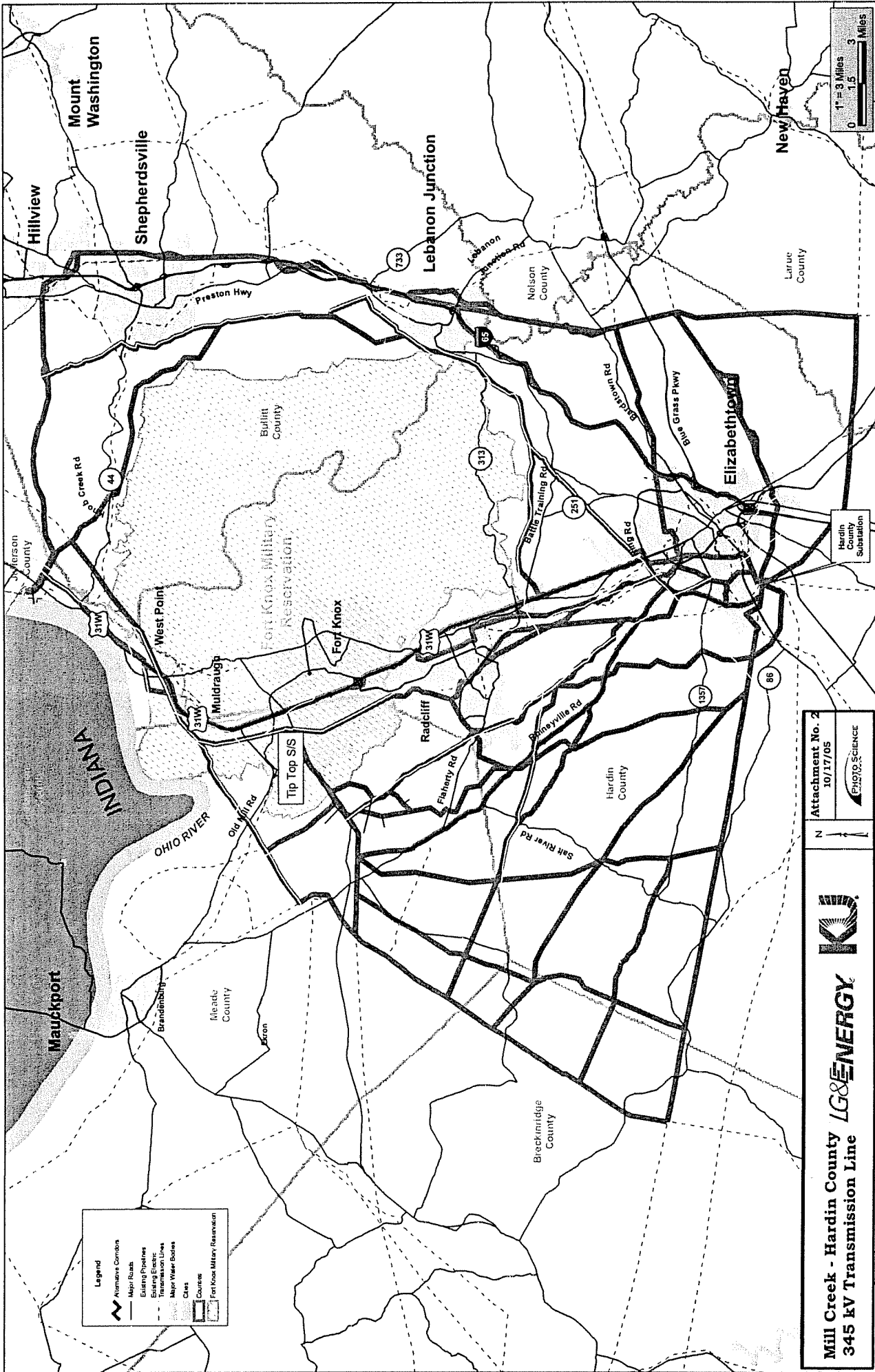
Legend

- Study Limits
- Study Limits
- Major Roads
- Existing Pipelines
- Existing Electric Transmission Lines
- Major Water Bodies
- Creek
- Coverage
- Fort Knox Military Reservation

Attachment No. 1
10/17/05
PHOTO SCIENCE

LG&E ENERGY

Mill Creek - Hardin County
345 kV Transmission Line



Privileged – Attorney Work Product
Attorney Client Communication

MEMORANDUM

To: File
From: Mark S. Johnson
Date: 12/15/05
Subject: Mill Creek – Hardin County 345kV Route Selection

This memorandum is to document the decision process for selecting the preferred and alternate routes.

The need for this line was verified by the Kentucky Public Service Commission's (KPSC) response to the original filing of the Mill Creek to Hardin County 345 kV CCN.

The process for route selection utilized a combination of companies' own transmission routing knowledge/experience, EPRI routing model, field visits, and aerial photography and gathering data from various databases/registries which provide site specific information. The vast majority of this information was obtained on the Companies behalf by PhotoScience and reviewed by the Companies in a series of meetings. The meetings were held to review progress of the analysis and to discuss type of considerations/sensitivities examined. The Companies in conjunction with PhotoScience and its contractor Clay Doherty set out to identify all possible route alternatives between the two terminal points identified in the studies performed by the Midwest ISO, transmission provider for the Companies. Clay Doherty's role was to provide an independent view of the companies' decision-making process. The studies were undertaken to identify whether facility upgrades were necessary to support the integration of a second coal-fired base-load unit at the Trimble County station. Those studies concluded that existing infrastructure was inadequate to support the integration of the second unit and new facilities must be constructed.

The Companies layered on top of the process the guidance provided by KPSC staff during an informal conference dated October 4, 2005. The KPSC staff outlined five steps to be taken in evaluating route options. Those steps are identify need, identify all electrically feasible options, identifying least cost route, identify impact of more costly routes on rates and EPRI or other process of choosing the preferred route.

Because there are an infinite number of route variations between two points the Companies sought to bind the analysis consistent with KPSC staff guidance by looking at

the universe of possibilities and then narrowing the number of options to a preferred reasonable route.

With emphasis on use of existing right of ways, the Companies identified the nearest paths providing 100% use of existing right of ways to the east and west of the two terminal points (Mill Creek and Hardin County substations). The Companies then proceeded to look at all other reasonable route options inside of these boundaries. The Companies examined approximately 1200 route alternatives utilizing the EPRI model analysis tool. All routes were scored using the EPRI system. The EPRI model provides an objective set of criteria to compare one route against another. The model does not provide a definitive result but rather identifies factors to be considered in three primary categories when selecting a route. These categories are the natural, built, and engineering environment. Estimates were performed on each route for collocation and cost considerations.

Routes were ultimately eliminated based on one or more of the following factors - high cost; land use limitations imposed by Fort Knox; purchase/relocation of multiple homes and/or businesses; and lower uses of existing right of way. As a practical matter the Companies have sought to mitigate the need to purchase properties in lieu of an easement in routing transmission lines.

In parallel with this process Clay Doherty provided insights to and advised the companies on the use of the EPRI model. Clay also worked more extensively with the model examining macro corridors to test the veracity of the companies' analyses.

After careful consideration of all factors including use of expert judgment related to length of the route, number of property owners impacted, home/business relocations, and impacts on the natural environment the preferred and alternate route were selected. The Companies preferred route is reasonable, utilizes approximately 56% of existing right of way, cost effective and negligible impact on rates. The alternative route is also reasonable, utilizes approximately 10% more existing right of way, cost is approximately \$4M higher and also has a negligible impact on rates.

Harper, Vicki

From: Grillon, Benjamin
Sent: Tuesday, October 11, 2005 9:31 AM
To: Winkler, Michael
Cc: 'Robert Watt'; Johnson, Mark S.
Subject: Mill Creek - Hardin County 345 KV line

Attachments: mill_creek_aerial.pdf

Mike,
Please find attached a map of a portion of the proposed 345 KV line from Mill Creek to Hardin County. The blue line on the map is the existing alignment while the green line is a possible alteration of the proposed route. Please note that no field visits have occurred to verify this route and this should be considered preliminary. If you have any questions please let me know.

Thanks,
Brandon Grillon
859-367-5763



mill_creek_aerial.pdf (834 KB)...



**Mill Creek - Hardin County
345 kV Transmission Line**

LG&ENERGY

KU



Location Map
09/28/05

PHOTO SCIENCE
Engineering & Support

Robert Watt

From: Robert Watt
Sent: Monday, September 26, 2005 3:28 PM
To: 'AW.Turner@ky.gov'; HGraddy@aol.com; gcornett@ogdenlaw.com; RMoore@hazelcox.com; LDudgeon@hazelcox.com; rwgriffith@stites.com
Cc: jajohnson@ky.gov; Andrew.Melnykovich@ky.gov; jarogness@ky.gov; rarowles@ky.gov; errussell@ky.gov; isscott@ky.gov; John.Shupp@ky.gov; jorge.valladares@ky.gov
Subject: RE: Case Nos. 2005-00142 and 2005-00154

All of those dates work of LG&E/KU. Thanks. Bob

From: AW.Turner@ky.gov [mailto:AW.Turner@ky.gov]
Sent: Monday, September 26, 2005 2:16 PM
To: Robert Watt; HGraddy@aol.com; gcornett@ogdenlaw.com; RMoore@hazelcox.com; LDudgeon@hazelcox.com; rwgriffith@stites.com
Cc: jajohnson@ky.gov; Andrew.Melnykovich@ky.gov; jarogness@ky.gov; rarowles@ky.gov; errussell@ky.gov; isscott@ky.gov; John.Shupp@ky.gov; jorge.valladares@ky.gov
Subject: Case Nos. 2005-00142 and 2005-00154

As you are all aware, LG&E/KU have asked for an informal conference in these cases. How do these dates look on your schedules: any time October 4 or 5, or the morning of October 6? The best time would be the afternoon of October 5.

Robert Watt

From: Robert Watt
Sent: Tuesday, December 13, 2005 2:18 PM
To: Dimas, Jim; Cocanougher, Beth; Keisling, Jennifer; 'Wolfram, John'; Ingebrigtsen, Brent; Cornett, Greg J.
Cc: Blake, Kent
Subject: Johnson Exhibits
Attachments: Fort Knox Letter; Corps E-mail.doc

John:

Here are electronic versions of the Fort Knox letter and the Corps e-mail, which are exhibits to Mark's testimony.
Bob

Robert Watt

From: Robert Watt
Sent: Friday, September 23, 2005 2:05 PM
To: 'AW.Turner@ky.gov'
Cc: Cocanougher, Beth; 'kent.blake@lgeenergy.com'; 'Wolfram, John'; Comett, Greg J.
Subject: LG&E/KU Request for Informal Conference

A.W.:

As you requested, we have canvassed the possible LG&E/KU participants in the informal conference we have requested. Any day from October 4 through October 7 works for us as a date for the informal conference, but our preference would be the afternoon of October 5. Please let me know if you need any other possible dates from us. Otherwise, we will await your message as to the date and time of the conference. Thanks for your assistance in this matter. Bob

Wolfram, John

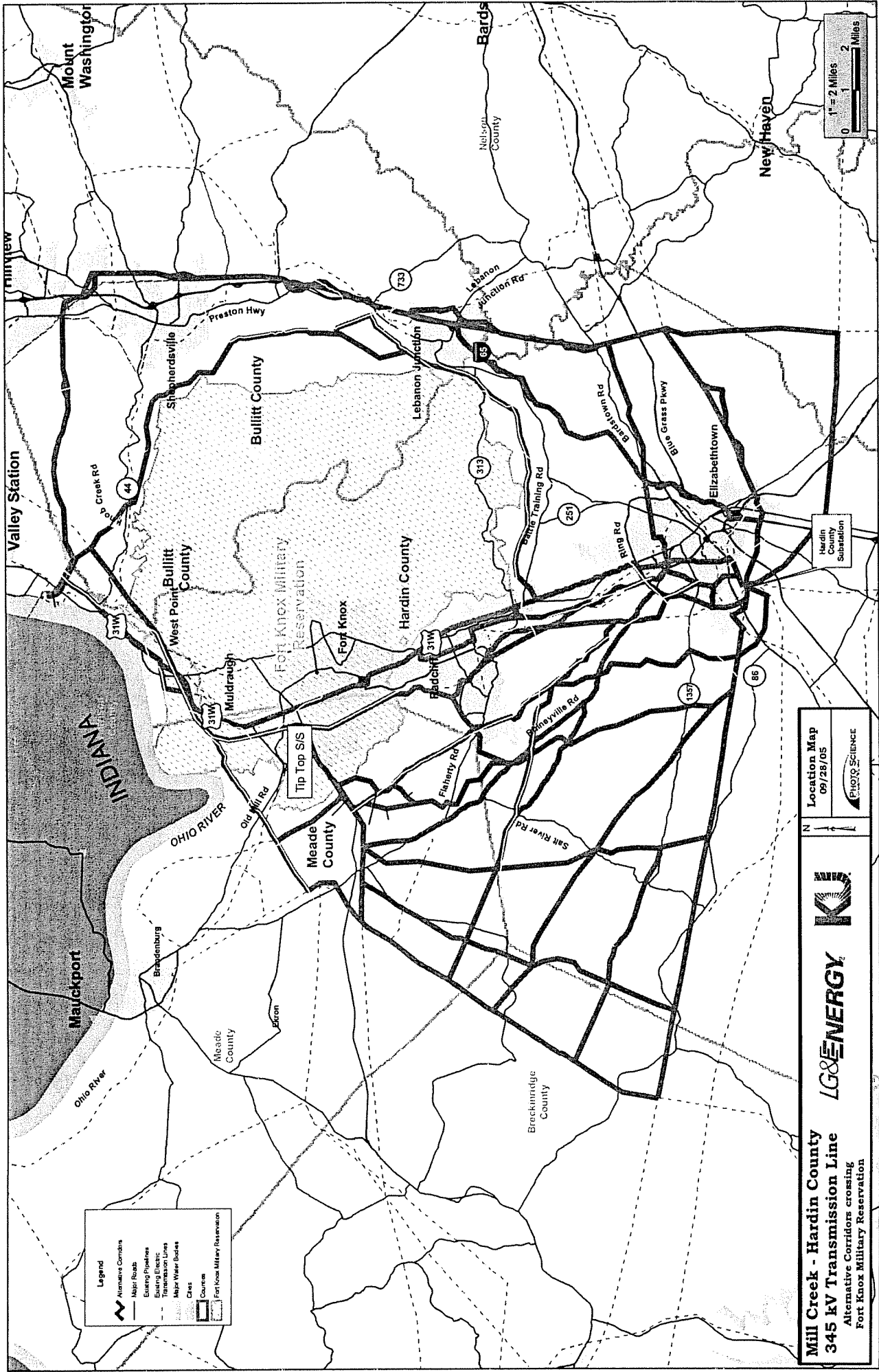
From: Grillon, Benjamin
Sent: Thursday, January 05, 2006 6:49 PM
To: Wolfram, John
Subject: Map You Requested
Attachments: all_alts.pdf

John,
Here is the map you were talking about I believe. Let me know if you were thinking of something else.

Thanks,
Brandon



all_alts.pdf (168
KB)



**Mill Creek - Hardin County
345 kV Transmission Line**
Alternative Corridors crossing
Fort Knox Military Reservation

LG&ENERGY

Location Map
09/28/05
PHOTO SCIENCE

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 2

Witness: W. Michael Winkler / Clay Doherty / Counsel

- Q-2. Any studies, evaluations, discussions, and/or communications, including any environmental impact statement or environmental assessment, produced by or on behalf of LG&E/KU or by any federal or state agency, evaluating the environmental impacts of the proposed transmission facilities and alternatives and all related documents.
- A-2. The Companies object to this request to the extent that it seeks the production of any item protected by the attorney-client privilege or the work product doctrine, and on grounds that the information sought is not relevant to the subject matter of this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence. Without waiver of that objection, and without production of privileged or work-product protected documents, the Companies provide the requested information in paper and/or electronic form in the attachments. See also the Companies' Application, Testimony and Exhibits in this proceeding. See also the Companies' responses to Question Nos. 1, 4, 6 and 8 of these data requests.

Sanchez, Susan

From: linearprojects [linearprojects@bellsouth.net]
Sent: Wednesday, June 15, 2005 3:14 PM
To: Grillon, Benjamin
Subject: FW: buffer revisions, etc

Brandon, FYI. Again, we'll just have to see where these areas are and what the effect of the buffers will be on structure placement. Clay

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
linearprojects@bellsouth.net

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From: Rice, Dan [mailto:DRice@JJG.com]
Sent: Wednesday, June 15, 2005 11:25 AM
To: Rice, Dan; Jay; Fox, Ben
Cc: linearprojects
Subject: buffer revisions, etc

Jay:

I spoke again with Mike and got additional guidance on the buffers. Let's make all buffers (streams, wetl, sink holes) 70 feet. Also, they want to see 70 foot buffers on all jurisdictional and non-jurisdictional wetlands (i.e. isolated). He pointed out that many of the isolated wetlands are "trapped karst wetlands."

Clay:

Two things. One, Mike would rather us not contact the Kentucky State Nature Preserve Commission for a database search. His feeling is that USFWS is the governing agency over protected species. Also, I wanted to point out that even though we are placing all of these buffers on these features, I think there is still a need for LG&E to sit down with Ft Knox and discuss the buffers and specific clearing and BMP details. Some compromises may be reached. Mike is under the impression (from Brandon) that all trees will be hand-cleared. No bull dozing and grubbing out stumps.

Thanks,

3/9/2006

Dan

*Dan Rice
Senior Ecologist
Jordan, Jones, and Goulding, Inc.
6801 Governors Lake Parkway
Building 200
Norcross, GA 30071
678-333-0457
678-641-1564 (cell)
770-455-7391 (fax)*

From: Rice, Dan
Sent: Wednesday, June 15, 2005 10:43 AM
To: Jay; Fox, Ben
Cc: linearprojects
Subject: FW: Ft Knox utility surveys - updates, questions

FYI:

Please find following Mike Brandenburg's response to our question regarding buffers. He is suggesting 70 feet for all sink holes. Jay, please go ahead and prepare a shapefile with **70-foot buffers on all sink holes** and **75-foot buffers on jurisdictional wetlands and streams**.

Please send the shapefile to Brandon and copy Clay on it.

Thanks,

Dan

*Dan Rice
Senior Ecologist
Jordan, Jones, and Goulding, Inc.
6801 Governors Lake Parkway
Building 200
Norcross, GA 30071
678-333-0457
678-641-1564 (cell)
770-455-7391 (fax)*

From: Brandenburg, Mike G [mailto:Mike.Brandenburg@knox.army.mil]
Sent: Wednesday, June 15, 2005 10:36 AM
To: Rice, Dan
Cc: Pollock, Linda Gail
Subject: RE: Ft Knox utility surveys - updates, questions

Dan:

I would like to maintain the 70 ft buffer around all sink holes. As I understood it from our meeting here the utility plans to hand clear the line, as in cut the trees instead of a dozer and grubbing out the stumps. This should alleviate some of my concerns as there should be considerably less bare soil exposed in this operation. Definitely we want to use BMP's such as silt fences to preclude sediments entering the sink holes that have throats in areas that there is going to be bare ground. Additionally, we want to be careful about heavy equipment entering sink areas that may be jurisdictional wetlands.

Mike Brandenburg
Wildlife Biologist
Fort Knox Fish and Wildlife

-----Original Message-----

From: Rice, Dan [mailto:DRice@JJG.com]
Sent: Monday, June 13, 2005 10:44 AM
To: mike.brandenburg@knox.army.mil
Subject: Ft Knox utility surveys - updates, questions

Mike:

I thought I would follow up my phone message with an email updating you on our findings at Ft. Knox and a couple of questions.

First, thank you for taking the time to meet with Ben Fox and Kevin Mullinax on the first day of our survey. I am sorry I did not get to meet you as well, but I joined them later in the week.

As I mentioned on the phone, we did complete our surveys on Ft. Knox. As you anticipated, we did encounter approximately 40 sink holes, and approximate one-half to two-thirds had "throats". We GPS'd all the sink holes, and we will summarize those in our report. In a previous conversation, you had mentioned including buffers around sink holes. **Do you want to buffer the sink holes that do not have a throat? If so, would you like to see those buffers be as large as the buffers for sinkholes with throats?** Also, we wanted to make you aware of one sink hole approximately 800 feet south of the Brandenburg Road. This sink hole is in the proposed ROW and appears to have a more rectangular opening than most of the "throats" that we encountered. This sink was very near a sink hole in the gas line ROW that was flagged and identified as LG&E 40.

Finally, we would like to contact Kentucky State Nature Preserves Commission to request a database search on the Ft Knox segment of the ROW. Can we go ahead and make that request, or does Ft. Knox need to review and submit the request.

Please call me with any questions or if you would like to discuss these items further.

Thanks,

Dan

Dan Rice

Senior Ecologist

Jordan, Jones, and Goulding, Inc.

6801 Governors Lake Parkway

Building 200

Norcross, GA 30071

678-333-0457

678-641-1564 (cell)

770-455-7391 (fax)

Sanchez, Susan

From: Brackett, Jerry L [Jerry.Brackett@knox.army.mil]
Sent: Monday, March 06, 2006 10:36 AM
To: Bradford, Ronald
Cc: Walsh, Patrick A; Pollock, Linda Gail; McGar, James D Jr; Hickok, Bill; Sullivan, Michael P
Subject: RE: FW: Fort Knox Meeting 2-23-06 Tree clearing specs
Attachments: LG&E Meeting Comments.doc; CELRL LGE comments 2-27Final.doc

Ronnie,

I've attached comments from our EMD and from CELRL on your Draft Clearing Spec. My comments, in addition to these, are:

- 1, Section 3.1: Ft Knox shall require two photo ID's for all employees.
- 2, Section 4.2: The consensus at Ft Knox is that the marketable timber and all brush and debris from the tree clearing in upland areas shall be removed from Ft Knox. More discussion is needed on how to treat removal from the wetlands, ESA's and SMZ's.
3. General: Ft Knox will also require a Quality Control Plan and a Safety Plan be submitted for review and approval for the tree clearing operation.

Jerry L. Brackett
Directorate of Public Works (DPW)
Building 1110, Fort Knox, KY 40121
502-624-5592, DSN 464-5592

From: Bradford, Ronald [mailto:Ronald.Bradford@eon-us.com]
Sent: Friday, February 24, 2006 10:04 AM
To: Brackett, Jerry L
Subject: FW: FW: Fort Knox Meeting 2-23-06 Tree clearing specs

Jerry,

Yesterday's meeting took an unexpected turn. The meeting was to discuss the Corp of Engineers' request that LG&E remove the marketable timber, reduce the fire hazard, and maintain access and other practices during the clearing.

Mr. Sullivan had addressed the right of way access and LG&E had agreed to do his request. I feel the only issue unanswered was the removal of the marketable timber.

3/9/2006

The Corp of Engineers in my option had set a precedence allowing windrowing at Fort Campbell. And Fort Knox had already agreed to allow us to windrow with our first EA application. Hauling all brush would be a very time consuming operation and would draw more attention to the project.

Please consider the options below. I can setup a conference call Monday if you would reconsider your decision.

LG&E will perform the following:

- 1) Remove marketable timber
- 2) Create 300' breaks with 20' gaps between breaks and the residual trees.
- 3) All roads crossing, no windrowing within 600'
- 4) All brush will be compacted in windrows

Thanks

Ronnie

From: Mullins, Nate
Sent: Friday, February 24, 2006 9:23 AM
To: Bradford, Ronald
Subject: RE: Fort Knox Meeting 2-23-06 Tree clearing specs

Please review the results of this meeting. It appears that we are deviating from our industry standards and procedures for this type of work. Windrowing has long been an accepted practice for leaving brush on right-of-ways in the type of terrain similar to Fort Knox. This practice is even common on US National Forests.

We need to work with Fort Knox and the Corp of Engineers, but we need to be allowed to complete the work by utilizing reasonable methods. I ask that you contact these authorities again and maybe include our EA expert Clay Doughty and appeal these findings.

From: Bradford, Ronald
Sent: Thursday, February 23, 2006 3:30 PM
To: Mullins, Nate
Cc: Strunk, Alan; Todd, David; Comstock, David
Subject: Fort Knox Meeting 2-23-06 Tree clearing specs

The meeting opened with Jerry Bracket DPW, introducing Ronnie Bradford and asking for a update and schedule on the Environmental Assesment (EA) to be submitted to the Fort.

I informed the group that the revised KY SHPO was being submitted to me, March 1st, and that I was going to submit that report to Fort Knox on March 2nd, and that KY SHPO had until April 10th to respond to the report, if KY SHPO approved the report we would be able to submit the EA, April 17th

Once all filling complete, we would be able to start the appraisal of the timber and create an addendum to the existing Right Of Way for the additional width need for the 345KV line.

I explained that the Corp of Engineers, Dan Yelch and Dan Puckett called me and were concern that we submitted a EA, with langue of windrowing on the Fort property, and that we were planning to leave the marketable timber if we couldn't find a market. And that the general public would see the eyesore. And object to the windrowing and would draw more attention to

the Fort and Corp of Engineers, that they didn't want.

I introduced David Comstock to go over our proposed, Tree Clearing Specs:

Section 3.2 Michael Brandenburg, Fish & Wildlife Dept express concerns that "NO" fescue or pre-annual rye be used on the base. That Mr. Brandenburg would submit application requirements and seasons to plant grasses, (purple top, white and red clover□□.).

Mr. Sullivan, Range Manager, requested that LGE/KV provide a plan, to windrowing along route, every 300' create 20' gap for Fort equipment, expect in wetland area.

Mr. Welch with the Corp of Engineers said that this would create a large fire hazard and would be visible from the roads..

Mr. Puckett, Corp of Engineers, said that Ft Campbell had just completed a job with TVA there was some windrowing away from public view.

Mr Brandenburg suggested that LG&E/KU only windrow away from public view.

Mr. Bradford asked if we reduced the windrowing down from 16' to 8' would that help if we met you half way.

Mr. Bradford, asked Mr. Bracket this is your base what do you want LG&E/KU to do with the timber.

Mr. Bracket said that we need to plan at this point to remove all clearing from the right of way, and that we would need to haul it off, the base.

Mr. Bradford asked would we be able to do a controlled burn, to help defer the cost of hauling, "NO"

Cris Helmkamp, Historic and Nature officer, That LGE/KU needs to identify any resource we may damage off the described right of way. And included them into the scope of the project, and consider if we go off the right of way LGE/KU might violate the KY SHPO described route.

Section 3.52 Detail Plan Best Management Practices and Saftey and Inspection methods to the base prior to the start of any work to Jerry Bracket, and Donnie McGar

Section 5.2, Remove any marketable timber in upland, but reach over and not to disturb sink holes.

Meeting ended 10:20 AM

Confidentiality Disclaimer

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Comments on Proposed Land Clearing Spec for the Transmission Line Project

Environmental Branch:

Section 3.5.1 Control of fuels and oils. **All spills will be reported to the Range Division, 624-6907, and to the Environmental Management Division, 624-3629.**

3.5.2 Stormwater Pollution Prevention Plan. **Plan should identify on engineer drawings steep slope site conditions and specific BMPs used at each.**

4.2 Disposal. **All debris shall be removed from the upland right-of-way and disposed of off post.**

Forestry Branch:

(1) It is apparent to me after the meeting on 23 Feb 06; with LG&E, Asplundh Tree Company, COE, and Fort Knox DPW; clear description of the finished ROW needs to be included in the specs. The Forestry Section marked 5,764 merchantable trees (trees greater than 12 inches DBH for a volume of 747,989 board feet of timber). If consideration is given to all of the unmerchantable trees and shrubs in addition to known merchantable timber, it is easy to see that there will be a lot of vegetation felled and in need of disposal.

(2) A government representative should be listed in this document as a POC and a project monitor to insure all BMPs, Environmental considerations are adhered to, and property damage accounted for by the POC.

(3) It was noted at the above meeting that there may be instances where additional access is needed outside of the existing ROW access and existing road access. These areas need to be identified and the same environmental and economic considerations need to be applied to these areas as to the ROW itself.

(4) A penalty section needs to be added to this document which informs the contractor what happens if property or environmental damage occurs. (Section 3.2 states damage will be repaired, but how do you repair damage to or accidental removal of a tree?) Government POC needs to make the determination.

Section 1.4 Include POC for all parties including the US Army Fort Knox.

Section 2.0 Include an accurate description of the final product.

Section 2.1 Type-o twenty-two (22).

Section 2.3 Stated "eleven" jurisdictional wetlands but only listed 9.

Section 2.4 Type-o Last sentence “an” should be “a”.

Section 3.5.1 Should notify a Fort Knox POC of spills.

Section 4.1 Why call for hand “felling” only to remove felled vegetation with equipment. (Hand felling in wetlands, removal of debris without disturbing the wetlands.)

Section 4.2 Felled trees, limbs, and other vegetative debris should not be disposed of by windrowing. This could be problematic for training, access, and fuel loading.

Section 4.3.1 State the intended herbicide for use. The amount of herbicide used on Fort Knox must be reported to the Installation Pest Management Coordinator. Use of herbicides must be coordinated with Fish and Wildlife to determine potential impacts to federally threatened or endangered species.

Section 5.1.2 To the extent practical, equipment operations should not be allowed in an ecological sensitive area or its buffer but the felled vegetation should be removed to include cabling felled trees, top wood attached, from the ESA and buffer. A better description should be made of how to delineate when equipment impact becomes too great to justify removal yet you can not have “fill” in wetlands and felled vegetation has to be removed from flood hazard areas (section 7.0), streams, sink holes, etc.

Section 5.1.2 and Section 5.1.5 Need a Fort Knox representative established to monitor stream impacts and crossing installation and the name of an EON representative as a POC.

Section 5.2 Need to remove felled trees, limbs, and other vegetative debris to the extent practical from ESAs. Have to remove felled debris from stream bodies, remove felled debris from flood hazard areas, and can not add fill to wetland (is vegetation debris fill?).

Section 5.6 It states, “No land disturbing activities such as cabling felled material out of wetlands or pushing felled material across wetlands is permitted.” Are felled materials classified as fill? Are there any wetlands that are in flood hazard areas? How do you propose to remove vegetation from a wetland that’s in a flood hazard area?

Section 5.6 States, “No mechanical disturbance will be made to the soils and/or root mat in wetlands.” and Section 5.1.1 States, “Within wetlands, equipment crossing...If any equipment operation results in a soil disturbance approaching this depth, the clearing activity shall be halted and the Owner’s representative shall be contacted.” If Section 5.6 prohibits “mechanical disturbance” in a wetland, how can Section 5.1.1 state conditions of equipment operations in wetlands?

Fish and Wildlife Section:

(1) Seeding recommendations for the ROW for the power line are as follows. For cool season plantings during Feb thru April and Aug thru Sept use one of the mixes outlined in the below link for upland sites. For any disturbance in wetlands, although there should not be according to the specs, use only annual rye, red top, alsike clover switchgrass, barnyard grass, wild rye panic grass.

<http://www.kdfwr.state.ky.us/grasses.asp>

(2) For planting during May thru June use Native Warm Season Grasses (NWSG). This should include a mix of big bluestem, little bluestem, Indian grass, side oats grama, and switchgrass. This grass should be applied at a rate of 6-8 pure live seed pounds per acre. The seed mixtures can be obtained from Sharps brothers or Bamarts already mixed.

(3) The clearing in the wetlands should be coordinated with the COE and KY DOW to determine how they would require the clearing debris handled. It says in section 5.1.2 that the intent is to avoid the requirement for individual or nationwide permit. However, the COE and KDOW should be contacted on how they would like the debris handled in wetlands along the ROW, they permit these kinds of actions every day and will have requirements that must be fulfilled. My recommendations are that the material be removed from the wetlands to the extent possible without excessive damage to the wetland.

(4) Clearing in the ESAs and SMZs should consist of removal of cut vegetation by cabling or machines or by hand, which ever is least destructive to that particular spot. The vegetation that is cut could be cabled out of these areas and disposed of in most instances.

(5) Document should identify that clearing will be conducted between 15 October and 31 March. Additionally, there should be no work done on the weekends of 18-19 Nov, 25-26 Nov, and 9-10 Dec 2006, or similar weekends in outyears to avoid conflicts with the Fort Knox Gun Deer hunt.

(6) Concur with Forestry's comments.

Cultural Resource Branch:

Reference Section 6.0 Archaeological Site (Page 17): recommend the following:

* Change Section title to:

"6.0 Cultural Resources"

* Insert at end of para 1:

All potential ground-disturbing activities in the vicinity of the archaeological site, including installation of Archaeological Site Protection Barriers, will be monitored by the Fort Knox Cultural Resources Manager/Post Archaeologist or his designee.

* Insert at end of para 2:

The Barrier shall be placed no nearer than 15 meters (50 feet) from the known boundaries of the archaeological site.

* Add new paragraph following to follow final paragraph:

All ground disturbing activities conducted outside the project corridor will be submitted to DPW/EMD for review by the Fort Knox Cultural Resources Manager/Post Archaeologist or his designee. This includes, but is not limited to, clearing for or construction of any access routes that are not confined to existing roads and trails. Any ground disturbing activities in areas not previously surveyed for cultural resources will be reviewed in accordance with Section 106 of the National Historic Preservation Act and could require review by the Kentucky State Historic Preservation Office.

CELRL-RE-M

27 February 2006

Reference: Request for comments on proposed CLEARING SPECIFICATIONS
ADDEMDUM FOR THE FORT KNOX (LG&E Line) EASEMENT

One of my main concerns has been the accounting for the timber within the clearing limits and the assurance that proper disposal will take place in a timely manner so as to not conflict with the construction time table. Our first point of contact was Mr. Grillon at EON. Our informal conversations (July 2005) with him about the value of the timber lead us to the conclusions that it would be to everyone's interest if we transferred title to the timber in the easement and allow EON to remove the merchantable timber during their construction. EON therefore, would reimburse the Army for the value of the timber based upon the appraised value. We requested that the clearing limits be set and that Fort Knox would conduct an inventory of the merchantable trees inside of the clearing limits. The inventory was completed last fall. A total of 5,764 trees were paint marked having an estimated volume of 747,989 board feet of sawtimber.

Mr. Grillon e-mailed us a while back and informed us that he was relocating and that our new POC would be Mr. Ronnie Bradford. Mr. Dan Yelch and I contacted him by phone just to get acquainted and see how their permitting progress was getting along. It was during this conversation concerning the timber removal that we became aware that they were not planning to remove the timber. Their plans were to cut and windrow it to the sides. I informed Mr. Bradford that Fort Knox needs to have a clear picture of what the site will look like once the job is completed. To my knowledge, we had never left a ROW on Army lands with all this volume of debris lying to the side. My first concern was the impact of it burning during wildfire season. The second was the impact to training. The Corps of Engineers does not have any concerns with the leaving of material; our only concern is the reimbursement of the value for the standing timber i.e. real estate disposal. However, I did inform Mr. Bradford that they need to be sure that all of Fort Knox's managers have a clear picture of what the site will look like once the power line is completed. He agreed and the meeting was held on 23 February at the DBOS Conference Room. At this time, Mr. Bradford handed out the below Specifications for comments.

Comments on proposed Clearing Specifications Addendum for the Fort Knox Easement as follows:

1. Section 1.2 Intention of This Addendum. Fort Knox should spell out to LG&E/KU what we require out ROW to look like once the clearing is done. Condition of site must not impact our operations. Specifications for clearing should then be written to meet out desired level of clearing/clean-up that the Installation has established.
2. Section 3.5.1 Control of fuels and oils. Doesn't the contractor need to report all spills to DBOS?

3. Section 4.1 Vegetation Removal. Trees “cleared by hand chainsaws” is implying low impact logging. Not sure what the point is. We chainsaw it by hand, and then use heavy equipment to place it into windrows along the sides of the ROW. This isn’t low impact logging. Safety should dictate the use of mechanical harvesters and processors in non- sensitive areas. Even in environmental sensitive areas, they may have the smallest amount of impact in that they can cut, hold, and place the trees where the lay down will have the least impact. Section 5.1.3 even states; “Vegetation with the SMZ shall be cut to fall away from the drainage channel where possible. If vegetation falls into a drainage channel, it shall be removed by hand methods.” Mechanical harvesters can insure that the tree doesn’t end up across the streams in the first place. Wilcox Range construction proved this point and with the blessing of the CoE Regulators. Also, the first reportable accident on the Wilcox Range project was from a timber cutter who fell a tree on himself while cutting by hand in a wetland.

4. Section 5.4.1 Wetlands. “Within wetlands, trees shall be lopped, dropped, and left in place where they fall.” This paragraph statement needs to be reviewed by our Regulatory Branch. Many incidents are reported where logging debris constitutes fill in the wetlands. If our Regulatory Branch has already reviewed this Section, please disregard this comment.

Dan Puckett
CELRL-RE-M
502-624-5347

Elzy, Tammy

From: linearprojects [linearprojects@bellsouth.net]
Sent: Tuesday, July 26, 2005 10:17 AM
o: Dan M. Rice (drice@jgg.com)
Subject: Draft Biological Report Comments from Ft Knox

Attachments: biology comments 072605.doc



biology comments
072605.doc

Good morning, Dan. Just received the attached comments from Gail Pollock at Ft. Knox. The comments are pretty standard stuff, it looks like, but I'll need to provide some language to you regarding operations in the buffers, it looks like. This is still being refined with KU, and I am working with them to get the language right for the EA.

Clay

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
linearprojects@bellsouth.net

This e-mail is intended only for the addressee(s) shown. It contains information that is confidential and may not be disclosed to other parties. The review, dissemination, or other use of this transmission or its contents by persons other than those intended is prohibited.

Comments from Mike Brandenburg (Wildlife Biologist)

1. The field survey does not identify the bald eagle as a listed species within the project area. This species needs to be addressed.
2. The identification of restrictions on clearing should be modified to 15 October thru 31 March instead of November thru March.
3. Page 3-16 last paragraph re. SH25 "This particular sinkhole was identified as being a potential cave; therefore providing winter habitat for the federally-listed gray bat."
Should read "has a potential to provide winter habitat" for the gray bat. The hibernacula climactic conditions for the gray bat are very specific as approx. 95% of the known population hibernates in eight or nine caves, it is extremely unlikely that this cave, if it is a cave, is suitable.
4. Need to identify exactly what activities are going to occur in the 70 foot buffers. Obviously the ROW must be cleared but it should be identified that within the buffers hand clearing will be done and wheeled or tracked equipment will be excluded. Should logs or debris need to be removed from these areas it should be cabled out to reduce disturbance. The debris will need to be removed in the jurisdictional wetland areas to preclude it constituting a fill action.

Comments from Brian Waldrep (Forester)

1. Need punctuation correction on Pg. 1-1, 1-2, 3-6 and 3-8
2. Suggest re-wording or word smithing 2 phrases under definitions of "Ruderal/Disturbed Areas" on Pg. 1-3 and additional word smithing on Pg. 2-7.
3. In the executive summary (twice) Pg. 2-1 (twice), Pg. 2-8 (twice) and 2-9 the document states that the vegetation is to be removed "by hand." A definition of "by hand" needs to be included in the document to clarify how mature timber is to be removed "by hand."
4. In the executive summary on Pg. 2-1, 2-8 (twice) and 2-9, I recommend the hibernation period of "November to March" be changed to the more accurate "October 15 to March 31."
5. In the executive summary 2-1, 2-8, 2-9 and 3-8 a "70 foot buffer" has been required around all streams, sink holes (open throat) and jurisdictional wetlands. I would like a definition or description of what a vegetative buffer on an utility easement would be.

Elzy, Tammy

From: Rice, Dan [DRice@JJG.com]
Sent: Wednesday, June 15, 2005 10:43 AM
To: Jay; Fox, Ben
Cc: linearprojects
Subject: FW: Ft Knox utility surveys - updates, questions

FYI:

Please find following Mike Brandenburg's response to our question regarding buffers. He is suggesting 70 feet for all sink holes. Jay, please go ahead and prepare a shapefile with **70-foot buffers on all sink holes** and **75-foot buffers on jurisdictional wetlands and streams**.

Please send the shapefile to Brandon and copy Clay on it.

Thanks,

Dan

*Dan Rice
Senior Ecologist
Jordan, Jones, and Goulding, Inc.
6801 Governors Lake Parkway
Building 200
Norcross, GA 30071
678-333-0457
678-641-1564 (cell)
770-455-7391 (fax)*

From: Brandenburg, Mike G [mailto:Mike.Brandenburg@knox.army.mil]
Sent: Wednesday, June 15, 2005 10:36 AM
To: Rice, Dan
Cc: Pollock, Linda Gail
Subject: RE: Ft Knox utility surveys - updates, questions

Dan:

I would like to maintain the 70 ft buffer around all sink holes. As I understood it from our meeting here the utility plans to hand clear the line, as in cut the trees instead of a dozer and grubbing out the stumps. This should alleviate some of my concerns as there should be considerably less bare soil exposed in this operation. Definitely we want to use BMP's such as silt fences to preclude sediments entering the sink holes that have throats in areas that there is going to be bare ground. Additionally, we want to be careful about heavy equipment entering sink areas that may be jurisdictional wetlands.

Mike Brandenburg
Wildlife Biologist
Fort Knox Fish and Wildlife

-----Original Message-----

From: Rice, Dan [mailto:DRice@JJG.com]
Sent: Monday, June 13, 2005 10:44 AM
To: mike.brandenburg@knox.army.mil
Subject: Ft Knox utility surveys - updates, questions

Mike:

3/10/2006

I thought I would follow up my phone message with an email updating you on our findings at Ft. Knox and a couple of questions.

First, thank you for taking the time to meet with Ben Fox and Kevin Mullinax on the first day of our survey. I am sorry I did not get to meet you as well, but I joined them later in the week.

As I mentioned on the phone, we did complete our surveys on Ft. Knox. As you anticipated, we did encounter approximately 40 sink holes, and approximate one-half to two-thirds had "throats". We GPS'd all the sink holes, and we will summarize those in our report. In a previous conversation, you had mentioned including buffers around sink holes. **Do you want to buffer the sink holes that do not have a throat? If so, would you like to see those buffers be as large as the buffers for sinkholes with throats?** Also, we wanted to make you aware of one sink hole approximately 800 feet south of the Brandenburg Road. This sink hole is in the proposed ROW and appears to have a more rectangular opening than most of the "throats" that we encountered. This sink was very near a sink hole in the gas line ROW that was flagged and identified as LG&E 40.

Finally, we would like to contact Kentucky State Nature Preserves Commission to request a database search on the Ft Knox segment of the ROW. Can we go ahead and make that request, or does Ft. Knox need to review and submit the request.

Please call me with any questions or if you would like to discuss these items further.

Thanks,

Dan

Dan Rice

Senior Ecologist

Jordan, Jones, and Goulding, Inc.

6801 Governors Lake Parkway

Building 200

Norcross, GA 30071

678-333-0457

678-641-1564 (cell)

770-455-7391 (fax)

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 3

Witness: Clay Doherty / Brandon Grillon

- Q-3. The total combined acreage of the properties that will be affected by the proposal and the total combined acreage of the easements required for the project for Route #1, as described in Case No. 2005-00467 and for Route #2 as described in Case No. 2005-00472.
- A-3. The Companies provide the requested information in the attached table.

	ROUTE 1	ROUTE 2
Total combined acreage of the properties that require new easement. Acreage calculated from county PVA data provided by Kentucky Revenue Cabinet as ESRI shapefiles.	85465 AC	83969 AC
Estimated acreage of easement required.	841.9 AC	752.5 AC

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 4

Witness: Clay Doherty / Mark S. Johnson / Counsel

- Q-4. Any studies, evaluations, discussions, and/or communications concerning the historical and cultural resources that may be affected by the proposed transmission facilities and all related documents, for Route #1 and Route #2.
- A-4. The Companies object to this request to the extent that it seeks the production of any item protected by the attorney-client privilege or the work product doctrine, and on grounds that the information sought is or may not be relevant to the subject matter of this proceeding and is not or may not be reasonably calculated to lead to the discovery of admissible evidence. Without waiver of that objection, and without production of privileged or work-product protected documents, the Companies provide the requested information in paper and/or electronic form in the attachments. No archaeological survey has been performed, and no historic structures survey has been completed, on any part of Route #1 or Route #2 other than on that portion of the line that crosses Fort Knox. See also the Companies' responses to Question Nos. 1, 2, 6 and 8 of these data requests.

Molly Stephens

om: Mullins, Nate [Nate.Mullins@eon-us.com]
Sent: Thursday, February 09, 2006 3:24 PM
To: Bradford, Ronald
Cc: Robert Watt; Todd, David; Strunk, Alan; Johnson, Mark S.
Subject: FW: Salt River Crossing, Fort Duffield

Thanks Ronnie.

Is this an issue with SHPO?

From: Bradford, Ronald
Sent: Thursday, February 09, 2006 2:17 PM
To: Mullins, Nate
Cc: Strunk, Alan; Todd, David; 'linearprojects'
Subject: Salt River Crossing, Fort Duffield

Nate,

Linear Projects, has determined with their second visit, that the Salt River Bridge has been modified from it's original design (Swing Bridge to a Stationary Bridge) by the Railroad Company. By the railroad changing the original design of the Salt River Bridge, it will **not** qualify as a Historical structure. With this new finding, our River crossing issues of designing low profile structures will diminish and no additional engineering work will be necessary at this time for the Salt River crossing.

will still be limited to 120' structures near the Fort Duffield site. Photo Science performed a site analysis and determined that if we did not exceed 120' structure, Fort Duffield would not be effected.

Thanks

Ronnie

Wolfram, John

From: Bradford, Ronald
Sent: Wednesday, July 20, 2005 9:30 AM
To: Grillon, Benjamin
Subject: Fort Duffield Tree shots
Attachments: fax1.tif

-----Original Message-----

From: Fax Sr.@lvkydcntfax1.lgeenergy.com [FAX:Fax Sr.@lvkydcntfax1.lgeenergy.com]

Sent: Wednesday, July 20, 2005 9:23 AM

To: Bradford, Ronald

Subject: You have just received a new inbound Fax at 07/20/05 09:22:45 AM

You have just received a new inbound
fax containing a total of 1 pages.
Your fax was received at 07/20/05 09:22:45 AM.

Your entry number in Fax Sr. was 0.108.1989

Fort Detrick NIS. 43
RD S. 43

South

266° 40' 35" 161.11 -15.31

Top Tree 78.62 / 70° 14' 25"

250° 32' 25" 143.90 -21.05

Top Tree 67.83 / 73° 57' 55"

243° 31' 55" 111.19 -19.28

Top Tree 71.40 / 67° 13' 20"

228° 41' 46" 78.15 -10.70

Top Tree 53.08 / 64° 41' 40"

149° 46' 30" 93.30 -18.98

Top Tree 51.21 / 73° 58' 10"

139° 15' 25" 90.17 -14.70

Top Tree 73.64 / 59° 18' 55"

East

117° 59' 00" 87.83 -6.70

Top Tree 69.54 / ~~140°~~ 56° 49' 50"

Elzy, Tammy

From: Harriet Frye [hfwriter@bellsouth.net]
Sent: Friday, February 24, 2006 12:41 PM
To: Maurie Van Buren; 'linearprojects'
Subject: Fort Duffield assessment of effect
Attachments: Fort Duffield assessment section rough.doc

Hi, guys,

After talking with Clay this morning, I thought it might be a good idea to send both of you the Fort Duffield section of the report so that you'd be on the same page, so to speak, while you're discussing this. I still need to do some tweaking, but the main issue is apparently how to handle the fact that one of the new t/l structures will be visible from that southern tip of the NR boundary where we already have an existing adverse effect.

Maurie, I know I'll have to rework some of the language here. Please let me know how you want me to handle it.

Thanks,
Harriet

3/10/2006

Photographs:

Map:

Zone: 16

Quad: Fort Knox

UTMs: N/A

*Color
doc*

Description: Fort Duffield is located in Fort Hill Park on the east side of U.S. Highway 60, south of the city of West Point and immediately to the west of the Salt River. The site consists of the remains of a Civil War earthworks fortification surrounded by rolling grassy land with mature shade trees. On a hill adjacent to the fort, at the southernmost point of its National Register boundaries, is the cemetery where some 40 Union soldiers who died while serving here are buried. The cemetery has been restored and was officially dedicated in 1993, and all the gravestones are new.

Construction on Fort Duffield was begun in November 1861 by Union forces who recognized the strategic importance of West Point's location at the junction of the Ohio and Salt rivers. The earthworks fort resembled a horseshoe, open on the north side, and is considered to be one of the most intact Civil War earthen fortifications in Kentucky. The remains of the fort can still be seen on the walking tour, and there is a community effort under way to restore and preserve the site. (Insert from archaeologists' report)

***National Register Eligibility:** Fort Duffield is listed on the National Register of Historic Places under Criterion D (properties that have yielded, or may be likely to yield, information important in prehistory or history).

Determination of Effect:



Figure 85: HD 660, Fort Duffield earthworks, May 2005



*Color
doc*

Figure 86: HD 660, looking west toward Salt River



Figure 87: HD 660, looking west toward Salt River



Color dot

Figure 88: HD 660, restored Civil War cemetery

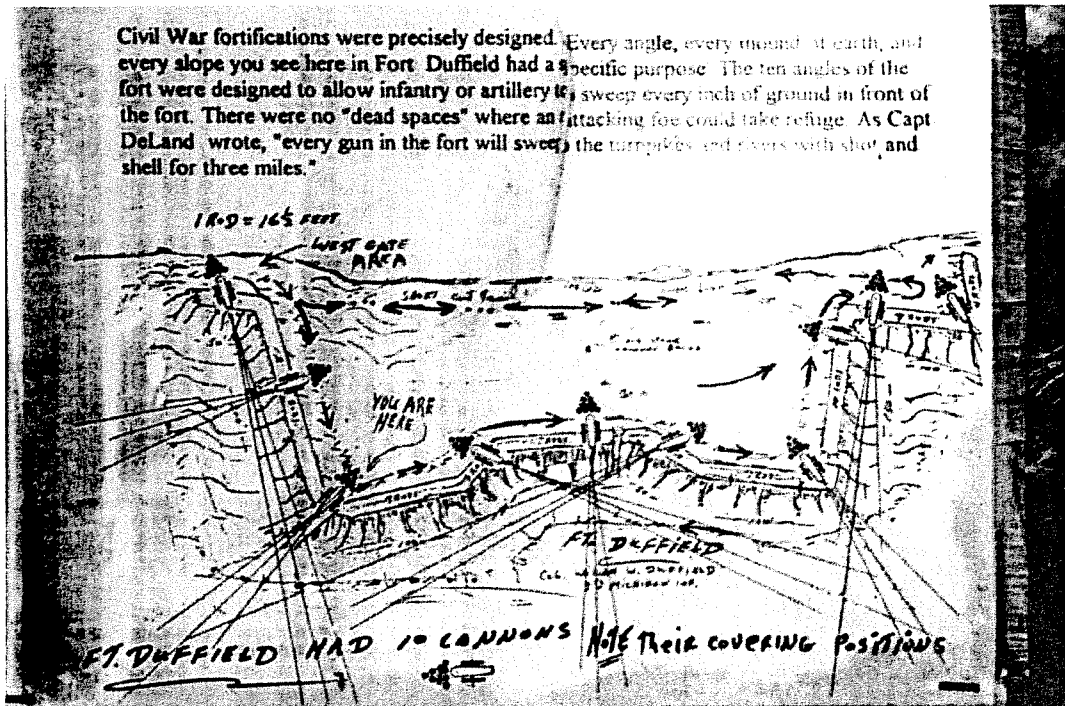


Figure 89: HD 660, schematic diagram of Fort Duffield construction and surroundings

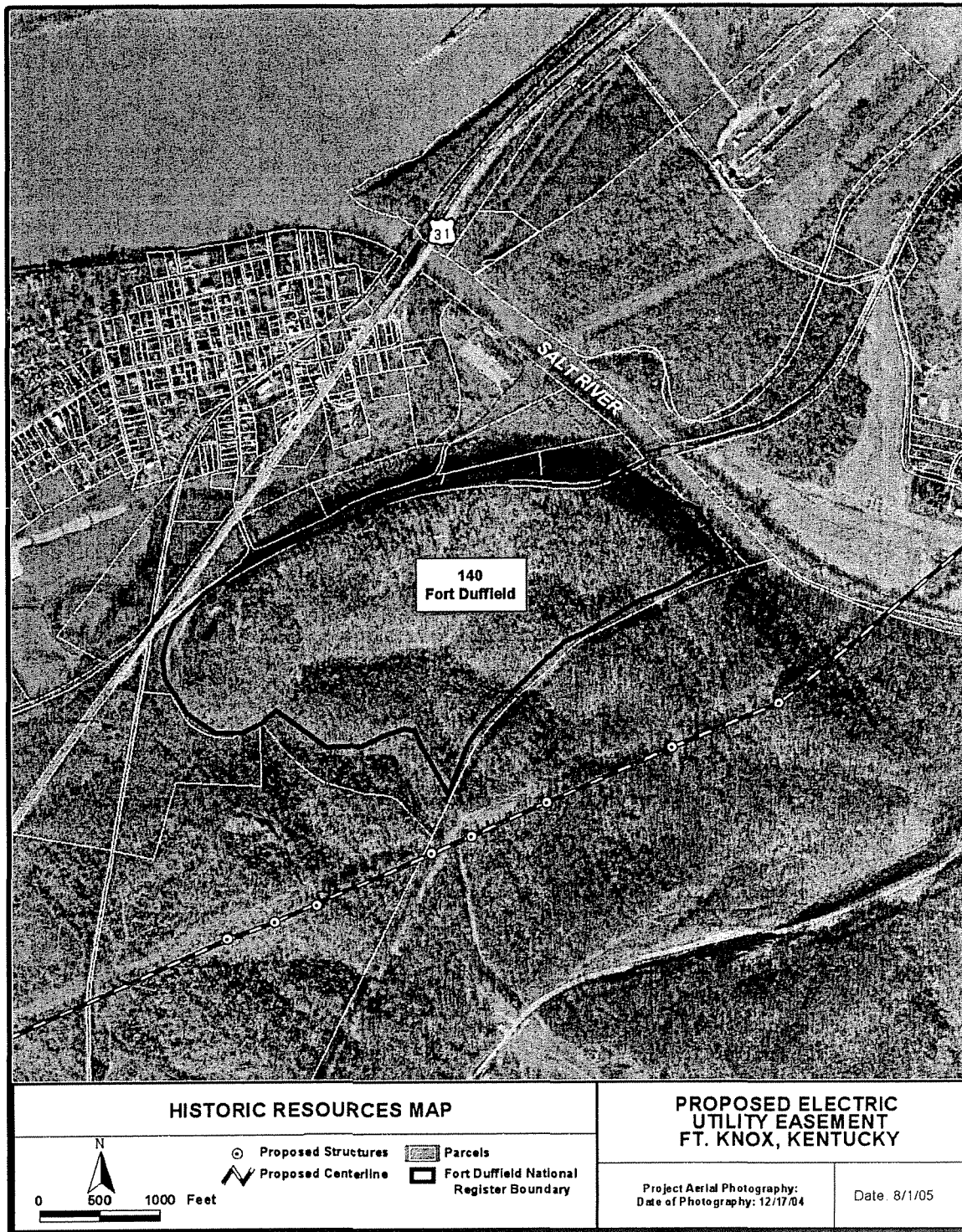


Figure 90: HD 660, map of National Register boundaries

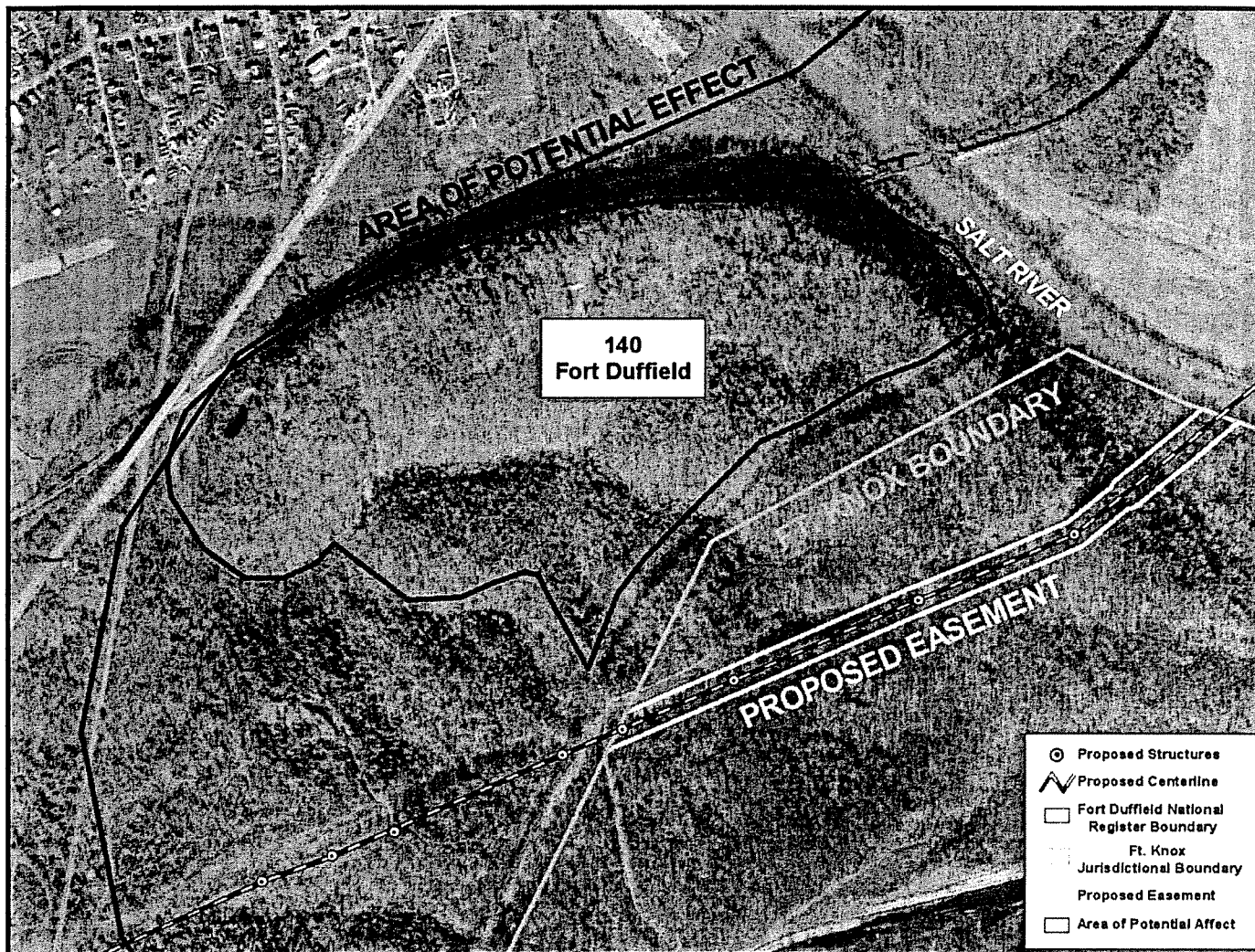


Figure 91: HD 660, NR boundary map/Assessment of Effect

This map shows the National Register boundaries of Fort Duffield (HD 660) in relation to the location of the proposed transmission line easement and structures. At the southernmost tip of these boundaries, there is a point where two existing transmission lines come together. The proposed transmission line easement, which parallels the route of the southernmost of the two existing transmission lines, will also run through this point.

As can be seen in Figure 00, the northernmost of these two existing transmission lines is visible from within the NR boundaries of Fort Duffield and has already created an adverse visual effect. The visibility analysis for this resource (Figure 00) documents that the new transmission line structures will not be visible from any other point within the NR boundaries due to vegetative screening. Therefore, the proposed transmission line easement will not introduce an adverse effect to this resource and will not increase the existing adverse effect.

Note re conversation this morning with Clay: Apparently one of the new towers will be visible from that southern tip, so we need to determine whether this is a problem and, if so, how to handle it.



Figure 92: HD 660, looking south toward existing transmission line

LG&E 69, seen in this photograph, is one of two existing transmission lines which are located in close proximity to Fort Duffield on the south. This transmission line runs along the southern NR boundary of this resource and is already visible, creating an existing adverse effect. The second existing transmission line, which is not visible, is located farther to the south and parallels the route of the proposed transmission line easement.

Note: It's from this point that the new t/l structure will be visible. Presumably we need to add that fact to this paragraph.



*Color
doc*

Figure 93: HD 660, looking south from earthworks toward proposed transmission line easement

This photograph, taken from the earthworks of Fort Duffield, documents that the existing transmission lines located to the south of this resource are not visible from the earthworks. The proposed transmission line easement will parallel the route of the southernmost of the two existing transmission lines. The visibility analysis (Figure 00) further documents that the new transmission line structures will not be visible. Therefore, the proposed transmission line will not introduce an adverse visual effect to Resource HD 660, and it will not increase the existing adverse effect.



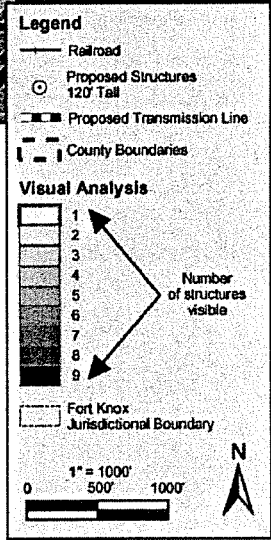
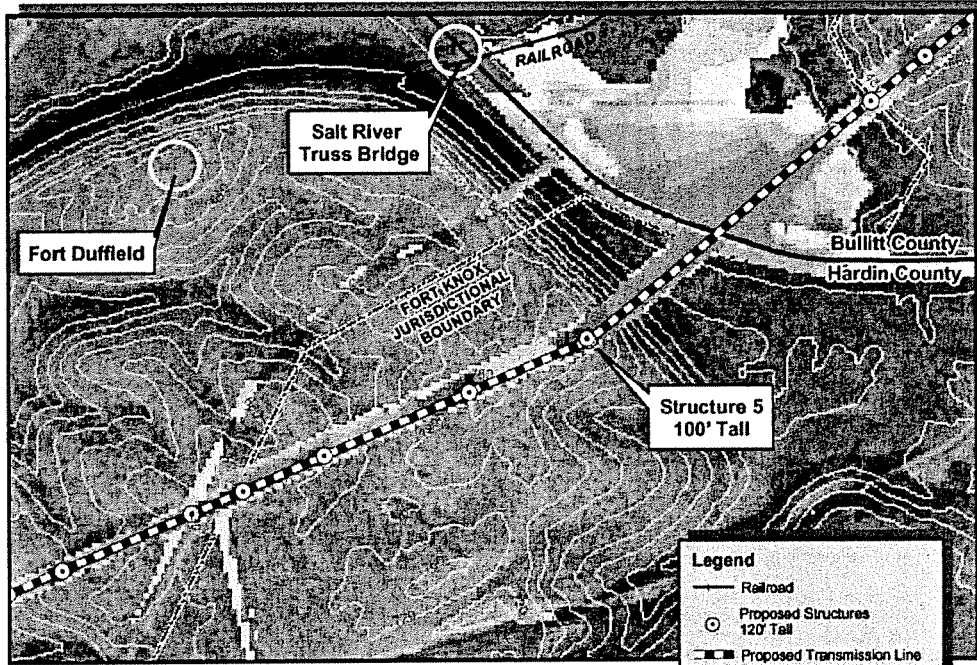
Figure 94: HD 660, looking north toward existing transmission line

The existing transmission line seen in this photograph is located in close proximity to the NR boundaries of Fort Duffield on the north. This transmission line is visible and has already created an adverse visual effect.

Color doc

Figure 4.8.2 (a)

Proposed Mill Creek - Hardin County Transmission Line
Fort Duffield and Salt River Truss Bridge



Visibility analysis was performed based on approximate structure locations based on the following assumptions. The point of the observation is the top of the proposed transmission structures. Structures will be no more than 120' tall (except for structure # 5 which will be no more than 100' tall). The bare earth terrain was modeled by using a United States Geological Survey 7.5 minute Digital Elevation Model. The forest boundaries were estimated and interpreted from 2004 aerial photography. The canopy is assumed to be a uniform 60' above the surface of the earth. An observer on the floor of the forest can not see the proposed facility. Analysis performed by Photo Science, Inc. using Environmental Systems Research Institute's ArcGIS Spatial Analyst software. Contact Jesse Glasgow at Photo Science for additional information (770-270-7769).



Plot: C. Gusek
07/15/05

This visibility analysis shows all areas that can be seen by an observer at the top of the 120-foot transmission line structures and from Structure 5, which has been lowered to 100 feet tall. Areas in red can be seen from the tops of one or more structures. This data is based on modeling the topography and assuming a uniform 60-foot tree height. Field measurements for trees in the Fort Duffield area confirm an average height of 67 feet

(THIS IS THE OLD VISIBILITY ANALYSIS, WHICH WILL BE REPLACED)

Elzy, Tammy

From: linearprojects [linearprojects@bellsouth.net]
Sent: Thursday, March 02, 2006 5:28 PM
To: Harriet Frye (hfwriter@bellsouth.net); Maurie Van Buren (hpcms@qwest.net)
Cc: Ronnie Bradford (Ronald.Bradford@eon-us.com)
Subject: Visibility Analysis
Attachments: viewshed analysis.pdf

Maurie and Harriet, attached is the visual analysis sheet. I spoke with Ronnie Bradford at LG&E who says they can live with 130 ft max height on Structure 5 and 120 ft max height on the others. This will allow us to be conservative in our project planning to ensure that the project will not be visible from the earthworks fort.

- 1- The trees are assumed to be a uniform sixty (60) feet in height. A sampling of tree heights identified an average height of 67 feet for trees in the area of the earthworks fort). The sixty feet used in the model was therefore a somewhat conservative assumption for tree height near the fort.
- 2- Structure 5 was tested at a 140-foot height and the other structures were tested at a 130-foot height. No "visibility shadow" hits the earthworks fort area when structure height is tested at these levels.
- 3- The final engineered and designed height of these structures may be less than those figures. In fact, to err on the conservative side in protecting this historic resource, KU/LG&E is willing to back off from the tested maximum heights and proposes that 130 feet for structure 5 and 120 feet for the other structures will be treated as maximum design heights.

Ronnie, I believe this is what we discussed earlier. Please let me know at your earliest convenience if you have any problem with this strategy.

Maurie and Harriet, please let me know if you need assistance interpreting any of this information.

Harriet, once I've looked over the finished document, you'll be overnighting three copies to

Ronnie Bradford

Sr. Transmission Project Coordinator
LG&E
820 West Broadway
Louisville, KY 40202

Ronnie, you'll be getting a copy of the report for yourself and two to send over to Linda Gail Pollock at Ft. Knox as soon as you receive it. She'll get it to Cris Helmkamp. He'll have his copy for file and will forward the other copy to Janie-Rice Brother at the SHPO's office. It is appropriate that the report be sent to the SHPO from the Army, as they are the federal action agency.

Best regards,

Clay

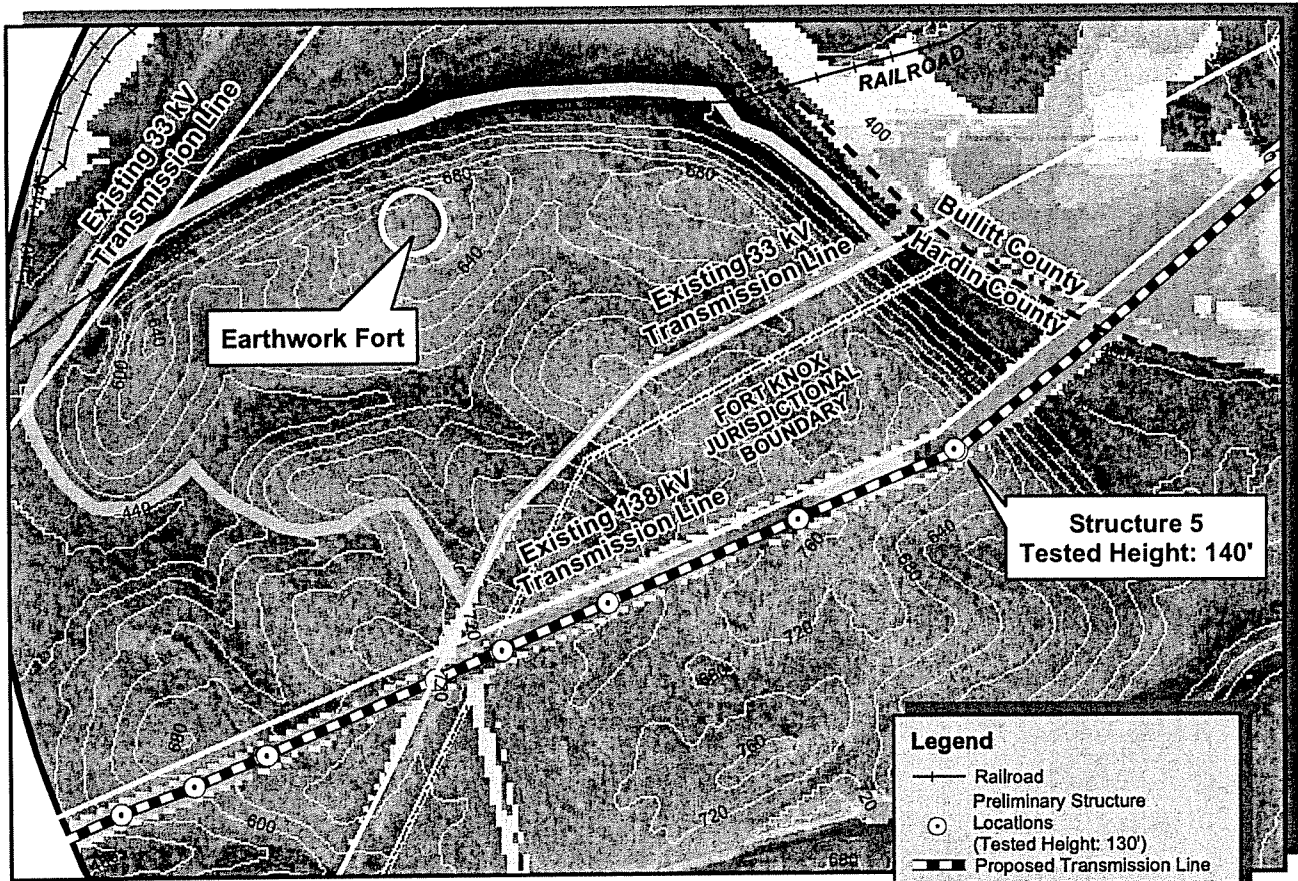
3/10/2006

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
linearprojects@bellsouth.net

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Visibility Analysis
Fort Duffield

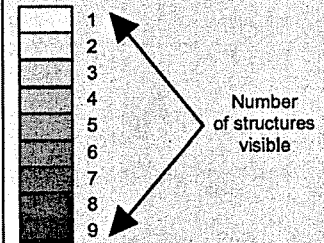
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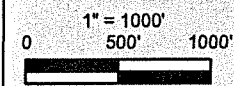
Legend

- Railroad
- Preliminary Structure Locations (Tested Height: 130')
- ▬ Proposed Transmission Line
- Existing Transmission Lines
- - - County Boundaries

Visual Analysis



- - - Fort Knox Jurisdictional Boundary
- ▨ Ft. Duffield National Register Boundary

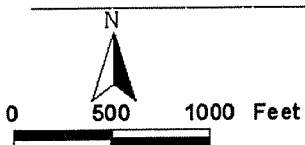






Visibility analysis was performed based on preliminary structure locations based on the following assumptions. The point of the observation is the top of the proposed transmission structures. Structures were tested at 130' tall (except for structure # 5 which was tested to be 140' tall). The bare earth terrain was modeled by using a United States Geological Survey 7.5 minute Digital Elevation Model. The forest boundaries were estimated and interpreted from 2004 aerial photography. The canopy is assumed to be a uniform 60' above the surface of the earth. An observer on the floor of the forest can not see the proposed facility. Analysis performed by Photo Science, Inc. using Environmental Systems Research Institute's ArcGIS Spatial Analyst software. Contact Jesse Glasgow at Photo Science for additional information (770-270-7769).



HISTORIC RESOURCES MAP

**PROPOSED ELECTRIC
UTILITY EASEMENT
FT. KNOX, KENTUCKY**



-  Proposed Structures
-  Proposed Centerline
-  Parcels
-  Fort Duffield National Register Boundary

Project Aerial Photography:
Date of Photography: 12/17/04

Date 8/1/05

Color









HD 660
Fort Duffield

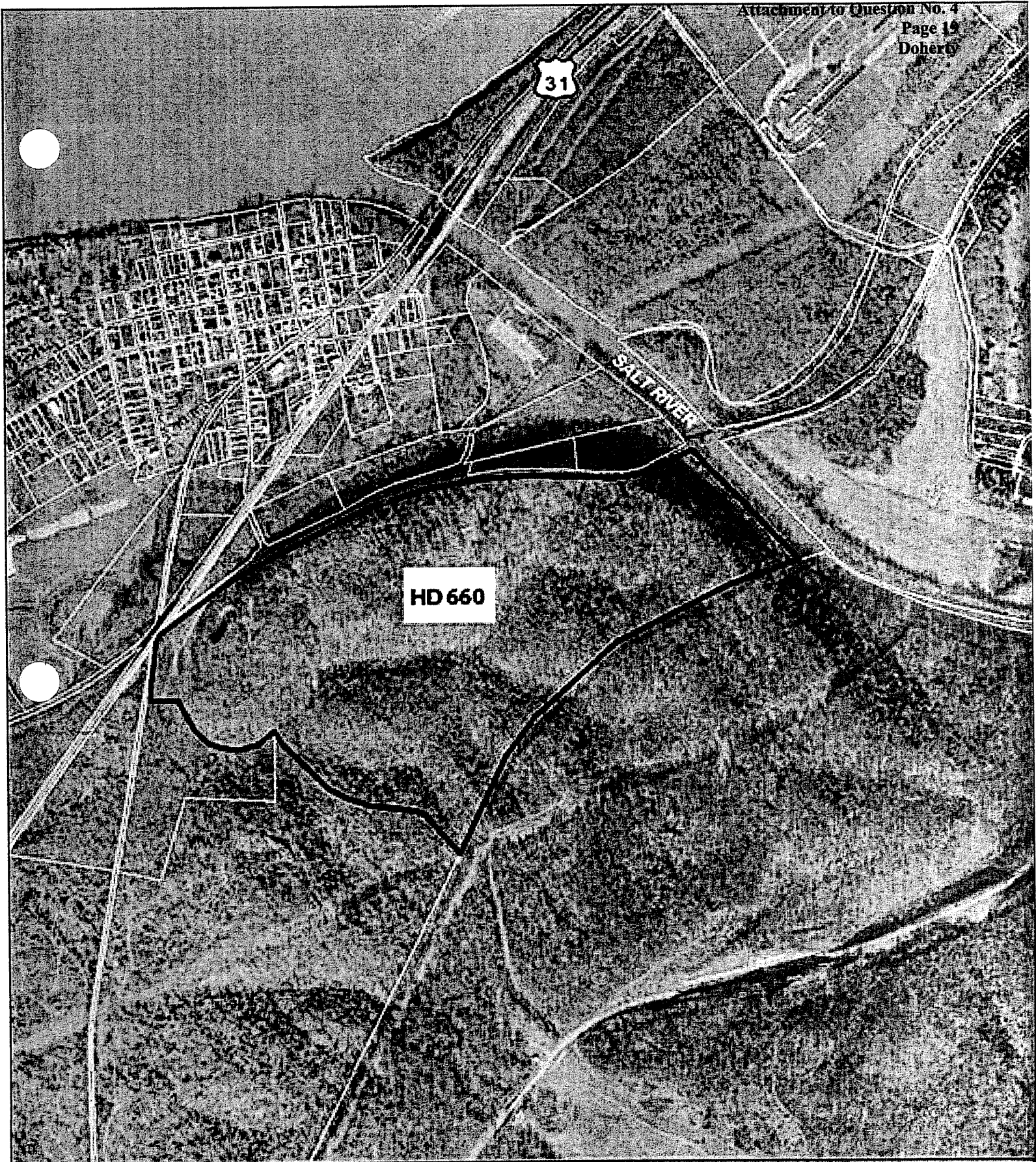
PROPOSED EASEMENT

KNOWN BOX BOUNDARY

SALT RIVER

AREA OF POTENTIAL EFFECT

-  Proposed Structures
-  Proposed Centimes
-  Fort Duffield National Register Boundary
-  Ft. Knox Jurisdictional Boundary
-  Proposed Easement
-  Areas of Potential Affect



HD 660

31

SALT RIVER

HISTORIC RESOURCES MAP

**PROPOSED ELECTRIC
UTILITY EASEMENT
FT. KNOX, KENTUCKY**



0 500 1000 Feet

Project Aerial Photography:
Date of Photography: 12/17/04

Date 8/23/05

Elzy, Tammy

From: jim pritchard [jimpritchard@brockington.org]
Sent: Thursday, March 09, 2006 9:14 AM
To: 'linearprojects'
Subject: FW: Fort Knox ARPA Permit
Importance: High
Attachments: 2005 Fort Knox_ARPA.pdf; Curation_ARPA.pdf; Revised SOW(2).doc; mill_creek.jpg; Brockington General SOQ(2).rtf; Brockington J Pritchard - KY specific 2005.doc

Clay,

This is the email from Fort Knox approving our ARPA application. This was prior to the mess with the Corps regarding the permit. I think it's a useful bit of information...at least it shows that we were following all of the correct protocols. What will be missing from the administrative record will be the explanation of why responsibility for issuing the permit shifted from the Army to the Army Corps. The reasoning is that the Louisville District is responsible for Fort Knox's real estate and, hence, is responsible for issuing permits related to alteration of that real estate. We didn't understand this going into the process, but do now.

Jim

From: Helmkamp, Richard C [mailto:Richard.Helmkamp@knox.army.mil]
Sent: Thursday, May 05, 2005 4:35 PM
To: 'Jim Pritchard'
Subject: FW: Fort Knox ARPA Permit
Importance: High

Jim,

Please note the message below and attachments. I have approved the application and everything appears to be in order.

Criss

-----Original Message-----

From: Helmkamp, Richard C
Sent: Thursday, May 05, 2005 4:31 PM
To: 'Keeney, Keith A LRL'
Subject: Fort Knox ARPA Permit
Importance: High

Keith,

The attached documents include all documents necessary for issuance of an ARPA permit for Brockington and Associates, Inc., on behalf of LG&E, to conduct Phase I archaeological investigations at Fort Knox. Approval of this action is certified by my signature on the Form 4922-R. The attachments include the completed Form 4922-R, University of Kentucky confirmation of curation, Scope of Work, project area map, contractor's qualifications statement and Principal Investigator's resume.

Please expedite.

Contact me if you have any questions, and thanks for your assistance.

3/10/2006

R. Criss Helmkamp, Ph.D.

Cultural Resources Program Manager
DBOS Environmental Management Division
Fort Knox, KY

05/04/05 04:45 FAX 7706625824

BROCKINGTON

05/04/05 WED 11:27 FAX

OMB APPROVAL NO. 1024-0037

DEPARTMENT OF THE ARMY
 APPLICATION FOR A FEDERAL PERMIT
 UNDER THE ARCHEOLOGICAL RESOURCES PROTECTION ACT
 approved October 31, 1978
 (Public Law 96-95; 93 Stat 721; 16 U.S.C. 470aa-11; 32 CFR 229)

NAME OF PROJECT OR INSTALLATION: U.S. ARMY GARRISON FORT KNOX

All information requested must be completed before application will be considered. Use separate sheets of paper if more space is needed to complete a section.

1. Name of Institution or Individual

BROCKINGTON AND ASSOCIATES

2. Date of Application

5/4/05

3. Address (Include Zip Code)

6611 BAY CIRCLE, SUITE 220
 NORCROSS, GA 30071

4. Type of Permit Requested:

- a. Surveys, limited testing/limited collections of lands identified in No. 5.
 b. To excavate, collect, and make extensive collections on specific sites described below in No. 5.

5. Lands of the United States for which permit is requested:

- a. Description: Specify military installation or civil works project. If on surveyed lands, description must be by subdivisions of the Public Land Surveys. If on unsurveyed lands, description must be by metes and bounds with ties to some topographic feature.

CIVIL WORKS PROJECT - LG&E UTILITY LINE CONSTRUCTION

- b. Appropriate maps, sketch, or plan showing specific sites or areas for which permit is desired:
 (Use separate sheets, if necessary, and attach a copy of the application).

SEE ATTACHED

6. Nature and extent of the work proposed, including how and why it is proposed to be conducted:

SEE ATTACHED EXCERPT FROM SCOPE OF WORK

05/04/05 04:45 FAX 7706625824

BROCKINGTON

05/04/05 WED 11:27 FAX

7. Name, address, and institutional affiliation, if any, of persons in "a" and "b" below:

a. Individual(s) proposed to be responsible for carrying out the terms and conditions of the permit, (in general charge): **JAMES C. PRITCHARD, RPA of BROCKINGTON AND ASSOCIATES**

b. Individual(s) proposed to be responsible for conducting the work. (In direct charge of field work): Include as part of the application, evidence of qualifications (vitas), in accordance with 32 CFR 229.8 of the Final Uniform Regulations.

JAMES C. PRITCHARD (SEE ATTACHED VITAE)

8. Proposed date field work will begin:

5/9/05

9. Proposed time of performance:

5/21/05

10. University, museum, or other scientific or educational institution in which the applicant proposes to store all collections, and copies of records, data, photographs, and other documents derived from the proposed work. (The application must include a written certification, signed by an authorized official of the institution, of willingness to assume curatorial responsibility, and to safeguard and preserve these materials as property of the United States, or in the case of an application on Indian lands, in the event the Indian owners do not wish to take custody.)

**WEBB MUSEUM OF ANTHROPOLOGY, UNIVERSITY OF KENTUCKY
LEXINGTON, KY**

11. Proposed outlet for public written dissemination of the results.

KYOPA NEWSLETTER, FORT KNOX "TURRET"

12. Evidence of the applicants' ability to initiate, conduct, and complete the proposed work, including evidence of logistic support and laboratory facilities

SEE ATTACHED STATEMENT OF QUALIFICATIONS

13. Certification:

I hereby certify that all materials will be curated within 90 days after completion of the final report in accordance with 32 CFR 229.8 of the final regulations.

SIGNATURE (Individual in General Charge)

James C. Pritchard

14. Complete and return two (2) copies to the District Commander.

Approved: **Richard C. Helmkamp**

Richard C. Helmkamp
Environmental Management Div.

Fort Knox
5 May 2005

05/05/05 03:23 FAX 7706625824

BROCKINGTON

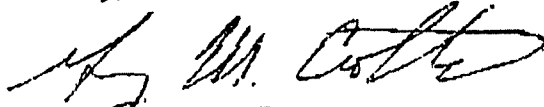
FAX & TELEPHONE

Brockington and Associates, Inc.
6611 Bay Circle, Suite 220
Norcross, Georgia 30071

Dear Jim:

Responding to your recent request, the William S. Webb Museum of Anthropology agrees to curate archaeological collections and documentation from a proposed cultural resource assessment project on the Fort Knox Military Reservation. This request is granted with the understanding that the collections and documentation will be prepared according to museum curation guidelines and that appropriate curation fees are paid.

Sincerely,



George Crothers, Ph.D
Director

Brockington

SOW for LG&E transmission project at the U.S. Army Garrison Fort Knox

Brockington and Associates is pleased to submit this Scope of Work (SOW) to conduct Phase I archaeological survey of a proposed 11-mile transmission line project at the U.S. Army Garrison Fort Knox, Fort Knox, Kentucky. The proposed undertaking requires the archaeological survey of a 200-foot corridor paralleling LG&E's existing transmission line at Fort Knox. Construction activities associated with the undertaking include tree clearing, use of heavy machinery within the construction corridor, excavation of tower footers, and the erection of towers and power lines. The project is being undertaken to supply additional electricity to the surrounding area.

We are presenting this brief technical proposal based on our extensive experience in conducting Phase I archaeological surveys at Fort Knox. When completed, the survey report will comply with all applicable laws (i.e., National Environmental Policy Act [NEPA]; National Historic Preservation Act [NHPA]; Archaeological Resources Protection Act [ARPA], their associated regulations, and guidelines of the Kentucky Heritage Council (KHC) for protecting historic properties within the project area.

Brockington's proposed level of effort for conducting Phase I archaeological survey includes recording all archaeological sites within the project area and providing adequate information for preliminary evaluation of their National Register of Historic Places (NRHP) eligibility. Our proposed investigations follow current KHC guidelines and incorporate assumptions regarding the level of effort (LOE) as provided by Photoscience, Inc. Our investigations include four primary tasks: *Background Research*, *Field Investigation*, *Laboratory Analysis*, and *Report Preparation*. Brief descriptions of each task are provided below. Completion of these tasks will result in documentation adequate to meet KHC requirements for compliance with all relevant state and federal cultural resources legislation and guidelines (Section 106CFR80 of the NHPA).

Background Research at the W.S. Webb Museum in Lexington, Kentucky, will identify the following types of information: previously identified sites (site records) and inventories (survey reports) within a one-mile radius of the survey area; areas of potential archaeological sensitivity; standard ethnographic and historical reference works; copies of historical documents, maps, and photographs; additional information concerning the specific project parcels; and information concerning applicable federal, state, and local cultural resources regulations and requirements. *Background Research* will facilitate the development of research questions through which the project research design will be developed.

Field Investigation methods will conform to KHC standards. The following assumptions regarding the anticipated LOE are based on these standards and on information provided by Photoscience regarding the proposed project Area of Potential Effect (APE).

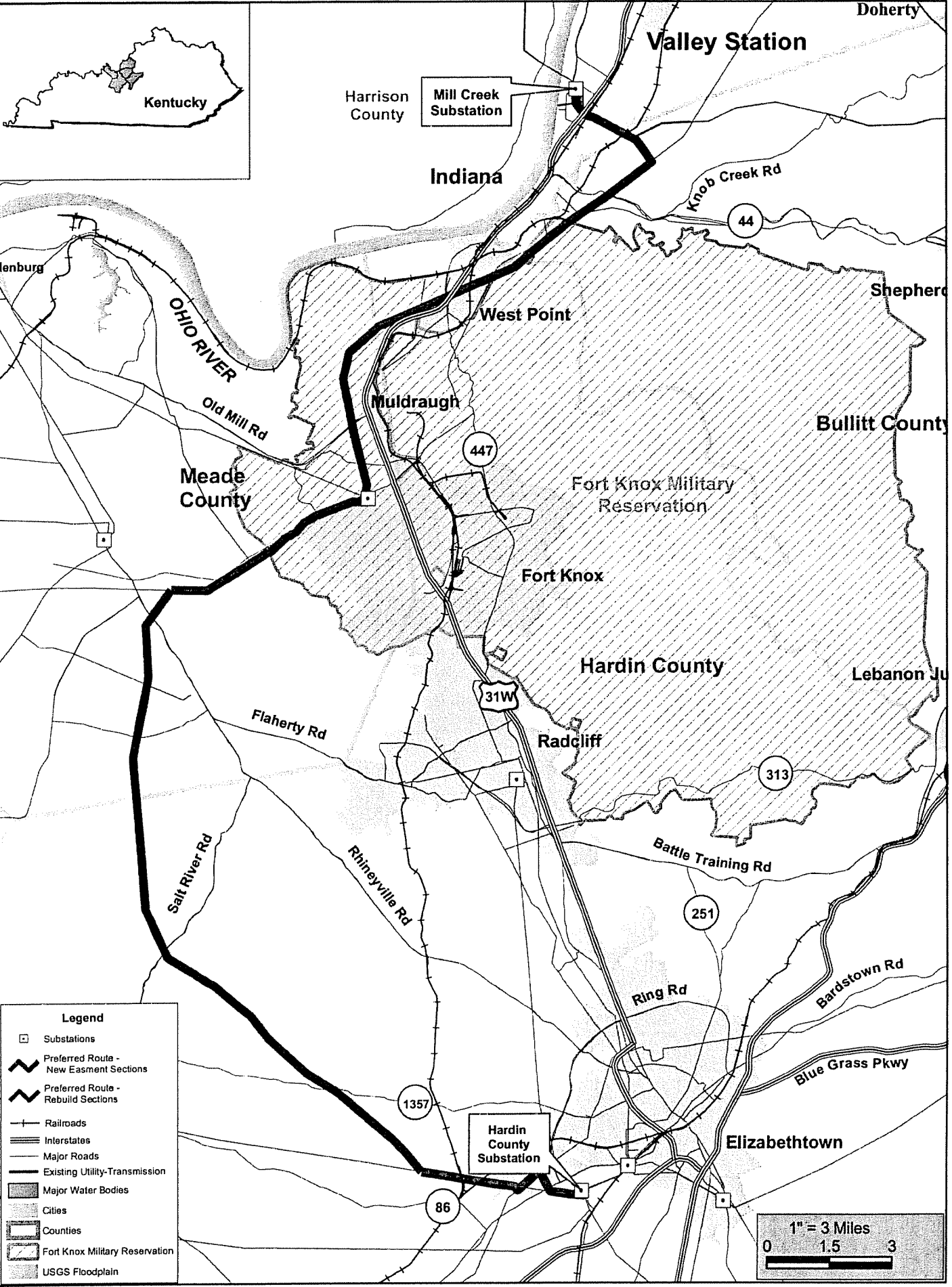
The proposal for fieldwork includes shovel test excavations to determine the presence/absence of archaeological deposits and to assess the horizontal and vertical

extent and physical integrity of sites encountered. A 66-foot (20-meter) interval will be utilized and close-interval shovel testing of archaeological sites will be conducted at 33-foot (10-meter) intervals. A total of three transects are anticipated to cover the 200-foot (61-meter) proposed APE for archaeology. Brockington & Associates assumes that the 66-foot interval will require excavation of 82 shovel tests per mile per transect. Based on previous results of archaeological survey at Fort Knox, Brockington and Associates assumes that 5% of all shovel tests will be positive for cultural materials. Positive shovel tests will require close-interval boundary definition, however, shovel test excavation will not be conducted outside of the proposed APE for archaeology. In areas where ground surface visibility exceeds 30%, judgemental surface inspection will be utilized. Surface inspection will include the visual reconnaissance of the ground surface for both artifacts and/or cultural features.

Based upon previous archaeological investigations within the project areas, Brockington and Associates assumes that archaeological sites may be deeply buried in alluvial settings. The crossing of the Salt River is particularly archaeologically sensitive. This SOW proposes standard shovel test survey in this setting. Shovel tests will not be excavated to depths exceeding 1.5 feet below ground surface. Brockington and Associates assumes that shovel testing in this manner will address typical ground disturbances associated with the project. However, if project excavations (i.e., for tower footers) exceeding 1.5 feet in depth are proposed, Brockington and Associates recommends a separate Task Order to address deep testing. Any deep testing will concentrate on specific areas of ground disturbance identified in the construction design and will be coordinated with the KHC.

Laboratory Analysis will include cleaning and identification of all recovered artifacts. Sufficient analyses of the artifacts will be conducted to determine the age and possible function of any archaeological sites identified. These data are necessary to provide adequate information for assisting preliminary NRHP eligibility recommendations for all encountered sites. As per KHC guidelines, diagnostic artifacts (either all or a representative sample) will be photographed. Artifacts recovered will be prepared for curation at the W.S. Webb Museum in Lexington. Updates to state archaeological forms will be required for previously recorded sites and new forms will be required for all other sites. Archaeological site forms will be revised and submitted to the Site File as part of the *Report Preparation*.

Report Preparation entails the production of a document that describes the activities undertaken and the results of these investigations. The report describing the findings of survey within will follow KHC policy and guidelines. The archaeological sites identified during the Phase I survey will be shown on project maps and described individually. Archaeological site descriptions will include individual site plan maps and representative shovel test profiles. Using data compiled during the *Background Research, Field Investigations, and Laboratory Analyses*, sites will be classified as potentially eligible or not eligible for the NRHP. The report also will include draft management recommendations (e.g., avoidance or Phase II testing) for each site. Required copies of review draft reports will be submitted to Photoscience for review and comment. Review comments will be incorporated into a draft final report to be submitted to coordinating agencies for Section 106 review. Draft final report comments from agencies will be addressed in a final report as required under KHC policy and guidelines.



Legend

- Substations
- Preferred Route - New Easment Sections
- Preferred Route - Rebuild Sections
- Railroads
- Interstates
- Major Roads
- Existing Utility-Transmission
- Major Water Bodies
- Cities
- Counties
- Fort Knox Military Reservation
- USGS Floodplain

1" = 3 Miles

0 1.5 3

Brockington and Associates, Inc.
Consulting Archaeologists, Historians, and Preservation Planners

Statement of Qualifications

Brockington and Associates, Inc. is dedicated to providing high quality consulting services in cultural resource management for government agencies and private sector concerns. The firm employs a staff of dedicated and experienced archaeologists and historians capable of conducting a wide range of cultural resource study projects. Major concerns of Brockington and Associates, Inc. are (1) minimizing project costs and schedule requirements by careful, innovative scoping and efficient performance, and (2) serving the short-term and long-term interests of our clients by maintaining high standards of quality in research and reporting. Brockington and Associates Inc. was nominated for the US Small Business Administration's 2001 Administrator's Award for Excellence.

Facilities

Brockington and Associates, Inc. occupies office and laboratory space in Atlanta, Georgia; Raleigh, North Carolina; and Charleston, South Carolina at the following addresses:

Atlanta
6611 Bay Circle
Suite 220
Norcross, GA 30071

Charleston
1051 Johnnie Dodds Blvd.
Suite F
Mount Pleasant, SC 29464

Raleigh
1803 Garner Station Blvd
Raleigh, NC 27603

Field and laboratory equipment is sufficient to support many concurrent projects. In addition to standard archaeological field equipment, Brockington and Associates, Inc. owns mechanical sifter screens for use on large data recovery projects. All field crews are outfitted with cellular telephones for efficient communication with offices and clients. Laptop computers with appropriate software, Total Station and Global Positioning System (GPS) equipment are routinely available for field use. Many of our field personnel are also trained in GPS use.

Laboratory analysis is supported by extensive libraries of North American archaeological study reports, as well as comparative artifact, animal bone, and botanical materials collections. Brockington and Associates, Inc. maintains computerized drafting and digital photography equipment as well as facilities for processing large format photography. Laboratory equipment includes flotation separation systems (50 gallon drums and piping) for the recovery of botanical remains, as well as dissecting microscopes.

Report writing is supported by IBM compatible computers with laser, ink jet, and wide-carriage dot-matrix printers. We have our own production, graphics, and copy editing staff in each of our

offices. Brockington and Associates, Inc. owns a complete array of software necessary to conduct word processing, Geographic Information Systems (GIS), computer-assisted drawing, statistical analyses, database management, and administration/bookkeeping.

Staff

Brockington and Associates, with three offices and approximately 72 full time staff members, is one of the largest independent cultural resources firms in the nation. We are proud of our staff, their training, and their experience. Summaries of our senior staff follow:

Dr. Paul Brockington (Ph.D., University of Kansas) has more than 36 years of experience in the archaeology of the eastern United States. As Environmental Impact Archaeologist for the Office of the South Carolina State Archaeologist (University of South Carolina) and as Director of Contract Research for the Museum of Anthropology (University of Kansas) in the 1970s, Dr. Brockington helped organize major university-based archaeological programs to respond to the developing cultural resources management needs of public agencies and private developers. In the early 1980s, Dr. Brockington served as a regional manager/vice president for national consulting firms, directing cultural resources studies in the Midwest/Plains, the Mid-Atlantic states, and the Southeast. Dr. Brockington established Brockington and Associates in 1986; since that time, the firm has carried out more than 1900 archaeological, architectural, and historical projects for a variety of public and private clients.

Dr. Thomas G. Whitley (Ph.D., University of Pittsburgh) has more than 15 years of experience in both prehistoric and historic sites archaeology in the Southeast, Northwestern Plains, Southwest, Northeast, and Northwest United States. He specializes in computer and statistical applications, GIS applications of mathematical predictive modeling and settlement pattern analysis, as well as prehistoric and historic period perishables analysis. Dr. Whitley's doctoral dissertation, on the application of complex dynamical structures to the analysis of site selection processes in the Greater Yellowstone Region, was defended in early 2000. He maintains an active research agenda, focusing on GIS applications both in and out of CRM. He has acted as principal investigator, project manager or analytical specialist on more than 100 projects in the United States. Dr. Whitley, a company vice president, serves as program manager of our Georgia office.

Mr. Ralph Bailey, Jr. (M.A., The Citadel/University of Charleston) has an extensive background in Southeastern United States field archaeology and background/archival research. Mr. Bailey has served as Project Historian and as Field Director/Co-Author for a number of survey, testing, and data recovery projects in South Carolina, Virginia, Alabama, and Mississippi. Most recently, he co-directed major surveys at Fort Rucker, Alabama and near Camp Shelby, Mississippi. He has also recently directed plantation-related testing and data recovery excavations in Georgetown and Charleston Counties in South Carolina. Mr. Bailey serves as a senior project manager, and is the program manager in our South Carolina office.

Dr. Eric Poplin (Ph.D., University of Calgary) has extensive experience with cultural resource studies of the Southeast, both during his employment at the University of South Carolina and, prior to joining Brockington and Associates, at Goodwin & Associates, Inc. Dr. Poplin is well versed in studies of both the prehistoric and historic periods, and has completed a large number of cultural resource projects for the U.S. Army Corps of Engineers (including Savannah, New Orleans, Mobile, Jacksonville, Norfolk, and Wilmington Districts). Recent projects have involved data recovery excavations at historic and prehistoric sites in coastal South Carolina and prehistoric sites in the Piedmont of Georgia. Dr. Poplin currently serves as a senior project manager in our South Carolina office.

Mr. C. Scott Butler (M.H.P., University of Georgia) has served as the Georgia office staff architectural historian for more than six years. Mr. Butler has completed numerous cultural resource projects in the Southeast, as well as in Wisconsin, New York, Puerto Rico, and the Virgin Islands. Mr. Butler holds an undergraduate degree in Archaeological Sciences, and has strong historic archaeological research interests. As a result of his interdisciplinary

background, Mr. Butler often acts as archaeologist, historian, and architectural historian for cultural resource projects. Mr. Butler recently completed a Historic and Archaeological Resources Protection (HARP) Plan for Key West Naval Air Station, Florida. He conducted the fieldwork and completed the final reports for extensive archaeological and architectural surveys of the proposed Carolina Bays Parkway, a new-location freeway planned for Horry County (Myrtle Beach), South Carolina. Mr. Butler serves as a senior project manager in our Georgia office.

Mr. Jeffrey Gardner (M.A., University of Tennessee) has served as principal investigator or project manager on numerous cultural resources investigations in the Southeast and Midwestern United States over the past 20 years. He has been a staff archaeologist with Brockington and Associates, Inc. since 1987. Mr. Gardner has directed the full range of archaeological investigations, from background research and reconnaissance to data recovery on National Register properties. In 1994, Mr. Gardner was the Principal Investigator for archaeological testing of the Muscogee Technology Park sites. During the past three years he has assisted government agencies with their responsibilities for Native American consultation under federal law and has developed a network of tribal representative contacts. He is extremely familiar with federal and state cultural resource law and regulations, and has consulted with many federal review agencies, including the Advisory Council on Historic Preservation and the US Army Corps of Engineers. He has conducted archaeological and historical research in Georgia, South Carolina, North Carolina, Tennessee, Mississippi, Louisiana, Illinois, Ohio, and Kentucky. Mr. Gardner serves as a senior project manager in the Georgia office.

Ms. Leiellen Atz (M.A., Southern Illinois University, Carbondale) is a physical anthropologist with experience in bioarchaeology, and prehistoric and historic archaeology. Prior to coming to Brockington and Associates, Ms. Atz worked in the Midwest and the Caribbean. Her specialities include human osteology, paleopathology, and dental anthropology. Her thesis on dental wear in a Caribbean slave population was completed in 1999. Ms. Atz works in the Georgia office and serves as the physical anthropologist on NAGPRA related projects.

Mr. Josh Fletcher (M.A., University of South Carolina) Mr. Fletcher has four years experience in archaeological research in the Southeast, as well as experience in South America. Before joining our firm, he worked for the South Carolina Department of Transportation and the South Carolina Institute of Archaeology and Anthropology. Since joining our firm, Mr. Fletcher has co-authored numerous reports for projects in South Carolina and has served as field director/co-author for several survey and testing projects in South Carolina, including SCDOT projects in Charleston, Clarendon, Jasper, and Sumter Counties. Mr. Fletcher temporarily resides in Connecticut and serves as a project manager for the North and South Carolina offices.

Ms. Dea Mazingo (M.H.P., Historic Preservation/Archaeology, Georgia State University) has worked extensively in Georgia and the Southeast as a research archaeologist and as an educator. Before joining Brockington and Associates, Ms. Mazingo worked with the Fernbank Museum of Natural History and at the Coosawattee Foundation, where she conducted educational programs for children and adults in addition to directing and supporting active research projects. Ms. Mazingo has significant experience conducting archaeological and paleoethnobotanical research throughout the Southeast and in the Caribbean for such diverse groups as the U.S. Virgin Islands Department of Public Works, the City of Atlanta, the New Orleans District of the U.S. Army Corps of Engineers, the Chieftains Museum, and the Georgia

Department of Transportation. Ms. Mozingo has served as a paleoethnobotanist on projects across the United States examining botanical assemblages from both prehistoric and historic contexts. As an anthropologist her research focuses on the origins of agriculture and the emergence of chiefdoms. Ms. Mozingo serves as a project manager in our Georgia office.

Mr. James C. Pritchard (M.A.Sc., University of Canberra, Australia) is a new addition to Brockington and Associates, Inc., with twelve years of experience in Eastern Woodlands archaeology. He has served as Principal Investigator for numerous survey and testing projects throughout the eastern U.S.; and has additional experience in Australia, Belize, and Mexico. Mr. Pritchard is OSHA certified in excavations safety and confined spaces entry. Before joining our firm, Mr. Pritchard served as Principal Investigator at Gray & Pape, Inc., Cincinnati, Ohio. Mr. Pritchard serves as a project manager in our Georgia office.

Mr. Eric Sipes (M.A. pending, Southern Illinois University at Carbondale) is a new addition to Brockington and Associates, Inc., with almost eleven years of experience in Eastern Woodlands archaeology and archival research. He has served as Field Director/Author for numerous survey and testing projects in Indiana, Illinois, Missouri, and Ohio; and has additional experience in Kentucky, Georgia, and most recently in South Carolina. Before joining our firm, Mr. Sipes worked with the Glenn A. Black Laboratory of Archaeology, Indiana University; and was most recently affiliated with the Center for Archaeological Investigations at Southern Illinois University where he served as a graduate research assistant and teaching assistant on the archaeological field school. Mr. Sipes serves as a project manager in our South Carolina office.

Ms. Kristrina Shuler (Ph.D. pending, Southern Illinois University; M.A. University of Southern Mississippi) is a recent addition to Brockington and Associates, Inc. Ms. Shuler has eleven years of field experience in North American archaeology, including both historic and prehistoric sites along the coast and piedmont of South Carolina. She has also conducted bioarchaeological research on sites in the U.S., Caribbean and Latin America as well. For the past few years prior to joining our firm, Ms. Shuler served as field director/co-principal investigator for the Newton Plantation in Barbados, the largest slave cemetery known from the Caribbean, and second largest in the New World. Ms. Shuler serves as a project manager with a special emphasis in bioarchaeology at our South Carolina office.

Ms. Connie Huddleston (B.A., Frostburg State University) has served as Conservator and Laboratory Director of the Georgia office for more than seven years; she is also senior laboratory supervisor for the company. Ms. Huddleston has directed database/artifact cataloging projects for the National Park Service and the Southeast Archeological Center. She supervises our curation preparation process and thus works regularly with federally approved repositories (primarily the University of Alabama's Moundville center). Her expertise in current curation requirements led to our selection in 1997 to provide assistance to the Columbus Museum in bringing their extensive Corps of Engineers collections up to modern standards. She has developed conservation laboratories in our Georgia and South Carolina offices to process commonly found items. These laboratories treat rusted iron artifacts to remove the oxidation (through electrolysis) and to provide stabilization through sealants such as B-72.

Ms. Sharon Egan (B.A., A.B.J., University of Georgia) serves as production manager for the Georgia and North Carolina offices. Ms. Egan reads and edits reports, and coordinates report production. She has degrees and background in both journalism and archaeology, having more

than eight years of experience in production and editing at several newspapers. Her archaeology background includes serving as assistant lab director in the company's Georgia office. Additionally, she has a wide range of experience on survey, testing, and data recovery projects in both the field and the lab.

Mr. David Diener (B.A., Appalachian State University) serves as graphics and digital photography specialist for the Atlanta and Raleigh area offices. He is currently equipped to use large format, medium format, and digital photography and imaging. Mr. Diener provides photographic and drafting skills and has developed centers for computer-assisted drawing using AutoCad, Corel Draw, and ArcView in our Atlanta and Charleston Area Offices. He has extensive photographic experience including Historic American Building Survey (HABS) Level 1 documentation and six years of studio artifact photography for reports and for slide presentations.

Ms. Carol Poplin (B.A., University of Calgary) serves as graphic arts specialist for the Charleston office. Ms. Poplin has more than six years experience preparing graphic materials for a number of organizations in the United States and Canada. She also has extensive archaeological field and laboratory experience throughout the southeast United States and western Canada, and is familiar with various analyses of archaeological data.

Mr. R. Scott Jones (B.A., University of North Carolina at Wilmington) is the Company's vice president for business affairs. He has more than twenty-two years experience in management, business development, operations, and finance/accounting in commercial and government settings. Mr. Jones also has technical experience in archaeology and history, having previously worked as Assistant Director of the Blockade Runner Museum and on archaeological research projects in North Carolina, South Carolina, Georgia, Florida, and Alabama.

In addition to supervisory staff, Brockington and Associates employs twenty-eight highly qualified field and laboratory technicians on a full-time, permanent basis. These technicians have a minimum of a bachelor's degree in Anthropology or a related field, as well as at least two years of field and laboratory experience.

If specialized studies of pollen, soil, floral or faunal remains, human bones, or underwater remote sensing are required, Brockington and Associates maintains a set of recognized expert subconsultants in those fields.

- **Dr. Sherri Deaver** (Ethnoscience, L.L.C.) Traditional Cultural Properties and NAGPRA issues
- **Dr. Steven Bozarth** (The University of Kansas Pollen Laboratory) pollen and phytolith studies
- **Dr. John Foss** (Soils International, retired from the University of Tennessee) soils analyses
- **Dr. David Leigh** (University of Georgia) geomorphology
- **Dr. Elizabeth Reitz** (University of Georgia) faunal analyses
- **Mr. Irv Quitmeyer** (Florida Museum of Natural History) shell analyses
- **Mr. Wes Hall** (Mid-Atlantic Technology) underwater remote sensing
- **Dr. Colin Brooker** - historic architecture.

Brockington

James C. Pritchard, RPA
Project Manager

Education

M.A.Sc. in Cultural Heritage Management (2002), University of Canberra, Australia
B.A. in Sociology (1991), Millsaps College

Area of Specialization or Training

Cultural Heritage Management Prehistoric and Historic Sites Archaeology
Section 106 Compliance

Professional Society Memberships

Society of American Archaeology Register of Professional Archaeologists
Southeastern Archaeological Conference Georgia Council of Professional Archaeologists
Kentucky Organization of Professional Archaeologists

Professional Positions Held

February 2005-Present
 Project Manager, Brockington and Associates, Inc., Norcross, Georgia
January 2002-February 2005
 Principal Investigator, Gray & Pape, Inc., Cincinnati, Ohio
May 1995-January 2002
 Archaeologist/Field Director, Gray & Pape, Inc., Cincinnati, Ohio.

Selected Work Experience in Kentucky

Cultural Resources Survey (Phase I) and Archaeological Site Testing (Phase II)

Principal Investigator, Gray & Pape, Inc., Phase I Archaeological Survey of Training Areas 2-10, 12-14, 16, and 17, U.S. Army Garrison Fort Knox, Hardin County, Kentucky. March 2004 through January 2005.

Principal Investigator, Gray & Pape, Inc., Phase I Archaeological Survey of 506 Acres and Phase II Testing of Site 15Hd684 within the Cantonment Area, U.S. Army Garrison at Fort Knox, March 2004 through January 2005.

Archaeologist, Gray & Pape, Inc., Phase II testing of Site 15Sh666, Shelby County, Kentucky. October 2003 through January 2004.

Principal Investigator, Gray & Pape, Inc., Phase I Archaeological Investigations of the Whole Neighborhood Renewal at the Anderson Golf Course, U.S. Army Garrison, Fort Knox, September and October, 2003.

Principal Investigator, Gray & Pape, Inc., Phase I Investigations in Training Area 18 and the Wilcox Range at the U.S. Army Garrison Fort Knox in Bullitt County, Kentucky, April 2003 to October 2004.

Archaeologist, Gray & Pape, Inc. Phase II testing of Sites 15BU544, 15BU551 and 15BU560 at the US Army Garrison Fort Knox, Bullitt County, Kentucky. August 2002.

Archaeologist, Gray & Pape, Inc., Phase I Investigations at the US Army Armor Center and Fort Knox in Hardin and Meade Counties, Kentucky. June and July 2002.

Archaeological Data Recovery (Phase III) (not Kentucky specific)

Archaeologist, Gray & Pape, Inc. Data Recovery at Site 33HA733, Hamilton County, Ohio. November 2002 through January 2003.

Field Director, Hardlines Design Company. Data Recovery at Site 36AL480, Allegany County, Pennsylvania. November and December 2000.

Archaeologist, Midwestern Environmental Consultants, Inc. Data Recovery at Sites 33WY674 and 33WY783, Wyandot County, Ohio. November and December 1999.

Senior Field Technician, Pan American Consultants, Inc. Data Recovery at Site 1EE491, Elmore County, Alabama. February and March 1999.

Archaeologist, Earth Search, Inc. Data Recovery at Site 16SJ20, Donaldsonville, Louisiana, November 1996 through February 1997.

Archaeologist, Archaeological Services. Data Recovery at Site 48SW10888, Sweetwater County, Wyoming. July to October 1996.

Archaeologist, Gray & Pape, Inc. Data Recovery at Site 46KA294, Kanawha County, West Virginia, April to May 1996.

Archaeologist, Earth Search, Inc. Phase III Data Recovery at a Spanish Colonial Period (Isleño) House Site, Jefferson Parish, Louisiana, January 1995.

Archaeologist, Earth Search, Inc. Data Recovery at Site 16JE218, Jefferson Parish, Louisiana, June to August 1994.

Relevant Kentucky Technical Reports

2005 Pritchard, James C., Maureen S. Meyers, and Bradley S. Bowden. *Final Report: Phase I Archaeological Survey of Training Areas 2-10, 12-14, 16, and 17, U.S. Army Garrison Fort Knox, Hardin County, Kentucky.* Lead Agency: the U.S. Army. Prepared for: ICI, LLC, Dumfries, VA.

Pritchard, James C. and Christy W. Pritchard. *Final Report: Phase I Archaeological Survey of 506 Acres and Phase II Testing of Site 15Hd684 within the Cantonment*

Area, U.S. Army Garrison at Fort Knox. Lead Agency: the U.S. Army. Prepared for: ICI, LLC, Dumfries, VA.

Pritchard, James C., Christy Wood Pritchard, and John W. Picklesimer, II. *Final Report: Phase II Investigations of Four Sites (15bu311, 15bu544, 15bu551 And 15bu560) Within The U.S. Army Armor Center And Fort Knox, Bullitt County, Kentucky.* Lead Agency: The U.S. Army. Prepared for: Fuller, Mossbarger, Scott, and May Engineers, Louisville, KY.

- 2004 Pritchard, James C., Christy W. Pritchard, and Thomas I. Fugate. *Phase I Archaeological Investigations of the Proposed Whole Neighborhood Renewal at the Anderson Golf Course, U.S. Army Armor Center and Fort Knox, Hardin County, Kentucky.* Lead Agency: The U.S. Army. Prepared for Shaw Environmental & Infrastructure, Inc., Cincinnati, OH.

Pritchard, James C. and Christy W. Pritchard. *Final Report: Phase I Investigations in Training Area 18 and the Wilcox Range at the US Army Armor Center and Fort Knox in Bullitt County, Kentucky (DAWC27-00-D-0015).* Lead Agency: The U.S. Army. Prepared for: Fuller, Mossbarger, Scott, and May Engineers, Louisville, KY.

Pritchard, James C. *Final Report: Phase I Investigations at the US Army Armor Center and Fort Knox in Hardin and Meade Counties, Kentucky.* Lead Agency: The U.S. Army. Prepared for FMSM Engineers, Louisville, KY.

Elzy, Tammy

From: Rice, Dan [DRice@JJG.com]
Sent: Tuesday, May 03, 2005 12:01 PM
o: linearprojects
Cc: jglasgow@photoscience.com; Jay; Ballard, Mark
Subject: Ft Knox T&E/buffer issues

Clay:

I have been corresponding with Mike Brandenburg (Ft Knox wildlife contact), and he has reviewed the corridor. I have told him that we would get back with him on several items. Please review the followings concerns/requests regarding buffers with your contacts at KU, and see what commitments you can get from KU. Mike will make a casual call to his USFWS contact to get their general response. However, Mike and I agreed that we will prepare a check list of proposed buffer sizes and construction restrictions/construction practices/BMP's to present to USFWS. This will help USFWS determine specific survey requirements and whether there will be a need for a Biological Assessment.

Indiana bat

All trees over 6-inch DBH with potential exfoliating bark is considered habitat for the In. bat, so all wooded areas will be consider potential habitat. Outside of stream crossings, the only restriction that this will require is that clearing/construction must occur in winter (Nov to March).

At the three major **stream crossings** (Otter Creek, Salt River, and Tioga Creek), a 75-foot buffer (either side of stream) should be established for bat habitat as well as stream protection. Mike indicated that all canopy trees should be saved in these buffers (if possible) – no vegetation clearing in the 75-foot buffer. He stated that these streams are in fairly deep valleys, and the existing line goes "ridge to ridge", and he does not think there was any canopy cleared underneath the line. If KU can commit, to preserving a 75-foot buffer (no clearing) indications are that USFWS will not require **mussel surveys**. I would think **other streams and wetlands** would need to be buffered but we did not discuss specifics.

Sink Holes

Mike indicated a need for a 70-foot buffer around sink holes and rigorous BMP's around sink holes that lead to caves and underground aquifers. In other words, the sink holes that lead directly to caves and aquifers should be buffered like streams. Due to the karst topography, there will likely be a number of sinkholes.

As I was writing this email, a person from USFWS contacted me directly, and she requested that we send her our buffer proposal as well as the PSI topo map-ROW corridor for their review. Based on this review, they will suggest any special survey requirements and conclude whether they will require a **Biological Assessment**. In general, she agreed that special aquatic surveys would not be required (if buffer restrictions are sufficient). However, she did indicate that they may require identification/location of cave openings within the corridor as well as some distance outside the corridor. She also cautioned that there may be pole construction restrictions within certain areas known for karst topography, caves, and sink holes. This may result in potential reroutes. Finally, she mentioned that USFWS had rec'd a call from a resident along the proposed corridor who is reporting sighting of the endangered whooping crane. The USFWS rep informed me that there had been several accounts of whooping cranes migrating though this area, and her brief research has pointed her to transmission lines as a potential threat.

Overall, the USFWS rep was very helpful and will provide lots of info, but I think USFWS will be fairly involved and will likely require a BA.

Thanks,

Dan

*Dan Rice
Senior Ecologist
Jordan, Jones, and Goulding, Inc.
6801 Governors Lake Parkway*

*Building 200
Norcross, GA 30071
678-333-0457
678-641-1564 (cell)
770-455-7391 (fax)*

Elzy, Tammy

From: Jim Pritchard [JimPritchard@brockington2.org]
Sent: Friday, June 17, 2005 3:51 PM
o: linearprojects
Subject: Emailing: 15MD429.jpg

Attachments: 15MD429.jpg



15MD429.jpg

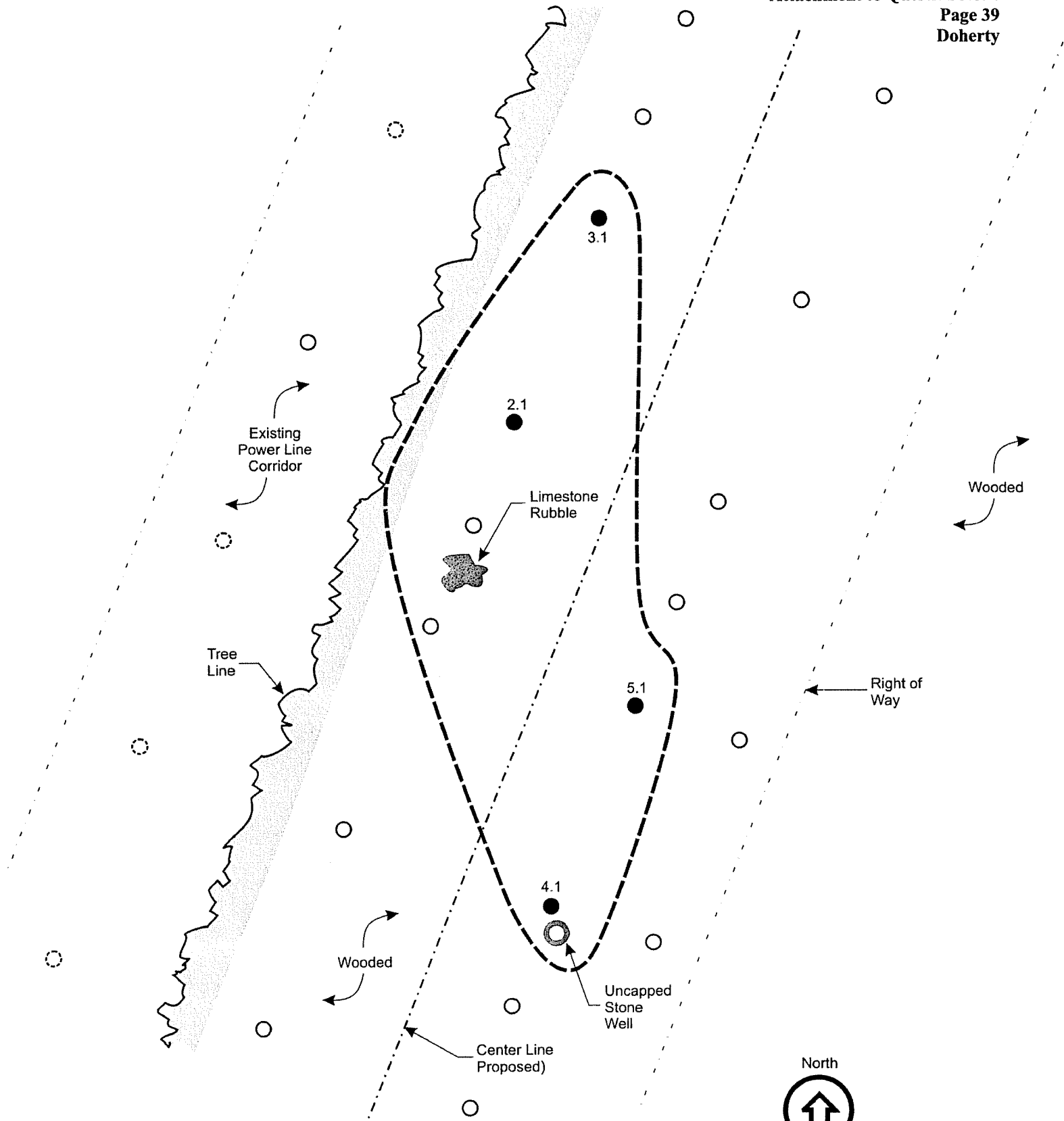
<<15MD429.jpg>> Clay,
I just made it into the office. Here's the site plan view that you requested.
Have a great weekend.

Jim

The message is ready to be sent with the following file or link attachments:

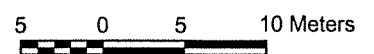
15MD429.jpg

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.



15MD429

- Negative Shovel Test
- Positive Shovel Test
- ⊙ Not Dug (Disturbed)



Elzy, Tammy

From: Maurie Van Buren [hpcms@qwest.net]
Sent: Tuesday, May 10, 2005 7:02 PM
To: claytondoherty@bellsouth.net
Subject: Kentucky Historic Structure Survey Report

Clay,

I documented 161 resources within the APE of the Mill Creek T/L project. When I was in Frankfort I found that the Kentucky SHPO requires consultants preparing Assessment of Effect Reports to complete a 2 page Survey Form on all resources not have not already been surveyed. Unfortunately our project includes an area of Kentucky with only a few resources surveyed.

There are 27 questions on the survey form. I estimate it will cost \$100 per form to complete the physical description. The form requires site plans, floor plans and maps not required in the Assessment Report. Deed research and history of each property will be an additional fee.(in past KY has not always required historical data for each resource) (see Survey Form attached).

Budget update:\$35,200

report fee \$3000

161resources \$16,100

161 survey forms \$16,100

I will fax or email maps of NR eligible resources this friday.

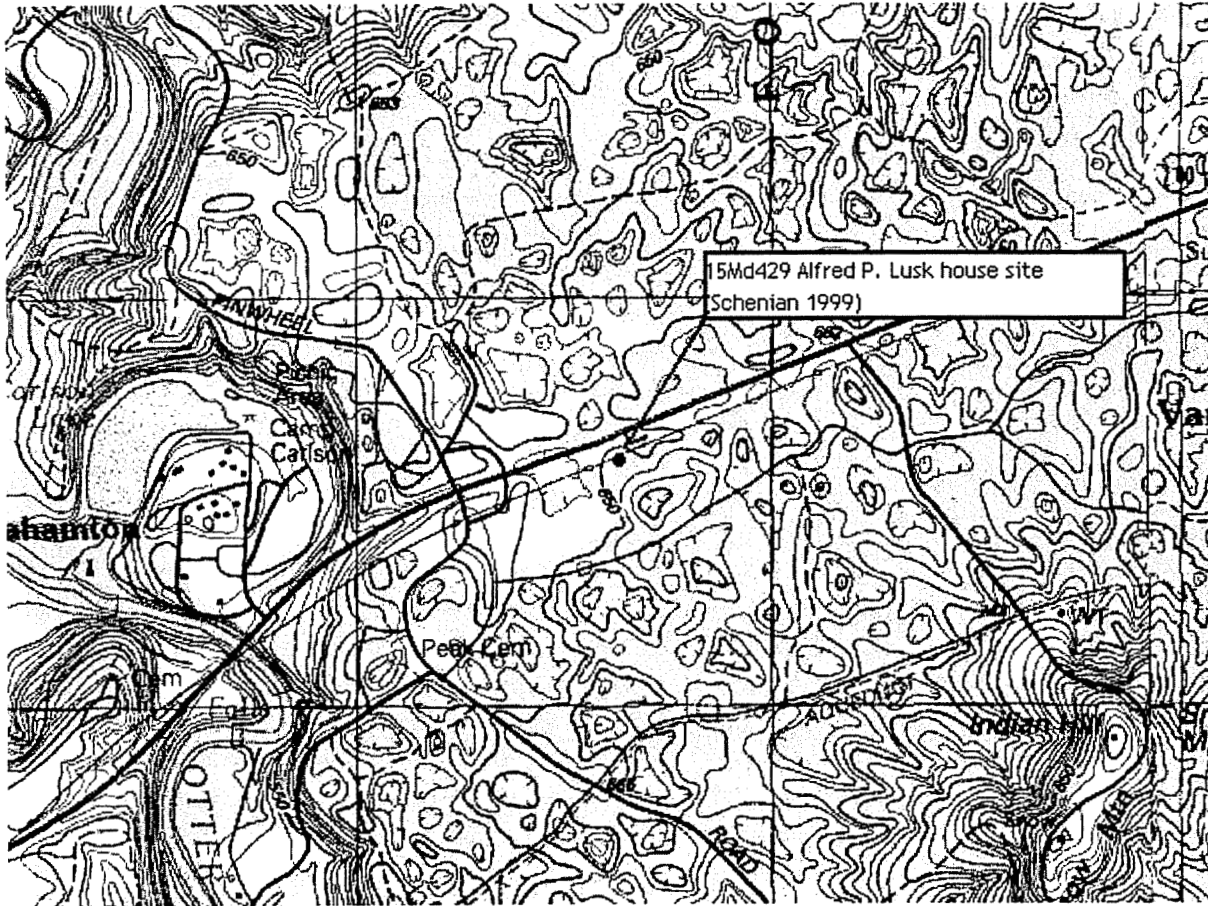
Maurie

\$19,100

Elzy, Tammy

From: Jim Pritchard [JimPritchard@brockington2.org]
Sent: Friday, May 27, 2005 12:20 PM
To: claytondoherty@bellsouth.net
Subject: Site 15MD429 site plot on Rock Springs, KY-IN (USGS) quadrangle (1991)

*Color
doc.*



Elzy, Tammy

From: Harriet Frye [hfwriter@bellsouth.net]
Sent: Wednesday, February 15, 2006 10:27 AM
To: 'linearprojects'
Subject: RE: Archaeological Survey
Attachments: Visibility anaylsis.doc; Title page.doc

Clay,

The only thing I know we still need is a revised visibility analysis page for the Fort Duffield assessment of effect section, since Maurie has now determined that the Salt River railroad bridge has lost its integrity and isn't eligible. I'm attaching the page from the previous report, and you'll notice that it still includes the bridge, so PhotoScience will need to do some tweaking. I think the existing NR boundary maps will be okay. I'm also attaching the title page, just to be sure it's correct since Maurie has to sign the copies physically. (We don't have the technology to let her sign them electronically.)

Since they're making us index all the maps and photographs as "Figures," and I don't know where this page is going to fall in the pecking order, it would also help if this chart didn't have that "Figure 4.8.2" heading at the top. Could we give it a different heading, or none at all? That way, I can caption it at the bottom to keep it consistent with all the other "Figures" in the report.

Maurie is due in my office within the hour, and we'll get back in touch if we need anything else immediately. The archaeological report you sent on Monday is going to be a great help, especially the sections about the history of the region and the geographical setting.

Thanks,
Harriet

From: linearprojects [mailto:linearprojects@bellsouth.net]
Sent: Wednesday, February 15, 2006 6:49 AM
To: Harriet Frye; Maurie Van Buren
Cc: Jesse Glasgow
Subject: FW: Archaeological Survey

KY trip got postponed. You got everything you need, Harriet? Let me know and I'll try to get with y'all.

clay

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell

3/10/2006

linearprojects@bellsouth.net

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From: linearprojects [mailto:linearprojects@bellsouth.net]
Sent: Monday, February 13, 2006 1:27 PM
To: Harriet Frye
Subject: Archaeological Survey

Good afternoon, Harriet!

Maurie asked for a copy of the archaeological survey. If you guys want to use the title sheet as a model, that would be fine, except the Action Agency is U.S. Army, not the U.S. Army Corps of Engineers. Please make that change.

This is a large file, too large to email, so I've given you permission to go grab it off my FTP site.

Let me know what else you need this afternoon, if you can. I fly up to KY tomorrow for a couple of days and won't be back here until Thursday afternoon.

Clay

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
linearprojects@bellsouth.net

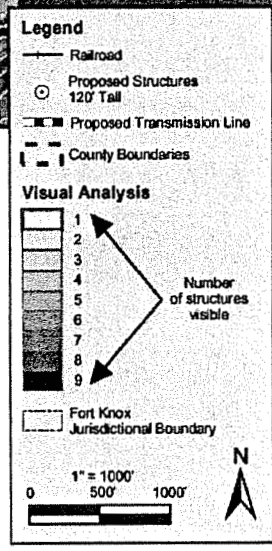
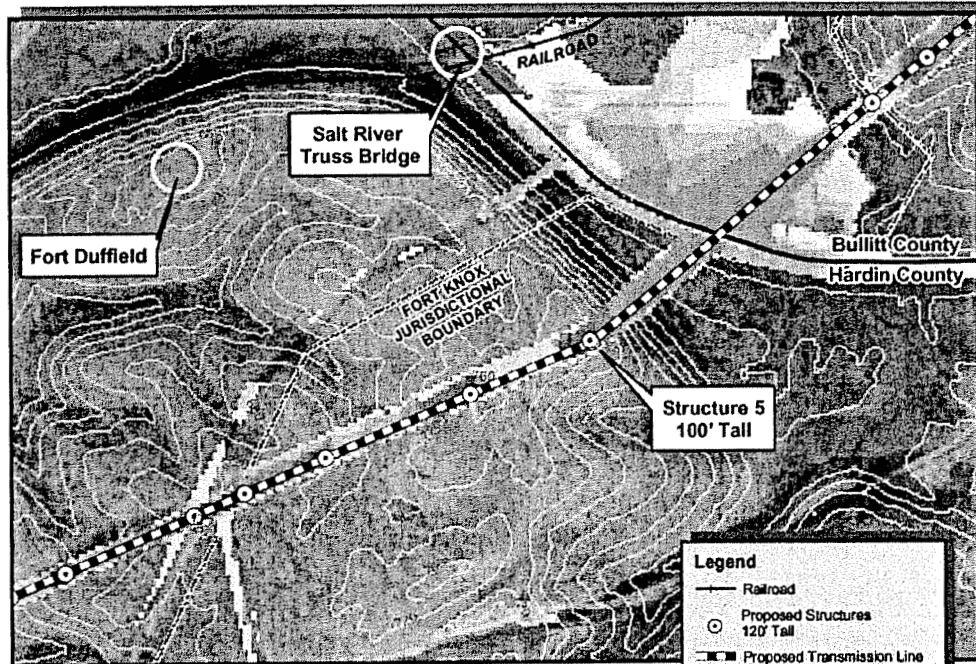
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3/10/2006

Color doc.

Figure 4.8.2 (a)

Proposed Mill Creek - Hardin County Transmission Line
Fort Duffield and Salt River Truss Bridge



Visibility analysis was performed based on approximate structure locations based on the following assumptions. The point of the observation is the top of the proposed transmission structures. Structures will be no more than 120' tall (except for structure # 5 which will be no more than 100' tall). The bare earth terrain was modeled by using a United States Geological Survey 7.5 minute Digital Elevation Model. The forest boundaries were estimated and interpreted from 2004 aerial photography. The canopy is assumed to be a uniform 60' above the surface of the earth. An observer on the floor of the forest can not see the proposed facility. Analysis performed by Photo Science, Inc. using Environmental Systems Research Institute's ArcGIS Spatial Analyst software. Contact Jesse Glasgow at Photo Science for additional information (770-270-7769).



Plot: C. Gusek
07/15/05

This visibility analysis shows all areas that can be seen by an observer at the top of the 120-foot transmission line structures and from Structure 5, which has been lowered to 100 feet tall. Areas in red can be seen from the tops of one or more structures. This data is based on modeling the topography and assuming a uniform 60-foot tree height. Field measurements for trees in the Fort Duffield area confirm an average height of 67 feet.

**CULTURAL HISTORIC SURVEY
PROPOSED ELECTRIC UTILITY EASEMENT WITHIN
THE U.S. ARMY GARRISON, FORT KNOX:
HARDIN, MEADE, AND BULLITT COUNTIES, KENTUCKY**

Prepared for:
Photoscience, Inc.
2100 East Exchange Place
Tucker, GA 30085-2088
on behalf of
Louisville Gas & Electric and Kentucky Utilities

Submitted to:
U.S. Army Garrison
Environmental Management Division
Directorate of Base Operations Support
Fort Knox, KY 40121-5000
Contact: R. Criss Helmkamp, Ph.D.
Phone 502-624-6581
Fax 502-624-1868

Prepared by:
Maurie Van Buren, M.A.
Principal Investigator/Project Manager
Historic Preservation Consulting
38 Camino de Caballos
Rancho de Taos, NM 87557
505-770-8774
hpcms@qwest.net

Maurie Van Buren
Principal Investigator

February 12, 2006

Lead Federal Agency: U.S. Army

Elzy, Tammy

From: Jim Pritchard [JimPritchard@brockington.org]
Sent: Tuesday, November 01, 2005 10:38 AM
To: linearprojects
Subject: FW: SHPO letter
Attachments: LGE archaeology.pdf

Clay,

Attached is the SHPOs concurrence letter. As you will read, they have no problem with the project if we simply fence site 15MD429 and hand-cut the trees around it (as we agreed would be the site's treatment during construction). The changes are minor and most will need to be handled by Jay Minix of Photoscience, since he's the one that created the maps in question. Otherwise, the changes to the text have already been addressed and I'll replace the photos with color versions today.

I'll speak with Jay today regarding his work schedule and his ability to revise the maps in question. Once Jay's finished with his edits, I'll have the Final Report produced. I'll send one copy to you and Jessee (each) and the requisite number of copies to Brandon.

It's been fun.

Jim

James C. Pritchard, RPA
Project Manager
Brockington and Associates, Inc.
www.brockington.org
www.thehistoryworkshop.com



COMMERCE CABINET
KENTUCKY HERITAGE COUNCIL

Ernie Fletcher
Governor

The State Historic Preservation Office
300 Washington Street
Frankfort, Kentucky 40601
Phone (502) 564-7005
Fax (502) 564-5820
www.kentucky.gov

W. James Host
Secretary

David L. Morgan
Executive Director and
State Historic Preservation Officer

October 27, 2005

Mr. Joseph T. Hutchins, Jr.
Director of Base Operations Support
Directorate of Base Operations Support
Headquarters, U.S. Army Armor Center
and Fort Knox
Department of the Army
Fort Knox, Kentucky 40121-5000

Dear Mr. Hutchins:

The State Historic Preservation Office has received for review and comment an archaeological survey report entitled "Phase I Archaeological Survey of a Proposed Electric Utility Easement Within the U.S. Army Garrison Fort Knox, Hardin, Meade, and Bullitt Counties, Kentucky" by James C. Pritchard. During the course of the survey, four previously recorded archaeological sites (15Md167, 15Md411, 15Md413, and 15Md429) were revisited; three previously unknown sites (15Hd685, 15Md464, and 15Md465) and four isolated finds were recorded. Previously recorded site 15Md166 was not relocated and was presumed destroyed. Sites 15Hd685, 15Md167, 15Md411, 15Md413, 15Md464, 15Md465, and the four isolated finds are considered ineligible for listing in the National Register of Historic Places. Site 15Md429 (the Alfred P. Lusk house site) is considered to be potential eligible for listing in the National Register of Historic Places. The author recommends that site 15Md429 be protected with a fence and that all trees requiring removal be hand cut. If it is not possible to avoid the site, Phase II testing would be necessary to assess 15Md429. I concur with the author's recommendations. In accordance with 36CFR Part 800.4 (d) of the Advisory Council's revised regulations our finding is that there is No Effect on Historic Properties within the undertaking's area of potential impact. Therefore, we have no further comments and U.S. Army Armor Center and Fort Knox's responsibility to consult with the Kentucky State Historic Preservation Officer under the Section 106 review process is fulfilled. Provided that site 15Md429 is avoided, we have no objection to the project.

Our review of the report revealed some minor deficiencies and indicated the report did not conform to the SHPO's "Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports". We are requesting that Brockington and

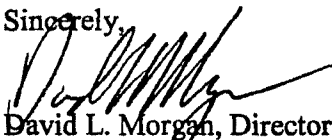
Mr. Joseph T. Hutchins, Jr.
October 27, 2005
Page 2

Associates make the following corrections and submit two revised copies of the report for our review and approval. Our clearance of this project is conditional upon receipt of a revised report within the next 60 days. Our comments are as follows:

1. The Introduction does not provided all the requested information. Please provide the total acreage surveyed, the dates of the field investigations, the total number of hours spent in the field, and a listing of the field director, supervisor, and crew members.
2. The maps includes for Figures 2-Figure 4 are marginally adequate for illustrating areas of previous surveys due to their greatly reduced scale. However, they are not adequate to show the areas surveyed for the electric line or the locations of the archaeological sites and isolated finds. Consequently, additional 7.5 Minute U.S.G.S. topographic maps should be included for new figures (at the normal scale, not reduced) showing the areas surveyed and the locations of the archaeological sites and isolated finds. These figures could be large fold out maps or consist of a series of maps covering the project corridor.
3. The photographs showing the project areas and archaeological sites are black and white. The specifications require that all photographs be printed in color. Thus, the revised report should have color photographs.

We look forward to reviewing the revised report and completing our review. 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: Dr. R. Criss Helmkamp
Mr. James C. Pritchard

the project areas
are inadequate to
show the project area
and the locations of
the archaeological sites
and isolated finds.
Consequently, additional
7.5 Minute U.S.G.S.
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areas surveyed and the
locations of the
archaeological sites
and isolated finds.
These figures could
be large fold out
maps or consist of a
series of maps
covering the project
corridor.

completing and review
of the report and submit

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 5

Witness: Clay Doherty / Mark S. Johnson / Counsel

- Q-5. An identification and description of all sites on or eligible for the National Register of Historic Places which are in the Area of Potential Effect of the proposed transmission facilities for Route #1 and Route #2.
- A-5. The Companies object on grounds that the information sought is or may not be relevant to the subject matter of this proceeding and is not or may not be reasonably calculated to lead to the discovery of admissible evidence. Without waiver of that objection, the Companies have not completed evaluation of NHRP-eligible sites except on that portion of the line which crosses Fort Knox. No resources eligible for nomination to the NRHP were found within that area. With regard to listed NRHP sites, the Companies state as follows:

For Route #1, four NRHP-listed resources are within the APE.

- Bethlehem Academy Historic District. Near jct. of KY 1357 and KY 253, St. John 1988-10-04 Hardin County MRA
- Blue Ball Church. Blue Ball Church Rd., 0.6 mi. S of jct. of KY 220 & KY 1375, Howe Valley, 1988-10-04, Hardin County MRA
- Clarkson House. Clarkson Rd. Flaherty 1983-05-24
- Fort Duffield. E of US 31W off West Point Marina Rd. West Point, Hardin County 1994-01-31

For Route #2, two NRHP-listed resources are within the APE.

- Clarkson House. Clarkson Rd. Flaherty 1983-05-24
- Fort Duffield. E of US 31W off West Point Marina Rd. West Point, Hardin County 1994-01-31

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 6

Witness: Clay Doherty / Mark S. Johnson / Counsel

- Q-6. Any studies, evaluations, discussions, and/or communications concerning LG&E/KU's obligation and effort toward complying with section 106 of the National Historic Preservation Act, 16 U.S.C. & 470 et seq., and its implementing regulations, 36 C.F.R. Part 800, and all related documents.
- A-6. The Companies object to this request to the extent that it seeks the production of any item protected by the attorney-client privilege or the work product doctrine, and on grounds that the information sought is not or may not be relevant to the subject matter of this proceeding and is not or may not be reasonably calculated to lead to the discovery of admissible evidence. Without waiver of that objection, and without production of privileged or work-product protected documents, the Companies provide the requested information in paper and/or electronic form in the attachments. See also the Companies' responses to Question Nos. 2, 4 and 8 of these data requests.

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 7

Witness: Mark S. Johnson / Counsel

- Q-7 Any studies, evaluations, discussions, and/or communications which form the basis for:
- a. LG&E/KU's statement at Application, paragraph 6, "Statement of Convenience" that: "The route of the transmission line is designed to serve the projected load with as little negative impact as can be reasonably afforded while maximizing the use of existing facilities and utility corridors to the extent practicable."
 - b. "In deciding upon the route for this proposed line, the Companies addressed the Commission's directive in its final order in Case No. 2005-0142, to thoroughly review "all reasonable alternatives, including locating the line partially or fully along existing transmission corridors."
 - c. "the proposed route was determined through extensive study, conducting field surveys, evaluating the topography along the routes considered and adjusting the routes as appropriate, consistent with sound engineering and regulatory principles."
 - d. Please provide all field surveys, evaluations, studies, documentation of adjustments made, and the engineering and regulatory principles referred to in that statement.
- A-7. The Companies object to this request to the extent that it seeks the production of any item protected by the attorney-client privilege or the work product doctrine. Without waiver of that objection, and without production of privileged or work-product protected documents, the Companies provide the requested information as follows:

- a. Please see the Companies' responses to Question Nos. 1, 2, 4, 6, and 8 of these data requests.
- b. Please see the Companies' responses to Question Nos. 1, 2, and 3 of these data requests.
- c. Please see the Companies' responses to Question Nos. 1, 2, 4, and 6 of these data requests.
- d. The Companies provide the requested information in paper and/or electronic form in the attachments.

Harper, Vicki

From: Bradford, Ronald
Sent: Thursday, December 15, 2005 4:48 PM
To: Grillon, Benjamin
Cc: Mullins, Nate; Slay, Kathy; Strunk, Alan
Subject: RE: Property Owner Concerns
Attachments: cemetery patrol.gdb

Brandon,

12-13-2005, 9:30 AM

I called Pat Bruce Losey at her office in Louisville and asked her to help me locate the grave makers, she informed that the three grave makers were not located on her farm that they were on the Matthews / Reed / Farmwald farm. They were along a horse trail traveling north to the Snyder farm, but she could not locate them on a map. She said that the loggers had distorted all the original trails and it would be impossible for her to help me locate the markers.

12-13-2005, 12:30 PM

I patrol the purposed route on the John & Patty Losey farm, Danny Matthews (Farmwald) farm, Bewley-Kephart farm, Wood farm and did not find any cemetery makers near the purposed route.

12-14-2005, 8:00 AM

I called Ms Losey again a her office and again asked her to help me locate the grave makers. She told me to stand at the front door of Farmwald house trailer, that the grave makers would be to my right, straight back towards the Snyder Farm, over a couple hills, but on the Farmwald Farm.

12-14-2005 approx 9:30 AM

I returned with additional help (Boarman). We patrol as a tandem approx 100' apart patrolling North paralleling the purposed route and found nothing.

We patrolled to the William and Kim Wood residents and asked Kim Wood if she had knew were the grave makers were, she pointed to a small growth of trees next to the chicken houses. We searched the area and found nothing.

I've attached a waypoint file showing the area searched.

Ronnie Bradford

<<cemetery patrol.gdb>>

Harper, Vicki

From: Bradford, Ronald
Sent: Thursday, January 12, 2006 9:50 AM
To: Grillon, Benjamin
Subject: RE: TC2 Field Verifications
Attachments: 1-11-2006 B.txt; 1-11-2006 B.gdb

Hobbs, Property had several Gas Wells located on them, the closest Gas Wel 5 is 428' off centerline.

Hager property, off of Hwy 144 had two Gas Wells visible from the road. The closest is Gas Well H2 its located approx. 125' from centerline.

Mr Jones, and I talked about the other lines on his property. The lines in question are located off HWY 1158 for the microwave/cell tower. He said he just wanted us to be aware that they were on the back of his property. I GPS the single phase line and the tower.

Reinhart , has built a New Barn approx. 219' from the centerline. The Old Barn is approx. 95' from centerline.

Saylor, Hay field is located approx. 150' to the east of the centerline. The proposed route is in pasture field only.

<<1-11-2006 B.txt>> <<1-11-2006 B.gdb>>

Thanks

Ronnie Bradford

From: Grillon, Benjamin
Sent: Monday, January 09, 2006 1:08 PM
To: Bradford, Ronald
Subject: TC2 Field Verifications

Ronnie,
Can you follow up with these questions on the following property owners?

Hobbs, Joe L. - Locate Gas Wells

Hobbs, Kelly, Kevin, and Susan - Locate Gas Wells

Jones, Charles D. and Lamar Jo - Investigate what other power lines are located on the property. We have no transmission indicated in our records.

Reinhardt, William D. - Investigate Barn Locations. They say two are located on property but only one is easily identifiable on the aerial photography the other needs to be confirmed.

Saylor, Robert T. and Yvonne - Identify which fields are pasture and which are hay. May just warrant a phone call to ask which side of the property these are located on.

3/10/2006

RE: TC2 Field Verifications

Attachment to Question No. 7 (d)
Page 3
Johnson

If you have any questions please let me know.

Thanks,
Brandon

3/10/2006

1-11-2006 B.txt

Grid Lat/Lon hddd°mm.mmm'
Datum WGS 84

Header	Name	Description	Type	Position	Altitude	Depth	City
Proximity	Country	Temperature	Display	Mode	Symbol	Facility	
State		Date Modified	Link	Color			
waypoint		001	User Waypoint	N37 45.589 W86 05.340			
		Symbol & Name	Unknown Waypoint				
1/11/2006 4:28:57 PM							
waypoint		002	User Waypoint	N37 51.185 W86 06.062			
		Symbol & Name	Unknown Waypoint				
1/11/2006 4:52:30 PM							
waypoint		003	13-DEC-05 1:42:35PM	User waypoint	N37 45.611 W86		
05.229 800 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:29:04 PM				
waypoint		004	13-DEC-05 1:43:33PM	User waypoint	N37 45.611 W86		
05.231 845 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:29:10 PM				
waypoint		005	13-DEC-05 1:55:52PM	User waypoint	N37 45.704 W86		
05.423 746 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:29:15 PM				
waypoint		006	13-DEC-05 1:58:42PM	User waypoint	N37 45.719 W86		
05.529 732 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:29:22 PM				
waypoint		007	13-DEC-05 1:59:53PM	User waypoint	N37 45.720 W86		
05.559 742 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:29:29 PM				
waypoint		008	13-DEC-05 2:01:36PM	User waypoint	N37 45.758 W86		
05.544 762 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:29:35 PM				
waypoint		009	13-DEC-05 2:03:40PM	User waypoint	N37 45.794 W86		
05.500 797 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:29:41 PM				
waypoint		010	13-DEC-05 2:06:16PM	User waypoint	N37 45.866 W86		
05.485 813 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:29:47 PM				
waypoint		011	13-DEC-05 2:13:27PM	User waypoint	N37 45.927 W86		
05.588 803 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:29:53 PM				
waypoint		012	13-DEC-05 2:20:14PM	User waypoint	N37 46.021 W86		
05.595 849 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:29:59 PM				
waypoint		013	13-DEC-05 2:26:59PM	User waypoint	N37 46.170 W86		
05.630 847 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:30:05 PM				
waypoint		014	13-DEC-05 2:28:18PM	User waypoint	N37 46.175 W86		
05.627 840 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:30:11 PM				
waypoint		015	13-DEC-05 2:37:17PM	User waypoint	N37 46.361 W86		
05.618 810 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:30:17 PM				
waypoint		016	13-DEC-05 2:45:22PM	User waypoint	N37 46.453 W86		
05.612 808 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:30:23 PM				
waypoint		017	13-DEC-05 2:53:31PM	User waypoint	N37 46.719 W86		
05.718 810 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:30:29 PM				
waypoint		018	13-DEC-05 2:58:59PM	User waypoint	N37 46.626 W86		
05.651 878 ft			Symbol & Name	Unknown Waypoint			
			1/11/2006 4:30:35 PM				
waypoint		019	13-DEC-05 3:06:35PM	User waypoint	N37 46.435 W86		
05.527 791 ft			Symbol & Name	Unknown Waypoint			

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Waypoint	020	1/11/2006 4:30:42 PM	User Waypoint	N37 46.396 W86
05.565 805 ft		13-DEC-05 3:09:47PM	Symbol & Name	Unknown Waypoint
Waypoint	021	1/11/2006 4:30:49 PM	User Waypoint	N37 46.359 W86
05.490 830 ft		13-DEC-05 3:13:52PM	Symbol & Name	Unknown Waypoint
Waypoint	022	1/11/2006 4:31:00 PM	User Waypoint	N37 46.265 W86
05.519 828 ft		13-DEC-05 3:18:04PM	Symbol & Name	Unknown Waypoint
Waypoint	023	1/11/2006 4:31:06 PM	User Waypoint	N37 46.126 W86
05.530 853 ft		13-DEC-05 3:23:56PM	Symbol & Name	Unknown Waypoint
Waypoint	024	1/11/2006 4:31:12 PM	User Waypoint	N37 45.989 W86
05.495 862 ft		13-DEC-05 3:28:21PM	Symbol & Name	Unknown Waypoint
Waypoint	025	1/11/2006 4:31:17 PM	User Waypoint	N37 45.892 W86
05.338 772 ft		13-DEC-05 3:33:40PM	Symbol & Name	Unknown Waypoint
Waypoint	026	1/11/2006 4:31:22 PM	User Waypoint	N37 45.850 W86
05.306		14-DEC-05 10:22:16AM	Symbol & Name	Unknown Waypoint
Waypoint	027	1/11/2006 4:31:28 PM	User Waypoint	N37 46.029 W86
05.504 846 ft		14-DEC-05 10:32:55AM	Symbol & Name	Unknown Waypoint
Waypoint	029	1/11/2006 4:31:34 PM	User Waypoint	N37 46.142 W86
05.734 810 ft		14-DEC-05 10:45:55AM	Symbol & Name	Unknown Waypoint
Waypoint	031	1/11/2006 4:31:39 PM	User Waypoint	N37 46.074 W86
05.563 934 ft		14-DEC-05 11:52:26AM	Symbol & Name	Unknown Waypoint
Waypoint	032	1/11/2006 4:31:52 PM	User Waypoint	N38 01.860 W85 52.586
			Symbol & Name	Unknown Waypoint
1/12/2006 8:30:40 AM				
Waypoint	035	19-DEC-05 2:42:14PM	User Waypoint	N37 42.169 W86
00.193			Symbol & Name	Unknown Waypoint
Waypoint	036	1/11/2006 4:32:14 PM	User Waypoint	N37 42.184 W86
00.442 768 ft		19-DEC-05 2:43:03PM	Symbol & Name	Unknown Waypoint
Waypoint	037	1/11/2006 4:32:23 PM	User Waypoint	N37 42.214 W86
00.434 776 ft		19-DEC-05 2:43:42PM	Symbol & Name	Unknown Waypoint
Waypoint	038	1/11/2006 4:32:30 PM	User Waypoint	N37 42.208 W86
00.362 790 ft		19-DEC-05 2:45:07PM	Symbol & Name	Unknown Waypoint
Waypoint	039	1/11/2006 4:32:37 PM	User Waypoint	N37 42.125 W86
00.370 764 ft		19-DEC-05 2:47:01PM	Symbol & Name	Unknown Waypoint
Waypoint	040	1/11/2006 4:32:43 PM	User Waypoint	N37 42.125 W86
00.393 770 ft		19-DEC-05 2:47:43PM	Symbol & Name	Unknown Waypoint
Waypoint	041	1/11/2006 4:32:48 PM	User Waypoint	N38 01.908 W85 52.652
			Symbol & Name	Unknown Waypoint
1/12/2006 8:32:06 AM				
Waypoint	042		User Waypoint	N38 01.907 W85 52.628
			Symbol & Name	Unknown Waypoint
1/12/2006 8:40:05 AM				
Waypoint	043		User Waypoint	N38 01.913 W85 52.627
			Symbol & Name	Unknown Waypoint
1/12/2006 8:40:18 AM				
Waypoint	045		User Waypoint	N38 01.909 W85 52.615
			Symbol & Name	Unknown Waypoint

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1/12/2006 8:42:21 AM Waypoint 05.011 955 ft	048	21-DEC-05 2:38:29PM Symbol	User Waypoint & Name Unknown	N37 46.307 w86 Cemetery
Waypoint 04.996 953 ft	049	21-DEC-05 2:39:06PM Symbol	User Waypoint & Name Unknown	N37 46.313 w86 Cemetery
Waypoint 05.014 927 ft	051	21-DEC-05 2:40:32PM Symbol	User Waypoint & Name Unknown	N37 46.299 w86 Cemetery
Waypoint 05.214	052	21-DEC-05 2:50:03PM Symbol	User Waypoint & Name Unknown	N37 46.196 w86 Waypoint
Waypoint 05.216 861 ft	053	1/12/2006 8:44:23 AM 21-DEC-05 2:52:17PM Symbol	User Waypoint & Name Unknown	N37 46.163 w86 Waypoint
Waypoint 05.379 865 ft	054	1/12/2006 8:44:38 AM 22-DEC-05 5:16:58PM Symbol	User Waypoint & Name Unknown	N37 46.270 w86 Cemetery
Waypoint 05.387 858 ft	055	22-DEC-05 5:17:33PM Symbol	User Waypoint & Name Unknown	N37 46.268 w86 Cemetery
Waypoint 05.395 873 ft	056	22-DEC-05 5:17:48PM Symbol	User Waypoint & Name Unknown	N37 46.269 w86 Cemetery
Waypoint 05.403 852 ft	057	22-DEC-05 5:18:14PM Symbol	User Waypoint & Name Unknown	N37 46.273 w86 Cemetery
Waypoint 05.406 847 ft	058	22-DEC-05 5:19:07PM Symbol	User Waypoint & Name Unknown	N37 46.266 w86 Cemetery
Waypoint 05.410 846 ft	059	1/11/2006 4:51:44 PM 22-DEC-05 5:19:47PM Symbol	User Waypoint & Name Unknown	N37 46.263 w86 Cemetery
Waypoint 05.402 855 ft	060	1/11/2006 4:51:34 PM 22-DEC-05 5:20:43PM Symbol	User Waypoint & Name Unknown	N37 46.256 w86 Cemetery
Waypoint 05.392 872 ft	061	1/11/2006 4:51:26 PM 22-DEC-05 5:21:20PM Symbol	User Waypoint & Name Unknown	N37 46.256 w86 Cemetery
Waypoint 57.752 896 ft	062	1/11/2006 4:51:16 PM 30-DEC-05 11:01:45PM Symbol	User Waypoint & Name Unknown	N42 19.136 w88 Cemetery
Waypoint 00.929 744 ft	063	30-DEC-05 11:15:54PM Symbol	User Waypoint & Name Unknown	N42 21.088 w89 Cemetery
Waypoint 52.653 573 ft	065	10-JAN-06 3:19:30PM Symbol	User Waypoint & Name Unknown	N38 01.877 w85 Block, Green
Waypoint 52.627 575 ft	066	10-JAN-06 3:19:53PM Symbol	User Waypoint & Name Unknown	N38 01.880 w85 Block, Green
Waypoint 52.624 537 ft	067	10-JAN-06 3:20:21PM Symbol	User Waypoint & Name Unknown	N38 01.890 w85 Block, Green
Waypoint 52.592 537 ft	068	10-JAN-06 3:23:03PM Symbol	User Waypoint & Name Unknown	N38 01.863 w85 Block, Green
Waypoint 52.591 556 ft	069	10-JAN-06 3:23:20PM Symbol	User Waypoint & Name Unknown	N38 01.859 w85 Block, Green
Waypoint 52.656 497 ft	071	10-JAN-06 3:27:26PM Symbol	User Waypoint & Name Unknown	N38 01.908 w85 Block, Green

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Waypoint 52.656 498 ft	072	10-JAN-06 3:27:37PM	User waypoint Symbol & Name	Unknown	N38 01.908 w85 Block, Green
Waypoint 52.655 492 ft	073	10-JAN-06 3:27:50PM	User waypoint Symbol & Name	Unknown	N38 01.907 w85 Block, Green
Waypoint 06.046 995 ft	074	11-JAN-06 1:09:26PM	User waypoint Symbol & Name	Unknown	N37 51.255 w86 Radio Beacon
Waypoint 06.048 1003 ft	075	11-JAN-06 1:09:46PM	User waypoint Symbol & Name	Unknown	N37 51.261 w86 Radio Beacon
Waypoint 06.060 1028 ft	076	11-JAN-06 1:10:06PM	User waypoint Symbol & Name	Unknown	N37 51.259 w86 Radio Beacon
Waypoint	BEW-MATT		User waypoint Symbol & Name	Unknown	N37 45.922 w86 05.540 Waypoint
Waypoint	BEW-WOOD	1/11/2006 4:39:10 PM	User waypoint Symbol & Name	Unknown	N37 46.099 w86 05.595 Waypoint
Waypoint w85 52.652	Block House 502 ft	10-JAN-06 3:27:13PM	User waypoint Symbol & Name	Unknown	N38 01.910 Residence
Waypoint 06.434 868 ft	BODINE	20-DEC-05 1:41:35PM	User waypoint Symbol & Name	Unknown	N37 47.433 w86 Cemetery
Waypoint	Camper		User waypoint Symbol & Name	Unknown	N38 01.866 w85 52.587 Block, Green
Waypoint w86 06.058	CELL TOWER 989 ft	1/12/2006 8:33:44 AM	User waypoint Symbol & Name	Unknown	N37 51.253 Radio Beacon
Waypoint 04.995	CEM	21-DEC-05 8:33:29AM	User waypoint Symbol & Name	Unknown	N37 46.304 w86 Cemetery
Waypoint w86 04.995	CEM WOOD	21-DEC-05 8:33:29AM	User waypoint Symbol & Name	Unknown	N37 46.304 Cemetery
Waypoint 04.843 742 ft	CEM-HOU	19-DEC-05 3:21:31PM	User waypoint Symbol & Name	Unknown	N37 43.682 w86 Cemetery
Waypoint w86 04.859	CEM-HOU10 722 ft	19-DEC-05 3:34:12PM	User waypoint Symbol & Name	Unknown	N37 43.693 Cemetery
Waypoint w86 04.827	CEM-HOU2 837 ft	19-DEC-05 3:23:05PM	User waypoint Symbol & Name	Unknown	N37 43.675 Cemetery
Waypoint w86 04.832	CEM-HOU3 763 ft	19-DEC-05 3:24:27PM	User waypoint Symbol & Name	Unknown	N37 43.673 Cemetery
Waypoint w86 04.831	CEM-HOU4 719 ft	1/11/2006 4:38:52 PM 19-DEC-05 3:25:49PM	User waypoint Symbol & Name	Unknown	N37 43.663 Cemetery
Waypoint w86 04.846	CEM-HOU6 726 ft	19-DEC-05 3:27:17PM	User waypoint Symbol & Name	Unknown	N37 43.647 Cemetery
Waypoint w86 04.909	CEM-HOU7 737 ft	19-DEC-05 3:30:03PM	User waypoint Symbol & Name	Unknown	N37 43.660 Cemetery
Waypoint w86 04.903	CEM-HOU8 753 ft	19-DEC-05 3:31:30PM	User waypoint Symbol & Name	Unknown	N37 43.681 Cemetery

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Waypoint w86 04.871	CEM-HOU9 728 ft	19-DEC-05 3:32:58PM	User Waypoint Symbol & Name Unknown	N37 43.696 Cemetery
Waypoint w86 04.044	CEM-JEN1 730 ft	20-DEC-05 1:10:01PM	User Waypoint Symbol & Name Unknown	N37 44.420 Cemetery
Waypoint w86 04.029	CEM-JEN2 722 ft	20-DEC-05 1:10:53PM	User Waypoint Symbol & Name Unknown	N37 44.420 Cemetery
Waypoint w86 04.027	CEM-JEN3 716 ft	20-DEC-05 1:05:18PM	User Waypoint Symbol & Name Unknown	N37 44.417 Cemetery
Waypoint w86 04.027	CEM-JEN4 737 ft	20-DEC-05 1:07:04PM	User Waypoint Symbol & Name Unknown	N37 44.408 Cemetery
Waypoint w86 04.049	CEM-JEN5 738 ft	20-DEC-05 1:08:26PM	User Waypoint Symbol & Name Unknown	N37 44.408 Cemetery
Waypoint w86 04.049	CEM-JEN6 731 ft	20-DEC-05 1:09:32PM	User Waypoint Symbol & Name Unknown	N37 44.419 Cemetery
Waypoint w86 04.049	CEM-JEN6 1 731 ft	20-DEC-05 1:09:32PM	User Waypoint Symbol & Name Unknown	N37 44.419 Cemetery
Waypoint 00.455 762 ft	CUN	19-DEC-05 2:40:47PM	User Waypoint Symbol & Name Unknown	N37 42.142 w86 Waypoint
Waypoint 00.442 768 ft	CUN2	1/11/2006 4:36:28 PM 19-DEC-05 2:43:03PM	User Waypoint Symbol & Name Unknown	N37 42.184 w86 Waypoint
Waypoint 00.434 776 ft	CUN3	1/11/2006 4:36:36 PM 19-DEC-05 2:43:42PM	User Waypoint Symbol & Name Unknown	N37 42.214 w86 Waypoint
Waypoint 00.362 790 ft	CUN4	1/11/2006 4:36:43 PM 19-DEC-05 2:45:07PM	User Waypoint Symbol & Name Unknown	N37 42.208 w86 Waypoint
Waypoint 00.193	CUN5	1/11/2006 4:36:49 PM 19-DEC-05 2:42:14PM	User Waypoint Symbol & Name Unknown	N37 42.169 w86 Waypoint
Waypoint 1/11/2006 4:37:20 PM	CUN6	1/11/2006 4:37:13 PM	User Waypoint Symbol & Name Unknown	N37 42.130 w86 00.212 Waypoint
Waypoint 1/11/2006 4:37:26 PM	CUN7		User Waypoint Symbol & Name Unknown	N37 42.141 w86 00.259 Waypoint
Waypoint 00.370 764 ft	CUN8	19-DEC-05 2:47:01PM	User Waypoint Symbol & Name Unknown	N37 42.125 w86 Waypoint
Waypoint 00.393 770 ft	CUN9	1/11/2006 4:37:32 PM 19-DEC-05 2:47:43PM	User Waypoint Symbol & Name Unknown	N37 42.125 w86 Waypoint
Waypoint 05.763 712 ft	GAS BED	1/11/2006 4:37:37 PM 10-JAN-06 1:11:16PM	User Waypoint Symbol & Name Unknown	N37 50.390 w86 Oil Field
Waypoint w86 05.994	GAS WEL5 750 ft	10-JAN-06 12:48:19PM	User Waypoint Symbol & Name Unknown	N37 49.282 Oil Field
Waypoint w86 05.335	GAS WELL 6 723 ft	1/11/2006 4:34:30 PM 10-JAN-06 1:06:40PM	User Waypoint Symbol & Name Unknown	N37 50.726 Oil Field
Waypoint w86 05.275	GAS WL H2 817 ft	11-JAN-06 12:51:42PM	User Waypoint Symbol & Name Unknown	N37 52.267 Oil Field

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Waypoint w86 05.340	GAS WL H5 772 ft	11-JAN-06 12:44:05PM	User Waypoint	N37 52.072
			Symbol & Name	Unknown Oil Field
		1/12/2006 8:46:28 AM		
Waypoint w86 05.496	HOBBS-OILW 767 ft	10-JAN-06 12:20:51PM	User Waypoint	N37 49.631
			Symbol & Name	Unknown Oil Field
		1/11/2006 4:35:48 PM		
Waypoint 06.052 714 ft	HOBBSW	10-JAN-06 12:28:29PM	User Waypoint	N37 49.763 w86
			Symbol & Name	Unknown Oil Field
		1/11/2006 4:35:55 PM		
Waypoint 05.878 732 ft	HOBBSW3	10-JAN-06 12:32:18PM	User Waypoint	N37 50.042 w86
			Symbol & Name	Unknown Oil Field
		1/11/2006 4:36:02 PM		
Waypoint 06.372 745 ft	HOBBSW4	10-JAN-06 12:40:27PM	User Waypoint	N37 49.421 w86
			Symbol & Name	Unknown Oil Field
		1/11/2006 4:36:09 PM		
Waypoint w86 05.375	Indian Cemetery 890 ft	14-DEC-05 11:15:49AM	User Waypoint	N37 46.260
			Symbol & Name	Unknown Cemetery
		1/12/2006 8:45:20 AM		
Waypoint 05.319 780 ft	Jones	11-JAN-06 1:22:01PM	User Waypoint	N37 51.735 w86
			Symbol & Name	Unknown Residence
		1/11/2006 4:40:21 PM		
Waypoint	MATT-LOSEY		User Waypoint	N37 45.801 w86 05.470
			Symbol & Name	Unknown Waypoint
		1/11/2006 4:35:26 PM		
Waypoint	New Barn		User Waypoint	N38 01.887 w85 52.651
			Symbol & Name	Unknown Block, Green
		1/12/2006 8:33:04 AM		
Waypoint w85 52.617	Old Barn 50+	10-JAN-06 3:15:13PM	User Waypoint	N38 01.917
			Symbol & Name	Unknown Waypoint
		1/12/2006 8:42:19 AM		
Waypoint 52.627	R BARN1	10-JAN-06 3:11:13PM	User Waypoint	N38 01.905 w85
			Symbol	Unknown Waypoint
		1/12/2006 8:36:05 AM		
Waypoint 52.624 535 ft	R BARN3	10-JAN-06 3:13:46PM	User Waypoint	N38 01.909 w85
			Symbol	Unknown Waypoint
		1/12/2006 8:36:57 AM		
Waypoint 52.614 552 ft	R BARN6	10-JAN-06 3:16:03PM	User Waypoint	N38 01.910 w85
			Symbol	Unknown Waypoint
		1/12/2006 8:37:48 AM		
Waypoint w86 06.073	REA 1PH1 1008 ft	11-JAN-06 1:11:31PM	User Waypoint	N37 51.246
			Symbol & Name	Unknown Radio Beacon
		11-JAN-06 1:13:24PM		
Waypoint w86 06.099	REA 1PH2 999 ft		User Waypoint	N37 51.201
			Symbol & Name	Unknown Radio Beacon
		10-JAN-06 1:04:07PM		
Waypoint w86 05.401	REA 69KV 727 ft		User Waypoint	N37 50.683
			Symbol & Name	Unknown Crossing
		10-JAN-06 1:21:38PM		
Waypoint w86 05.765	REA 69KVBR 764 ft		User Waypoint	N37 50.803
			Symbol & Name	Unknown Crossing
		14-DEC-05 11:38:53AM		
Waypoint 05.451 902 ft	WO-BE		User Waypoint	N37 46.161 w86
			Symbol & Name	Unknown Waypoint
		1/11/2006 4:35:11 PM		

Header	Name	Length	Course	Waypoints	Link
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Route	067 to 067	382 ft	0° true	5 waypoints	
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Header	Waypoint Name	Distance	Leg Length	Course
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Route Waypoint 067 0 ft
 Route Waypoint 066 62 ft 62 ft 192° true
 Route Waypoint 065 190 ft 128 ft 261° true
 Route Waypoint New Barn 252 ft 62 ft 11° true
 Route Waypoint 067 382 ft 130 ft 81° true

Route 068 to 068 111 ft 0° true 5 waypoints

Header Waypoint Name Distance Leg Length Course

Route Waypoint 068 0 ft
 Route Waypoint 069 23 ft 23 ft 171° true
 Route Waypoint 032 49 ft 26 ft 70° true
 Route Waypoint Camper 81 ft 32 ft 353° true
 Route Waypoint 068 111 ft 30 ft 233° true

Route Block House to Block House 59 ft 0° true 5 waypoints

Header Waypoint Name Distance Leg Length Course

Route Waypoint Block House 0 ft
 Route Waypoint 071 21 ft 21 ft 236° true
 Route Waypoint 073 31 ft 10 ft 151° true
 Route Waypoint 041 49 ft 18 ft 54° true
 Route Waypoint Block House 59 ft 10 ft 352° true

Route CELL TOWER to 002 588 ft 183° true 4 waypoints

Header Waypoint Name Distance Leg Length Course

Route Waypoint CELL TOWER 0 ft
 Route Waypoint REA 1PH1 79 ft 79 ft 241° true
 Route Waypoint REA 1PH2 384 ft 304 ft 205° true
 Route Waypoint 002 588 ft 204 ft 119° true

Route CEM to CEM 281 ft 0° true 5 waypoints

Header Waypoint Name Distance Leg Length Course

Route Waypoint CEM 0 ft
 Route Waypoint 049 56 ft 56 ft 355° true
 Route Waypoint 048 139 ft 82 ft 241° true
 Route Waypoint 051 186 ft 48 ft 198° true
 Route Waypoint CEM 281 ft 95 ft 72° true

Route CEM-HOU to CEM-HOU 0.204 mi 0° true 10 waypoints

Header Waypoint Name Distance Leg Length Course

Route Waypoint CEM-HOU 0 ft
 Route Waypoint CEM-HOU2 88 ft 88 ft 123° true
 Route Waypoint CEM-HOU3 113 ft 25 ft 247° true
 Route Waypoint CEM-HOU4 172 ft 59 ft 177° true
 Route Waypoint CEM-HOU6 294 ft 122 ft 216° true
 Route Waypoint CEM-HOU7 606 ft 311 ft 285° true
 Route Waypoint CEM-HOU8 735 ft 129 ft 13° true
 Route Waypoint CEM-HOU9 912 ft 178 ft 58° true
 Route Waypoint CEM-HOU10 977 ft 65 ft 107° true
 Route Waypoint CEM-HOU 0.204 mi 102 ft 131° true

Route CEM-JEN1 to CEM-JEN1 339 ft 0° true 7 waypoints

Header Waypoint Name Distance Leg Length Course

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```
Route Waypoint CEM-JEN1      0 ft
Route Waypoint CEM-JEN2     69 ft   69 ft   93° true
Route Waypoint CEM-JEN3     87 ft   18 ft  148° true
Route Waypoint CEM-JEN4    139 ft   52 ft  179° true
Route Waypoint CEM-JEN5    243 ft  103 ft  267° true
Route Waypoint CEM-JEN6    313 ft   70 ft  359° true
Route Waypoint CEM-JEN1    339 ft   27 ft   75° true
```

Route CUN to CUN 0.588 mi 0° true 10 waypoints

Header	Waypoint Name	Distance	Leg Length	Course
Route Waypoint	CUN	0 ft		
Route Waypoint	036	263 ft	263 ft	14° true
Route Waypoint	037	450 ft	187 ft	12° true
Route Waypoint	038	799 ft	349 ft	96° true
Route Waypoint	035	0.312 mi	850 ft	106° true
Route Waypoint	CUN6	0.360 mi	251 ft	202° true
Route Waypoint	CUN7	0.405 mi	238 ft	286° true
Route Waypoint	039	0.508 mi	543 ft	260° true
Route Waypoint	040	0.529 mi	111 ft	270° true
Route Waypoint	CUN	0.588 mi	316 ft	289° true

Route Indian Cemetery to Indian Cemetery 451 ft 0° true 10 waypoints

Header	Waypoint Name	Distance	Leg Length	Course
Route Waypoint	Indian Cemetery	0 ft		
Route Waypoint	054	64 ft	64 ft	341° true
Route Waypoint	055	105 ft	42 ft	253° true
Route Waypoint	056	143 ft	38 ft	278° true
Route Waypoint	057	187 ft	44 ft	307° true
Route Waypoint	058	234 ft	47 ft	201° true
Route Waypoint	059	260 ft	27 ft	226° true
Route Waypoint	060	318 ft	57 ft	138° true
Route Waypoint	061	366 ft	48 ft	90° true
Route Waypoint	Indian Cemetery	451 ft	85 ft	73° true

Route R BARN1 to R BARN1 235 ft 0° true 7 waypoints

Header	Waypoint Name	Distance	Leg Length	Course
Route Waypoint	R BARN1	0 ft		
Route Waypoint	042	13 ft	13 ft	335° true
Route Waypoint	R BARN3	37 ft	23 ft	59° true
Route Waypoint	043	68 ft	31 ft	331° true
Route Waypoint	Old Barn 50+	121 ft	53 ft	66° true
Route Waypoint	R BARN6	166 ft	45 ft	161° true
Route Waypoint	R BARN1	235 ft	69 ft	244° true

Header	Name	Start Time	Elapsed Time	Length	Average Speed	Link
--------	------	------------	--------------	--------	---------------	------

Track	1 ACK 003		00:00:00	10.0 mi	0 mph	
-------	-----------	--	----------	---------	-------	--

Header	Position	Time	Altitude	Depth	Leg Length	Leg Time
--------	----------	------	----------	-------	------------	----------

Leg Speed						
Trackpoint	N37 40.517 W85	58.364				
Trackpoint	N37 40.627 W85	59.136			0.716 mi	
Trackpoint	280° true					
Trackpoint	N37 40.702 W85	59.666			0.492 mi	

1-11-2006 B.txt

280° true					
Trackpoint	N37	40.771	w86	00.188	0.482 mi
280° true					
Trackpoint	N37	40.871	w86	01.089	0.830 mi
278° true					
Trackpoint	N37	40.934	w86	01.629	0.498 mi
278° true					
Trackpoint	N37	40.973	w86	01.970	0.314 mi
278° true					
Trackpoint	N37	41.009	w86	02.284	0.290 mi
278° true					
Trackpoint	N37	41.032	w86	02.461	865 ft
279° true					
Trackpoint	N37	41.082	w86	02.869	0.377 mi
279° true					
Trackpoint	N37	41.140	w86	03.354	0.447 mi
279° true					
Trackpoint	N37	41.219	w86	03.790	0.408 mi
283° true					
Trackpoint	N37	41.261	w86	04.061	0.252 mi
281° true					
Trackpoint	N37	41.290	w86	04.245	901 ft
282° true					
Trackpoint	N37	41.337	w86	04.510	0.248 mi
283° true					
Trackpoint	N37	42.332	w86	04.783	1.17 mi
348° true					
Trackpoint	N37	42.894	w86	04.941	0.664 mi
347° true					
Trackpoint	N37	42.983	w86	04.966	551 ft
347° true					
Trackpoint	N37	43.680	w86	04.948	0.805 mi
1° true					
Trackpoint	N37	44.291	w86	05.034	0.708 mi
354° true					
Trackpoint	N37	44.521	w86	05.191	0.301 mi
332° true					
Trackpoint	N37	45.007	w86	05.010	0.584 mi
16° true					

Track 2 ACK 004 00:00:00 41.9 mi 0 mph

Header	Position	Time	Altitude	Depth	Leg Length	Leg Time
Leg Speed	Leg Course					

Trackpoint	N38	03.068	w85	54.338	
Trackpoint	N38	02.851	w85	54.323	0.251 mi
177° true					
Trackpoint	N38	02.719	w85	54.217	948 ft
148° true					
Trackpoint	N38	02.588	w85	54.021	0.234 mi
130° true					
Trackpoint	N38	02.550	w85	53.870	757 ft
108° true					
Trackpoint	N38	02.512	w85	53.778	500 ft
118° true					
Trackpoint	N38	02.085	w85	52.743	1.06 mi
118° true					
Trackpoint	N38	01.624	w85	52.332	0.649 mi
145° true					
Trackpoint	N38	01.531	w85	52.488	937 ft
233° true					
Trackpoint	N38	01.176	w85	53.075	0.672 mi

1-11-2006 B.txt

233° true				
Trackpoint	N38	00.979	w85 53.405	0.376 mi
233° true				
Trackpoint	N38	00.362	w85 54.553	1.26 mi
236° true				
Trackpoint	N37	59.901	w85 55.248	0.825 mi
230° true				
Trackpoint	N37	59.451	w85 55.930	0.808 mi
230° true				
Trackpoint	N37	59.292	w85 56.383	0.451 mi
246° true				
Trackpoint	N37	58.872	w85 57.589	1.20 mi
246° true				
Trackpoint	N37	58.870	w85 57.594	26 ft
246° true				
Trackpoint	N37	58.788	w85 57.827	0.232 mi
246° true				
Trackpoint	N37	58.598	w85 58.376	0.545 mi
246° true				
Trackpoint	N37	58.598	w85 58.379	13 ft
247° true				
Trackpoint	N37	58.210	w85 59.499	1.11 mi
246° true				
Trackpoint	N37	57.658	w86 00.272	0.949 mi
228° true				
Trackpoint	N37	57.116	w86 00.430	0.641 mi
193° true				
Trackpoint	N37	56.016	w86 00.157	1.29 mi
169° true				
Trackpoint	N37	54.892	w85 59.803	1.34 mi
166° true				
Trackpoint	N37	54.534	w85 59.861	0.416 mi
187° true				
Trackpoint	N37	54.535	w86 00.194	0.303 mi
270° true				
Trackpoint	N37	54.244	w86 01.154	0.936 mi
249° true				
Trackpoint	N37	54.108	w86 01.429	0.295 mi
238° true				
Trackpoint	N37	53.906	w86 01.672	0.322 mi
224° true				
Trackpoint	N37	53.776	w86 01.953	0.296 mi
240° true				
Trackpoint	N37	53.505	w86 02.318	0.456 mi
227° true				
Trackpoint	N37	53.493	w86 02.388	340 ft
258° true				
Trackpoint	N37	53.347	w86 02.657	0.298 mi
235° true				
Trackpoint	N37	53.207	w86 02.914	0.284 mi
235° true				
Trackpoint	N37	53.065	w86 03.199	0.307 mi
238° true				
Trackpoint	N37	52.756	w86 03.839	0.683 mi
238° true				
Trackpoint	N37	52.685	w86 03.979	798 ft
238° true				
Trackpoint	N37	52.687	w86 04.167	900 ft
271° true				
Trackpoint	N37	52.691	w86 04.522	0.324 mi
271° true				
Trackpoint	N37	52.701	w86 04.917	0.360 mi
272° true				

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Trackpoint	N37 51.954 W86 05.589	1.06 mi
215° true		
Trackpoint	N37 51.155 W86 05.536	0.922 mi
177° true		
Trackpoint	N37 50.885 W86 05.518	0.312 mi
177° true		
Trackpoint	N37 49.196 W86 05.924	1.98 mi
191° true		
Trackpoint	N37 48.308 W86 05.830	1.03 mi
175° true		
Trackpoint	N37 48.223 W86 05.821	515 ft
175° true		
Trackpoint	N37 47.012 W86 05.691	1.40 mi
175° true		
Trackpoint	N37 45.998 W86 05.583	1.17 mi
175° true		
Trackpoint	N37 45.117 W86 05.073	1.12 mi
155° true		
Trackpoint	N37 45.007 W86 05.010	737 ft
155° true		
Trackpoint	N37 44.411 W86 03.810	1.29 mi
122° true		
Trackpoint	N37 43.770 W86 02.835	1.16 mi
130° true		
Trackpoint	N37 43.300 W86 02.388	0.678 mi
143° true		
Trackpoint	N37 42.576 W86 01.384	1.24 mi
132° true		
Trackpoint	N37 42.179 W86 00.588	0.858 mi
122° true		
Trackpoint	N37 41.163 W85 59.066	1.82 mi
130° true		
Trackpoint	N37 40.929 W85 58.789	0.370 mi
137° true		
Trackpoint	N37 40.517 W85 58.364	0.613 mi
141° true		
Trackpoint	N37 40.349 W85 56.953	1.30 mi
99° true		
Trackpoint	N37 40.222 W85 55.912	0.961 mi
99° true		
Trackpoint	N37 40.139 W85 55.831	641 ft
142° true		
Trackpoint	N37 40.537 W85 55.256	0.698 mi
49° true		
Trackpoint	N37 40.116 W85 54.973	0.550 mi
152° true		
Trackpoint	N37 40.066 W85 54.551	0.389 mi
99° true		
Trackpoint	N37 40.029 W85 54.108	0.407 mi
96° true		
Trackpoint	N37 40.095 W85 54.104	404 ft
3° true		

Harper, Vicki

From: Bradford, Ronald
Sent: Tuesday, December 20, 2005 10:04 AM
To: Grillon, Benjamin
Cc: Slay, Kathy
Subject: TC2, House Cemetery & Cunningham Claim cemetery
Attachments: cemetery patrol1.gdb; House 1.jpg; House 7.jpg; House 6.jpg; House 5.jpg; House 4.jpg; House 3.jpg; House 2.jpg

Brandon,

I located the House Cemetery, it is 190' from the purposed transmission line centerline. Your proposed design indicates a small angle at the cemetery. Please review your plans in this area. I feel that this transmission line will not impose on the cemetery.

The Cunningham's indicated a cemetery on a adjacent property, we did not find anything.

I took some pictures and created some waypoints at the House cemetery, I've attached them to this email. I also created some waypoints where I looked for the Cunningham cemetery, they are in the waypoint file.

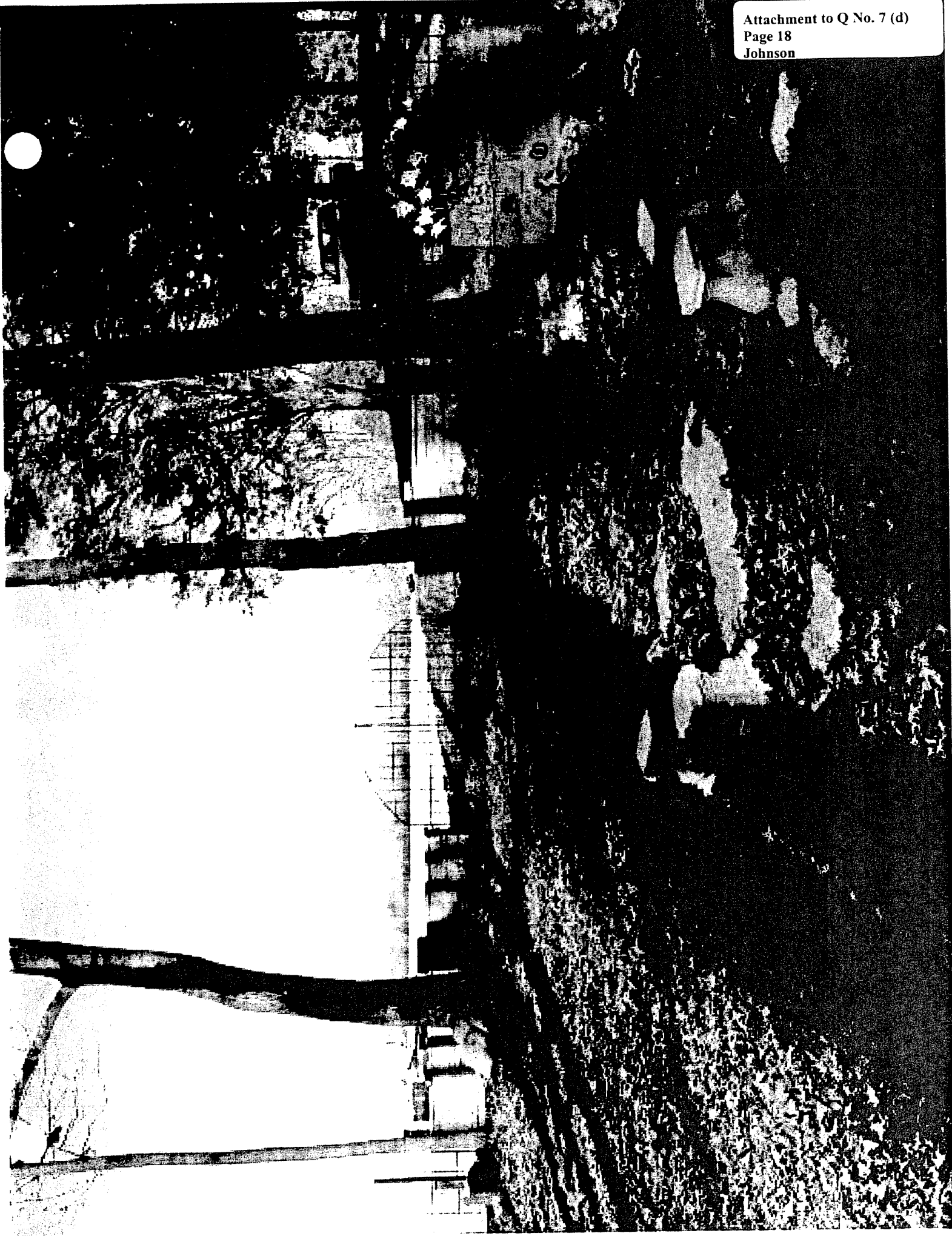
Thanks

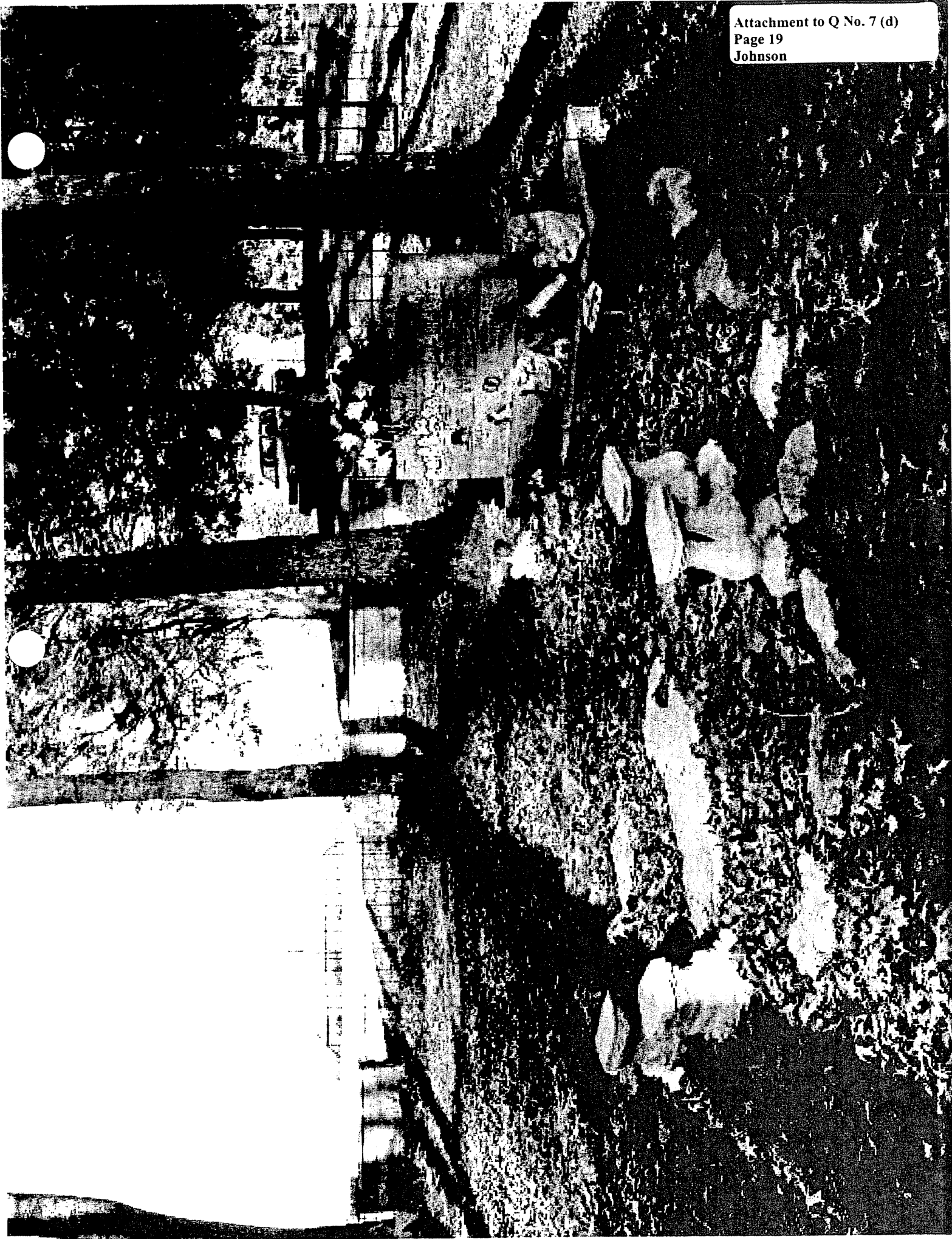
Ronnie Bradford

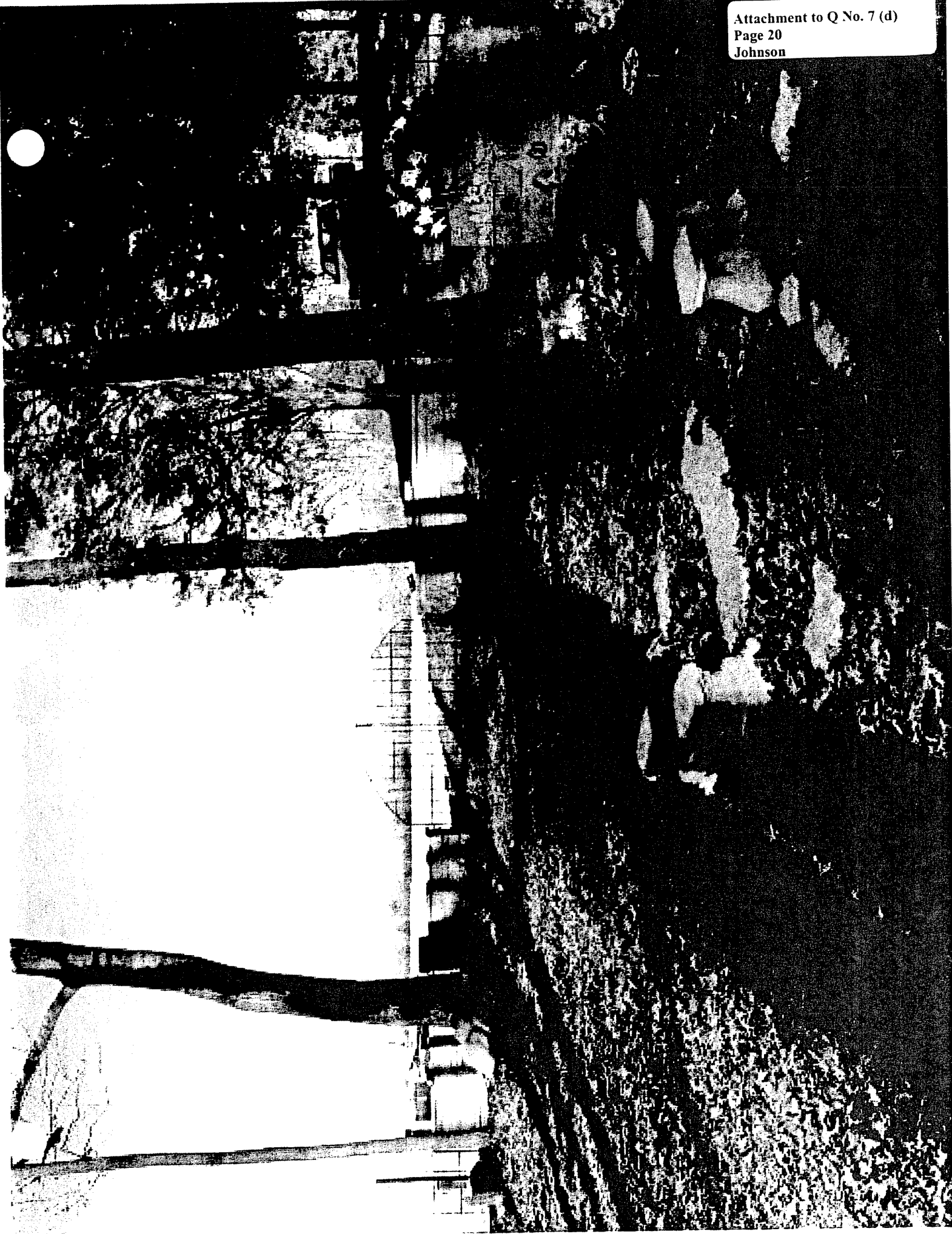
<<cemetery patrol1.gdb>> <<House 1.jpg>> <<House 7.jpg>> <<House 6.jpg>> <<House 5.jpg>> <<House 4.jpg>> <<House 3.jpg>> <<House 2.jpg>>











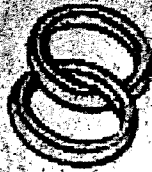
HOUSE



JAMES E.

JAN. 11, 1921

JAN. 9, 2008



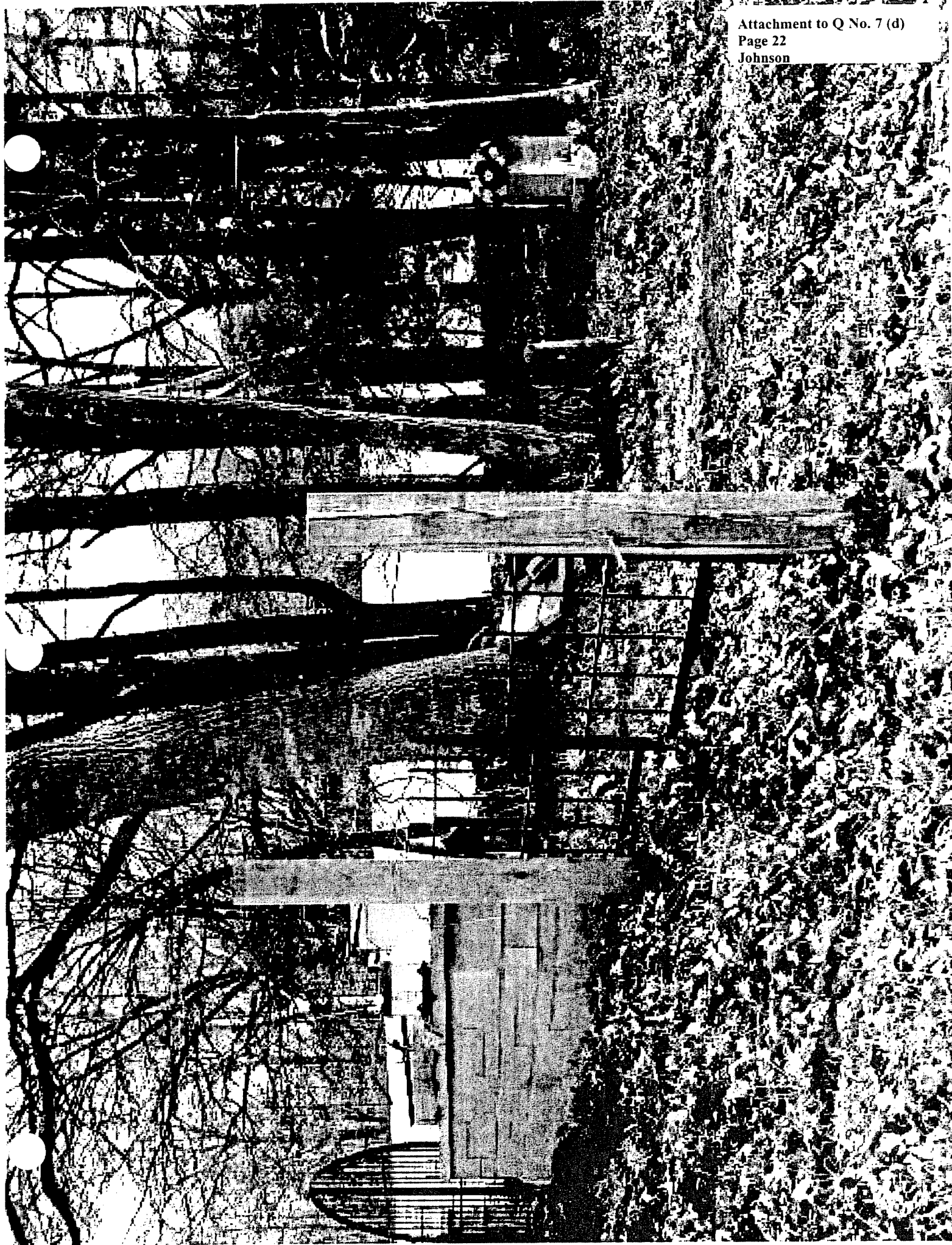
APR 24, 1943

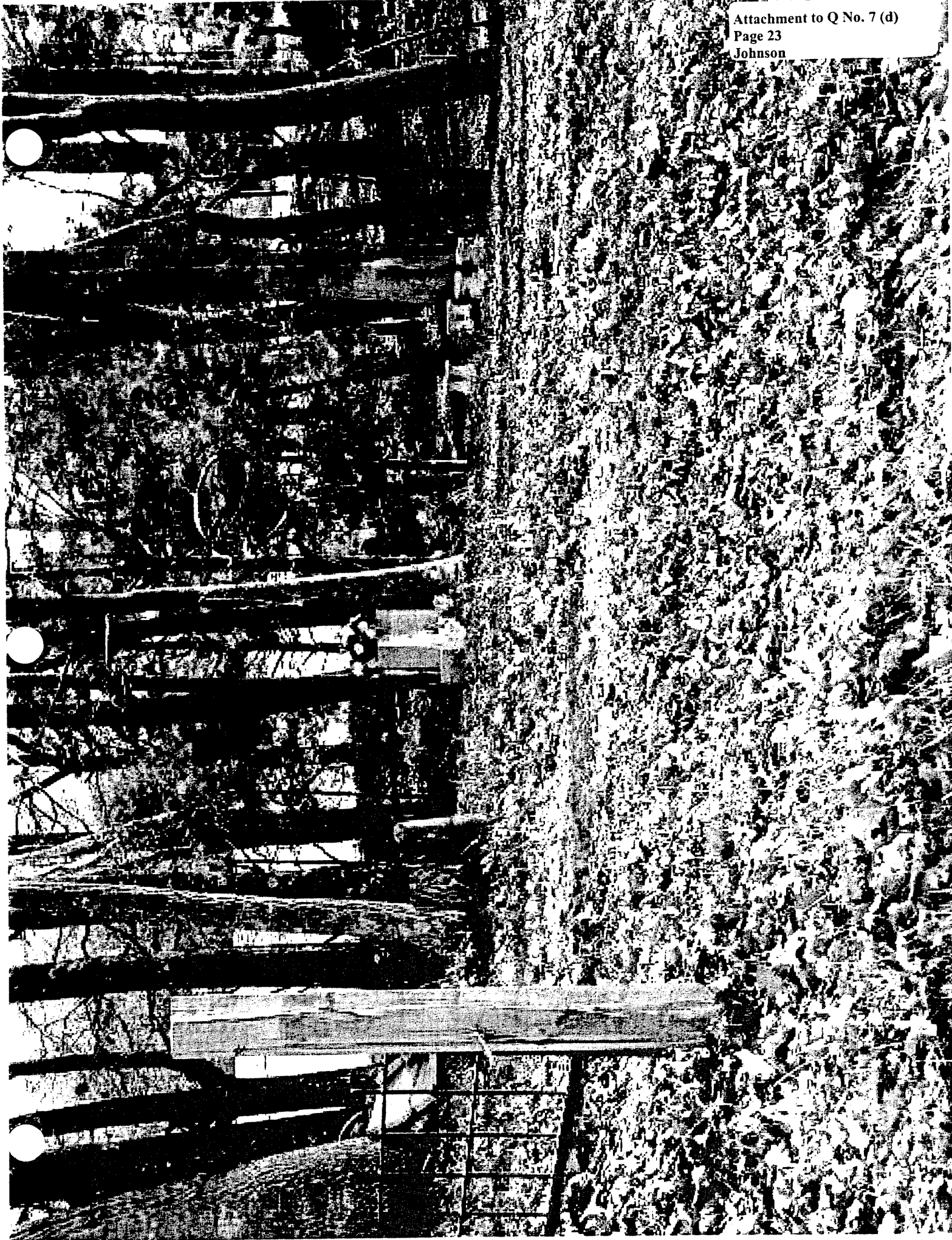
GEORGIA A

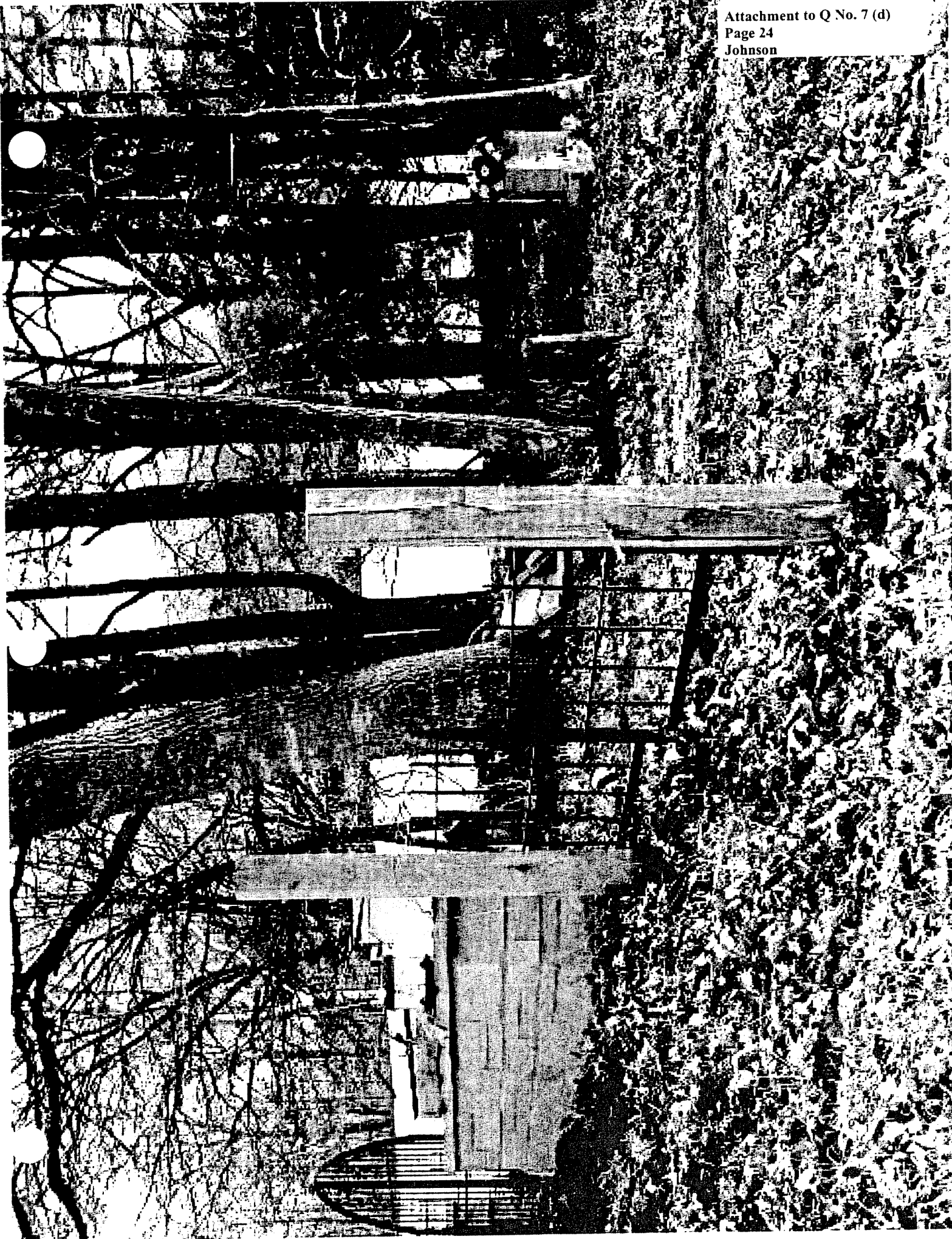
LITRELL

SEPT. 18, 1921









**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 8

**Witness: Mark S. Johnson / Brandon Grillon / Clay Doherty /
W. Michael Winkler / Counsel**

- Q-8. Please provide all correspondence between LG&E/KU and all federal and state agencies, including but not limited to the Department of the Army (or related entities acting for or on behalf of Fort Knox US Army Garrison; United States Department of Interior; Kentucky Department of Fish & Wildlife Resources; United States Army Corps of Engineers, regarding the subject of these applications.
- A-8. The Companies object to this request on grounds that the information sought is not relevant to the subject matter of this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence. Without waiver of that objection, the Companies provide the requested information in paper and/or electronic form in the attachments. See also Exhibits MSJ-4, 5, 6 and 7 in this proceeding. See also the Companies' responses to Question Nos. 1, 2, 4 and 6 of these data requests. See also the Companies' response to Question No. 10 of the Cunningham's data requests in Case No. 2005-00142 filed on July 7, 2005.

Sanchez, Susan

From: Hickok, Bill [Bill.Hickok@knox.army.mil]
Sent: Wednesday, June 01, 2005 8:28 AM
To: Grillon, Benjamin
Cc: Brackett, Jerry L
Subject: FW: Fort Knox Transmission Line

Mr. Grillon,

The statutory authority for Department of the Army electric easements is 43 USC 961.

Bill W. Hickok

Directorate of Base Operations Support
Realty Specialist
DSN: 464-8515
Comm: (502) 624-8515

-----Original Message-----

From: Brackett, Jerry L
Sent: Wednesday, May 11, 2005 3:37 PM
To: Hickok, Bill
Subject: FW: Fort Knox Transmission Line

Bill,

Can you answer this? I don't have a clue.

Jerry L. Brackett
Directorate of Base Operations Support (DBOS)
Building 1110, Fort Knox, KY 40121
502-624-5592, DSN 464-5592

-----Original Message-----

From: Grillon, Benjamin [mailto:Benjamin.Grillon@lgeenergy.com]
Sent: Wednesday, May 11, 2005 3:32 PM
To: jerry.brackett@knox.army.mil
Subject: Fort Knox Transmission Line

Hello Mr. Brackett,

I had a question from our legal department about the proposed line on Fort Knox. They had asked what citation DOA program under which the proposed easement would be granted. I will give you a call or feel free to give me a call.

Thanks,
Brandon Grillon
Office 859-367-5763

3/9/2006

Mobile 859-227-1443

Sanchez, Susan

From: Waldrep, Joseph B [joseph.waldrep@knox.army.mil]
Sent: Monday, September 12, 2005 2:45 PM
To: Grillon, Benjamin
Subject: FW: LG&E project

Brandon,

It looks like we can move forward marking the timber for the appraisal if LG&E is for certain that the ROW is still going to have to cross Ft Knox and the marked ROW is where they have to have it. Or do we need to be prudent to see if any changes are proposed for PSC approval?

Brian

Brian Waldrep
Forester
US Army Garrison Fort Knox
IMSE-KNX-PWE-N
Building 112, 11th Avenue
Fort Knox, KY 40121-5000
(502) 624-5070 office
(502) 624-1868 fax
brian.waldrep@us.army.mil

-----Original Message-----

From: Hill, Peter
Sent: Monday, September 12, 2005 12:24 PM
To: Gaines, Gerry E
Cc: Waldrep, Joseph B; Meyer, Michael K; Pollock, Linda Gail
Subject: RE: LG&E project

What are we doing? Cutting trees in the proposed path? If so, and we've done the EA to cover it, there is no need to stop the clearing of trees. If LG&E and KU are going to continue to pursue this path, and are going to justify their decision better, then the line may go where it was originally intended, and we should probably continue work. But if they are going to pull back, re-evaluate, and possibly go elsewhere, then I think it makes sense to stop our work as well. In that case, stopping work would not be required. It just might be prudent. If LG&E continues the work next year, we have another tree-cutting season to work with. So, I'd ask LG&E what its intentions are.

J. Peter Hill
Attorney - Advisor, Office of the Staff Judge Advocate
ATZK-JAA, Fort Knox, KY 40121-5000
DSN 464-7414, (502) 624-7414, fax 624-0997

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3/9/2006

USC § 552. Do not release the information in this transmission without prior authorization from the sender.

-----Original Message-----

From: Gaines, Gerry E
Sent: Monday, September 12, 2005 10:25 AM
To: Hill, Peter
Subject: FW: LG&E project

What do we do? Continue or stop work?

Gerry Gaines
Acting Division Chief
Environmental Management Division
(502)624-8263 DSN 464

-----Original Message-----

From: Waldrep, Joseph B
Sent: Monday, September 12, 2005 10:16 AM
To: Gaines, Gerry E; Meyer, Michael K
Subject: LG&E project

The webpage link for the Kentucky Public Services Commission is below on the letter of approval-denial.
http://psc.ky.gov/agencies/psc/press/092005/0908_r02.pdf

Brian

Brian Waldrep
Forester
US Army Garrison Fort Knox
IMSE-KNX-PWE-N
Building 112, 11th Avenue
Fort Knox, KY 40121-5000
(502) 624-5070 office
(502) 624-1868 fax
brian.waldrep@us.army.mil

Sanchez, Susan

From: Pollock, Linda Gail [Linda.Pollock@knox.army.mil]
Sent: Tuesday, March 22, 2005 1:56 PM
To: Grillon, Benjamin
Cc: Brackett, Jerry L; Hill, Peter; Hasty, Michael C
Subject: RE: NEPA Categorical Exclusions

Brandon,

I discussed this project with our attorney. An Environmental Assessment must be completed because of the acreage of the project and the removal of the trees. The EA would have to be reviewed by the Fort Knox National Environmental Policy Act team and signed by the proponent (LG&E) and the Fort Knox Command group. Please let me know if you need anything from us?

Gail

Linda Gail Pollock
Acting Chief, Environmental Management Division, DBOS
ATTN: ATZK-OSE
Ft Knox, KY
Commercial: 502-624-3629, DSN: 464-3629; Fax: 502-624-3000

-----Original Message-----

From: Grillon, Benjamin [mailto:Benjamin.Grillon@lgeenergy.com]
Sent: Tuesday, March 15, 2005 10:50 AM
To: linda.pollock@knox.army.mil
Subject: FW: NEPA Categorical Exclusions

Gail,

Here is the first e-mail.

Thanks,
Brandon

-----Original Message-----

From: Grillon, Benjamin
Sent: Tuesday, February 22, 2005 3:27 PM
To: 'linda.pollock@knox.army.mil'
Cc: 'jerry.brackett@knox.army.mil'; 'bill.hickok@knox.army.mil'; Bradford, Ronald
Subject: NEPA Categorical Exclusions

Gail,

As we talked about in the meeting, we are concerned whether we would meet any of the categorical exclusions for the NEPA review. Our environmental permitting team has identified the following categorical exclusions which this project may fall under. If you require any further information in order to make your determination on the NEPA review please let me know.

- o CX A-7: Construction that does not significantly alter land use, provided the operation of the project when completed would not of itself have a significant environmental impact; this includes grants to private lessees for similar construction.

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- CX A-17: Acquisition, installation, and operation of utility and communication systems, data processing, cable and similar electronic equipment that use existing rights of way, easements, distribution systems, and facilities.
- CX A-20: Grants of easements for the use of existing rights-of-way for use by vehicles; electrical, telephone and other transmission and communication lines; transmitter and relay facilities; water, wastewater, stormwater and irrigation pipelines, pumping stations, and facilities; and for similar public utility and transportation uses.
- CX A-21: Grants of leases, licenses, and permits to use existing Army controlled property for non-Army activities, provided there is an existing land-use plan that has been environmentally assessed and the activity will be consistent with that plan.
- CX A-22: Grants of consent agreements to use a Government-owned easement in a manner consistent with existing Army use of the easement...
- CX A-23: Grants of licenses for the operation of telephone, gas, water, electricity, community television antenna, and other distribution systems normally considered as public utilities.

Thanks,
Brandon Grillon
859-367-5763

Sanchez, Susan

From: Pollock, Linda Gail [Linda.Pollock@knox.army.mil]
Sent: Tuesday, March 22, 2005 1:57 PM
To: Grillon, Benjamin
Subject: RE: Environmental Survey Team

Thanks for the info.

-----Original Message-----

From: Grillon, Benjamin [mailto:Benjamin.Grillon@lgeenergy.com]
Sent: Tuesday, March 15, 2005 10:51 AM
To: linda.pollock@knox.army.mil
Subject: FW: Environmental Survey Team

Gail,

Here is a list of the individuals on the survey team. I believe the archaeologist has changed from below. I will bring the updated list with me tomorrow.

Thanks,
Brandon

-----Original Message-----

From: Grillon, Benjamin
Sent: Tuesday, February 22, 2005 2:52 PM
To: Winkler, Michael; Clay Doherty; Derek McDonald; Dimas, Jim; Dowdy, Tim; Grillon, Benjamin; Jack Bender; Jesse Glasgow; Kuriger, Jeff; Mullins, Nate; Renu Gupta; Strunk, Alan; William Bumpers

Subject: FW: Environmental Survey Team

-----Original Message-----

From: Grillon, Benjamin
Sent: Tuesday, February 22, 2005 2:51 PM
To: 'linda.pollock@knox.army.mil'
Cc: 'jerry.brackett@knox.army.mil'; 'bill.hickok@knox.army.mil'; Bradford, Ronald
Subject: Environmental Survey Team

Gail,

Please find attached the resumes of the key personnel that will be conducting our environmental surveys. The key individuals in the team are

Jesse Glasgow - Photoscience Project Manager

Clay Doherty - Environmental and Regulatory Coordinator

Dan Rice - Sr. Ecologist

Ben Fox - Field Ecologist

Dr. Thomas Whitley - Archaeologist

Maurie Van Buren - Historic Preservation Consultant

If you have any questions please let me know.

Thanks,
Brandon Grillon
859-367-5763

<<Clay_Doherty.doc>> <<Dan_Rice.doc>> <<Ben_Fox.doc>> <<Tom_Whitley.doc>>
<<MaurieVanBuren.doc>>

Sanchez, Susan

From: linearprojects [linearprojects@bellsouth.net]
Sent: Thursday, September 08, 2005 12:13 PM
To: Linda.Pollock@knox.army.mil
Cc: Grillon, Benjamin
Subject: FW: revised title page PDF
Attachments: 2519 revised draft title page.pdf

Good afternoon, Gail!

Brandon asked me to forward this corrected title page for Brockington's Archaeological Survey Report to you. Brockington had identified the lead agency on the title page as the Corps of Engineers. The attached revised page says simply that the lead agency is the U.S. Army. We apologise for this error.

Thanks, Gail!

Clay

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
linearprojects@bellsouth.net

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3/9/2006

PHASE I ARCHAEOLOGICAL SURVEY OF A PROPOSED ELECTRIC
UTILITY EASEMENT WITHIN THE U.S. ARMY GARRISON FORT
KNOX, HARDIN, MEADE, AND BULLITT COUNTIES, KENTUCKY

Lead Federal Agency:
The U.S. Army

Prepared for:
Photoscience, Inc.
2100 East Exchange Place
Tucker, GA 30085-2088
on behalf of
Louisville Gas & Electric and Kentucky Utilities

Submitted to:
U.S. Army Garrison
Environmental Management Division
Directorate of Base Operations Support
Fort Knox, KY 40121-5000
Contact: R. Criss Helmkamp, Ph.D.
Phone 502-624-6581
Fax 502-624-1868

Prepared by:
James C. Pritchard, M.A. Sc., RPA
Principal Investigator/Project Manager

Brockington & Associates, Inc.
6611 Bay Circle, Suite 220
Norcross, GA 30071
770-662-5807
www.brockington.org



Sanchez, Susan

From: Grillon, Benjamin
Sent: Thursday, April 14, 2005 1:15 PM
To: 'jerry.brackett@knox.army.mil'
Cc: Strunk, Alan; Bradford, Ronald
Subject: Tip Top Substation

Mr. Brackett,
Per your request, Tip Top Substation will handle the load if we lost one of the 138 KV feeds from the east or the west. If you have any questions please let me know.

Thanks,
Brandon Grillon
859-367-5763

Sanchez, Susan

From: Grillon, Benjamin
Sent: Monday, April 04, 2005 4:37 PM
o: 'jerry.brackett@knox.army.mil'
Subject: Tip Top Substation

Jerry,

I am working on getting an answer for you from our planning department on whether Tip Top Substation can handle the load if we lose either of the 138 KV feeds into the station.

Thanks,
Brandon Grillon

Sanchez, Susan

From: Helmkamp, Richard C [Richard.Helmkamp@knox.army.mil]
Sent: Wednesday, November 09, 2005 9:43 AM
To: Grillon, Benjamin
Subject: SHPO Letter - Fort Knox

Brandon,

Our legal office reviewed the draft SHPO letter and I briefed them on the situation. We concur that the letter is appropriate and that I should attend the proposed meeting with the SHPO. Give me a call so we can discuss possible dates for the meeting.

Criss

R. Criss Helmkamp, Ph.D.
Cultural Resources Program Manager
Directorate of Public Works
Fort Knox, KY 40121-5000
Phone: (502) 624-6581 Fax: (502) 624-6581

Sanchez, Susan

From: Brackett, Jerry L [Jerry.Brackett@knox.army.mil]
Sent: Thursday, February 16, 2006 3:14 PM
To: Pollock, Linda Gail; Hickok, Bill; Sullivan, Michael P; Helmkamp, Richard C; Michael Myers (michael.myers@us.army.mil)
Cc: Bradford, Ronald
Subject: FW: Right of Way Clearing Specification on Fort Knox
Attachments: Ronnie Bradford

All,

I have reserved the DPW conference room on 23 Feb @ 0830. Please let me know if can attend subject meeting.

Thanks.

Jerry L. Brackett
Directorate of Public Works (DPW)
Building 1110, Fort Knox, KY 40121
502-624-5592, DSN 464-5592

From: Bradford, Ronald [mailto:Ronald.Bradford@eon-us.com]
Sent: Thursday, February 16, 2006 11:09 AM
To: Brackett, Jerry L
Cc: Comstock, David; Strunk, Alan; Mullins, Nate; Transmission Lines
Subject: Right of Way Clearing Specification on Fort Knox

Jerry,

Please schedule a meeting February 23rd 2006 at 8:30 for approx. 2 hours to discuss tree clearing specifications and any other issues the Fort may have concerning the new line. We will need to discuss disposal, burning, windrowing, merchantable timber, chemical application and a wide array of concerns to ensure LG&E meets all of your requirements.

I've listed a few names that might have some input to these concerns, Environmental, Forestry, Deputy Range Manager, and Right of Way, please include any other names that need to attend this meeting.

Linda.Pollock@knox.army.mil
Brain.Waldrep@us.army.mil
Bill.Hickok@knox.army.mil
Richard.Helmkamp@knox.army.mil
Michael.Meyer@us.army.mil
Michael.Sullivan@US.army.mil
Daniel.A.Yelch@lrl02.usace.army.mil
Kenneth.D.Puckett@lrl02.usace.army.mil
Albert.J.Edwardo@lrl02.usace.army.mil

Thanks

3/9/2006

Ronnie Bradford
502-627-3167

From: Welch, Daniel A LRL [mailto:Daniel.A.Welch@lrl02.usace.army.mil]
Sent: Wednesday, February 15, 2006 9:54 AM
To: Bradford, Ronald
Cc: Puckett, Kenneth D LRL; Edwardo, Albert J LRL; Welch, Daniel A LRL
Subject: E-mail addresses for Louisville District POC's for Power Line ROW at Fort Knox .

Ronnie,

Attached e-mail addresses are for those Louisville District Corps of Engineer, Real Estate Division employees involved with the granting of the proposed power line easement to LG&E.

Kenneth.D.Puckett@lrl02.usace.army.mil
Albert.J.Edwardo@lrl02.usace.army.mil
Daniel.A.Welch@lrl02.usace.army.mil

Dan Welch
502-315-7018

Sanchez, Susan

From: Helmkamp, Richard C [Richard.Helmkamp@knox.army.mil]
Sent: Thursday, March 02, 2006 3:36 PM
To: Bradford, Ronald
Subject: RE: Clearing Spec
Follow Up Flag: Follow up
Flag Status: Red

Ronnie,

Thanks. The EMD Wildlife Biologist is Mike Brandenburg (Mike.Brandenburg@knox.army.mil) phone 502-624-7368.

R. Criss Helmkamp, Ph.D.

Cultural Resources Program Manager
Directorate of Public Works
Fort Knox, KY 40121-5000
Phone: (502) 624-6581 Fax: (502) 624-6581

-----Original Message-----

From: Bradford, Ronald [mailto:Ronald.Bradford@eon-us.com]
Sent: Thursday, March 02, 2006 3:06 PM
To: Richard Criss Helmkamp (Richard.Helmkamp@us.army.mil)
Cc: Mullins, Nate
Subject: Clearing Spec

Criss,

You requested a electronic copy of the Clearing Specifications. These specs are preliminary, we have not finalize our specs.

I'm needing Brandon's biologist contact for the base, do you have his name and phone number?

Ronnie Bradford

<<Clearing Specifications 01262006.DOC>>

Sanchez, Susan

From: Rice, Dan [DRice@JJG.com]
Sent: Wednesday, August 24, 2005 1:59 PM
To: linearprojects; jglasgow@photoscience.com; Grillon, Benjamin
Cc: Ballard, Mark
Subject: FW: Removal of Eggert's sunflower from the Federal List of Endangered and Threatened Species

Attachments: Eggerts Sunflower Final Delisting Rule.pdf



Eggerts Sunflower
Final Delist...

Clay:

I am forwarding you the official email from USFWS on the delisting of the Eggert's sunflower.

Could this be any better timed for this project?

We will reference the federal registry in the Ft Knox document.

Thanks,

Dan

Dan Rice
Senior Ecologist
Jordan, Jones, and Goulding, Inc.
801 Governors Lake Parkway
Building 200
Norcross, GA 30071
678-333-0457
678-641-1564 (cell)
770-455-7391 (fax)

-----Original Message-----

From: Mindi_Brady@fws.gov [mailto:Mindi_Brady@fws.gov]
Sent: Wednesday, August 24, 2005 1:10 PM
To: Rice, Dan; joe.settles@ekpc.coop; Sam.J.Patterson@txgt.com; pcroghan@NiSource.com; Don.Curry@ElPaso.com; gilpin@eznet.net; bnorris@duo-county.com; gfister@thirdrockconsultants.com; mike@theengrs.com
Cc: Lee_Andrews@fws.gov; Mike_Floyd@fws.gov
Subject: Removal of Eggert's sunflower from the Federal List of Endangered and Threatened Species

Hello All,

The U.S. Fish and Wildlife Service (Service) is removing Eggert's sunflower (*Helianthus eggertii*) from the Federal List of Endangered and Threatened Species under the authority of the Endangered Species Act (Act) of 1973, as amended. Attached below is the August 18, 2005, Federal Register containing the final rule. Removal of Eggert's sunflower from the List of Endangered and Threatened Wildlife and Plants relieves Federal agencies from the need to consult with us to ensure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence

of
this species. The final rule is effective September 19, 2005.
Therefore,
surveys for Eggert's sunflower do not need to be performed if project
implementation of construction activities will be accomplished after
September 19, 2005. If you have any questions or if we can provide
additional information please call or email.

(See attached file: Eggerts Sunflower Final Delisting Rule.pdf)

Thanks,

Mindi Brady
Fish & Wildlife Biologist

US Fish & Wildlife Service
Kentucky Field Office
3761 Georgetown Rd.
Frankfort, KY 40601
502/695-0468 extn. 229
502/695-1024 fax
Mindi_Brady@fws.gov
<http://frankfort.fws.gov>

listed in this final rule have been adequately notified.

Each community receives a 6-month, 90-day, and 30-day notification letter addressed to the Chief Executive Officer that the community will be suspended unless the required floodplain management measures are met prior to the effective suspension date. Since these notifications have been made, this final rule may take effect within less than 30 days.

National Environmental Policy Act

This rule is categorically excluded from the requirements of 44 CFR part 10, Environmental Considerations. No environmental impact assessment has been prepared.

Regulatory Flexibility Act

The Administrator has determined that this rule is exempt from the requirements of the Regulatory

Flexibility Act because the National Flood Insurance Act of 1968, as amended, 42 U.S.C. 4022, prohibits flood insurance coverage unless an appropriate public body adopts adequate floodplain management measures with effective enforcement measures. The communities listed no longer comply with the statutory requirements, and after the effective date, flood insurance will no longer be available in the communities unless they take remedial action.

Regulatory Classification

This final rule is not a significant regulatory action under the criteria of section 3(f) of Executive Order 12866 of September 30, 1993, *Regulatory Planning and Review*, 58 FR 51735.

Paperwork Reduction Act

This rule does not involve any collection of information for purposes of

the *Paperwork Reduction Act*, 44 U.S.C. 3501 *et seq.*

List of Subjects in 44 CFR Part 64

Flood insurance, Floodplains.

■ Accordingly, 44 CFR part 64 is amended as follows:

PART 64—[AMENDED]

■ 1. The authority citation for part 64 continues to read as follows:

Authority: 42 U.S.C. 4001 *et seq.*; Reorganization Plan No. 3 of 1978, 3 CFR, 1978 Comp.; p. 329; E.O. 12127, 44 FR 19367, 3 CFR, 1979 Comp.; p. 376.

§ 64.6 [Amended]

■ 2. The tables published under the authority of § 64.6 are amended as follows:

State and location	Community No.	Effective date authorization/cancellation of sale of flood insurance in community	Current effective map date	Date certain Federal assistance no longer available in special flood hazard areas
Region VII				
Nebraska: Bristow, Village of, Boyd County.	310012	January 13, 1976, Emerg; June 3, 1986, Reg; August 18, 2005, Susp.	08/18/05	08/18/05
Creighton, City of, Knox County.	310360	June 6, 1996, Emerg; September 1, 1996, Reg; August 18, 2005, Susp.	08/18/05	08/18/05
Crofton, City of, Knox County	310361	July 9, 1976, Emerg; September 1, 1986, Reg; August 18, 2005, Susp.	08/18/05	08/18/05
Lynch, Village of, Boyd County.	310013	November 21, 1975, Emerg; June 15, 1988, Reg; August 18, 2005, Susp.	08/18/05	08/18/05
Niobrara, Village of, Knox County.	310132	July 25, 1974, Emerg; August 19, 1986, Reg; August 18, 2005, Susp.	08/18/05	08/18/05
Spencer, Village of, Boyd County.	310399	July 9, 1976, Emerg; September 24, 1984, Reg; August 18, 2005, Susp.	08/18/05	08/18/05
Verdigre, Village of, Knox County.	310133	May 16, 1975, Emerg; September 1, 1986, Reg; August 18, 2005, Susp.	08/18/05	08/18/05

Code for reading third column: Emerg.—Emergency; Reg.—Regular; Susp.—Suspension.

Dated: August 11, 2005.

Michael K. Buckley,

Acting Deputy Director, Mitigation Division, Emergency Preparedness and Response Directorate.

[FR Doc. 05-16381 Filed 8-17-05; 8:45 am]

BILLING CODE 9110-12-P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AJ08

Endangered and Threatened Wildlife and Plants; Removal of *Helianthus eggertii* (Eggert's Sunflower) From the Federal List of Endangered and Threatened Plants

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), are removing the plant *Helianthus eggertii* (Eggert's

sunflower) from the List of Endangered and Threatened Plants pursuant to the Endangered Species Act of 1973, as amended (Act), because recovery actions have secured a number of populations and identified additional populations not previously known. Therefore, the threatened designation no longer correctly reflects the current status of this plant. This action is based on a review of all available data, which indicate that the species is now protected on Federal, State, and county lands; is more widespread and abundant than was documented at the time of listing; and is more resilient and less vulnerable to certain activities than previously thought. Due to the recent development of a management plan for

H. eggertii, a management plan for the barrens/woodland ecosystem, and an Integrated Natural Resources Management Plan at the U.S. Air Force's Arnold Engineering and Development Center, on whose land a significant number of sites/populations occur, new management practices will include managing for, and monitoring the areas that contain, this species. Occurrences of *H. eggertii* are also found on six other Federal, State, or county lands, five of which now have conservation agreements with us to protect, manage, and monitor the species. The remaining site is jointly owned by the Kentucky State Nature Preserves Commission and The Nature Conservancy and has a dedicated conservation easement and a management plan in place to protect *H. eggertii*.

At the time of listing, there were 34 known *H. eggertii* sites occurring in 1 county in Alabama, 5 counties in Kentucky, and 8 counties in Tennessee. The species was not defined in terms of "populations" at that time. Increased knowledge of *H. eggertii* and its habitat has resulted in increased success in locating new plant sites. Presently, there are 287 known *H. eggertii* sites (making up 73 populations) distributed across 3 counties in Alabama, 9 counties in Kentucky, and 15 counties in Tennessee. Consequently, *H. eggertii* is not likely to become endangered within the foreseeable future throughout all or a significant portion of its range and, therefore, is no longer considered to be threatened.

DATES: This final rule is effective September 19, 2005.

ADDRESSES: Comments and materials received, as well as supporting documentation used in preparation of this final rule, are available for public inspection, by appointment, during normal business hours at the Tennessee Field Office, U.S. Fish and Wildlife Service, 446 Neal Street, Cookeville, Tennessee 38501.

You may obtain copies of the final rule from the field office address above, by calling 931-528-6481, or from our Web site at <http://cookeville.fws.gov>.

FOR FURTHER INFORMATION CONTACT: Timothy Merritt, Tennessee Field Office (telephone 931-528-6481, extension 211; facsimile 931-528-7075).

SUPPLEMENTARY INFORMATION:

Background

Helianthus eggertii (Eggert's sunflower) is a perennial member of the aster family (Asteraceae) known only from Alabama, Kentucky, and Tennessee. Although it was originally described in 1897, most collections have

been made since 1990, when extensive searches for the species began (Jones 1991; USFWS 1999a). The species is commonly associated with the barrens/woodland ecosystem, a complex of generally subxeric (somewhat dry) plant communities maintained by drought and fire with a grassy ground cover and scattered medium-to-small-canopy trees (USFWS 1999a).

H. eggertii is a tall plant, growing up to 2.5 meters (8 feet), with round stems arising from fleshy rhizomes (lateral storage stems that grow along or just below the soil's surface). The stems and upper leaf surfaces have a blue-waxy coloration and the lower leaf surfaces are conspicuously whitened (Jones 1991). It has opposite (rarely whorled) leaves that are sessile (without a stalk), lanceolate (lance-shaped) to narrowly ovate (egg-shaped) in shape, and are either scabrous (rough) or glabrous (smooth) on the upper surface. Leaf edges are smooth or minutely toothed, and the tip is usually pointed. Large yellow flowers 8 centimeters (3 inches) in diameter are borne on the upper third of the stem. Seeds are blackish or grayish and mottled, 5 to 6 millimeters (0.20 to 0.24 inch) long, faintly striated (striped), and with a few scattered hairs. Flowering begins in early August and continues through mid-September and achenes (small, dry, hard, one-celled, one-seeded fruit that stays closed at maturity) mature from early September to early October (Jones 1991). Jones (1991) observed fruit set at between 5 and 25 seeds per flower head. Originally, seed germination rates were thought to be low (rarely exceeding 25 percent), possibly requiring exposure to cold to break dormancy (USFWS 1999a). However, recent data suggest that seed germination rates are relatively high (around 65 percent) if the seeds go through a stratification process (a period of cold weather, moisture, and darkness needed to break dormancy) (Cruzan 2002).

This sunflower develops an extensive rhizome system that may result in the production of dense clusters or patches of stems. These rhizomes can live for many years. Because of this extensive rhizome system, the plant does not have to produce seeds every year to ensure its survival. If environmental conditions change (e.g., increased competition, shading, etc.), it can survive for several years by vegetative means, as Jones (1991) has noted in several populations. Plants may also be established from seeds within these patches, so a mix of different individuals can eventually contribute to these extensive patches (Jones 1991). Cruzan (2002) concluded that the level of genetic diversity in this

species appears to be relatively high and that the highest levels of genetic diversity occur in the southern portion of the species' range. Cruzan (2002) also concluded that the range of *H. eggertii* is not geographically subdivided into distinct genetic units.

H. eggertii is a hexaploid (composed of cells that have six chromosome sets) sunflower, and, although its distinctiveness as a species has been established by morphological studies (USFWS 1999a) and biochemical studies (Spring and Schilling 1991), it probably outcrosses (breeds with less closely related individuals) with other hexaploid sunflowers (Jones 1991). It is not known how commonly outcrossing occurs and to what degree this can eventually degrade the genetic integrity of the species. *Helianthus strumosus* (pale-leaved woodland sunflower), occasionally found in association with *H. eggertii*, has been identified as a sunflower with a compatible ploidy (number of sets of chromosomes) level (Jones 1991).

H. eggertii typically occurs on rolling-to-flat uplands and in full sun or partial shade. It is often found in open fields or in thickets along woodland borders and with other tall herbs and small trees. It persists in, and may even invade, roadsides, power line rights-of-way, or fields that have suitable open habitat. The distribution of this species shows a strong correlation with the barrens (and similar habitats) of the Interior Low Plateau Physiographic Province, with some records from the Cumberland Plateau Section of the Appalachian Plateau Physiographic Province.

When *H. eggertii* was listed as threatened in 1997, it was known from only 1 site in 1 county in Alabama, 13 sites in 5 counties in Kentucky, and 20 sites in 8 counties in Tennessee. While the species was not defined in terms of "populations" at that time, the Alabama site was described as vigorous, while most sites in Kentucky contained less than 15 stems, with 4 sites having 5 or fewer stems, and about 50 percent of the Tennessee sites contained fewer than 20 stems (62 FR 27973; May 22, 1997). When the recovery plan for this species was finalized in 1999, there was 1 known site in Alabama, 27 sites in 6 counties in Kentucky, and 203 sites in 12 counties in Tennessee.

The term "population," as it relates to *H. eggertii*, was first defined in the recovery plan as "a group of plants that is isolated by geographic discontinuity or a distance of one-half mile" (USFWS 1999a). Recent studies on *H. eggertii* genetics by Cruzan (2002) suggested that a population of fewer than 100 flowering stems is unlikely to be

sufficiently large enough to maintain genetic diversity, while more recently Starnes (2004) has stated that populations larger than 50 stems showed a "high amount of genetic diversity." Cruzan (2002) also estimated a reasonable fragmentation threshold of 1 kilometer (km) (0.6 mile (mi)); that is, sites within that distance of each other were close enough to exchange genetic material. The further use of the term "population" in this document indicates a site, or sites, that cumulatively have more than 100 flowering plants and that do not occur more than 1 km (0.6 mi) apart. Based on 2004 data from the Alabama, Kentucky, and Tennessee Natural Heritage Programs and the Service, there are 10 known sites in 3 counties in north Alabama, 33 sites in 9 counties in central Kentucky, and 244 sites in 15 counties in middle Tennessee (Alabama Natural Heritage Database 2003, 2004; Kentucky Natural Heritage Database 2003, 2004; Tennessee Natural Heritage Database 2003, 2004; Service unpublished data). Applying the definition above to the current situation for this species, Alabama has 7 populations, Kentucky has 18 populations, and Tennessee has 48 populations; 27 of these 73 populations occur on public lands. Furthermore, the total of 287 currently known sites of *H. eggertii* far exceeds the 34 sites known at the time the species was listed.

Previous Federal Actions

Federal actions on this species began in 1973, when the Act (16 U.S.C. 1531 *et seq.*) was passed. Section 12 of the Act directed the Secretary of the Smithsonian Institution to prepare a report on those plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 9451, was presented to Congress on January 9, 1975. On July 1, 1975, we published a notice in the *Federal Register* (40 FR 27823) that formally accepted the Smithsonian report as a petition within the context of section 4(c)(2) (now section 4(b)(3)) of the Act. By accepting this report as a petition, we also acknowledged our intention to review the status of those plant taxa named within the report. *Helianthus eggertii* was included in the Smithsonian report and also in the July 1, 1975, Notice of Review (FR 27823). On June 16, 1976, we published a notice in the *Federal Register* (41 FR 24523) that determined approximately 1,700 vascular plant taxa, including *H. eggertii*, to be endangered pursuant to section 4 of the Act.

The 1978 amendments to the Act required that all proposals that were not

finalized within 2 years be withdrawn. On December 10, 1979 (44 FR 70796), we published a notice withdrawing all plant species proposed in the June 16, 1976, rule. The revised Notice of Review for Native Plants published on December 15, 1980 (45 FR 82480), included *H. eggertii* as a category 2 species. Category 2 species were described as those taxa for which the Service had information indicating that proposing to list them as endangered or threatened might be appropriate, or for which substantial data on biological vulnerability and threats were not known at the time or were not on file to support the listing. It was subsequently retained as a category 2 species when the Notice of Review for Native Plants was revised in 1983 (48 FR 53640), 1985 (50 FR 39526), and 1990 (55 FR 6184).

All plant taxa included in the comprehensive plant notices are treated as if under a petition. Section 4(b)(3)(B) of the Act, as amended in 1982, requires the Secretary to make certain findings on pending petitions within 12 months of their receipt. Section 2(b)(1) of the 1982 amendments further requires that all petitions pending as of October 13, 1982, be treated as having been newly submitted on that date. This was the case for *H. eggertii* because of the acceptance of the 1975 Smithsonian report as a petition. In 1983, we found that the petition calling for the listing of *H. eggertii* was not warranted because of insufficient data on its distribution, vulnerability, and degrees of threat. We funded a survey in 1989 to determine the status of *H. eggertii* in Alabama, Kentucky, and Tennessee. In 1990, the Service had not yet received the results of the survey we had funded, and it was believed that additional surveys of potential habitat and further identification of threats were needed before a decision could be made on whether to propose listing the species.

In 1991, we accepted a final report on these surveys (Jones 1991). Information contained in the 1991 final report completed informational gaps and provided what was then thought to be sufficient data to warrant preparation of a proposed rule to list the species. *H. eggertii* was accepted as a category 1 species on August 30, 1993, and was included in the revised Notice of Review for Native Plants published on September 30, 1993 (58 FR 51144). On September 9, 1994 (59 FR 46607), we published a proposal to list *H. eggertii* as a threatened species. A final rule placing *H. eggertii* on the Federal List of Endangered and Threatened Plants as a threatened species was published on May 22, 1997 (62 FR 27973). That

decision included a determination that the designation of critical habitat was not prudent for *H. eggertii*.

The final recovery plan for *H. eggertii* was completed in December 1999. The recovery plan provides the following criteria to consider *H. eggertii* for delisting: (1) The long-term conservation/protection of 20 geographically distinct, self-sustaining populations (distributed throughout the species' range or as determined by genetic uniqueness) must be provided through management agreements or conservation easements on public land or land owned by private conservation groups, and (2) these populations must be under a management regime designed to maintain or improve the habitat and each population must be stable or increasing for 5 years. There are presently 27 populations that are under a management regime that benefits the species and that occur on public land or land owned by a private conservation group (*i.e.*, The Nature Conservancy (TNC)). These are geographically distinct (separated by more than 1 km (0.6 mi)), and self-sustaining (greater than 100 flowering stems). These populations are scattered throughout the species' historic range. We have 5 years of monitoring data on each of the 27 populations that show they are stable or increasing. We have finalized cooperative management agreements with Kentucky Transportation Cabinet (KTC) (1 population), Tennessee Wildlife Resources Agency (TWRA) (8 populations), City of Nashville's A.G. Beaman Park (AGBP) (2 populations), TNC's Baumberger Barrens (1 population), Arnold Air Force Base (AAFB) (11 populations), and Mammoth Cave National Park (MCNP) (3 populations) for the long-term protection of *H. eggertii*. These cooperative management agreements will remain in place even if the species is delisted. The Kentucky State Nature Preserves Commission (KSNPC) and TNC each hold a 50 percent undivided interest in the Eastview Barrens in Hardin County, Kentucky. There is a permanent conservation easement for the Eastview Barrens as well as a management plan to protect and maintain the barrens, which includes one population of *H. eggertii*.

Other Federal involvement with *H. eggertii* subsequent to listing has included funding for recovery activities such as surveys for new locations, monitoring of known populations, population and ecological genetics studies, and collection and analysis of ecological and biological data. We have also been involved with the

development of the Eggert's Sunflower Management Plan, Barrens Management Plan, and the Integrated Natural Resources Management Plan for AAFB in Tennessee. All of these plans address *H. eggertii* and its habitat (see discussion under Factor A). We have evaluated potential impacts to this species from 262 Federal actions. The majority of these actions were highway and pipeline projects. We have conducted two formal consultations, one resulting in a "no effect" to the species finding and the other a "not likely to jeopardize the continued existence" of the species finding. No plants were adversely affected by either project.

On October 12, 2000, the Southern Appalachian Biodiversity Project filed suit against us, challenging our determination that designation of critical habitat for *H. eggertii* was not prudent (*Southern Appalachian Biodiversity Project v. U.S. Fish and Wildlife Service et al.* (CN 2:00-CV-361 (E.D. Tenn.)). On November 8, 2001, the District Court for the Eastern District of Tennessee issued an order directing us to reconsider our previous prudency determination and submit a new prudency determination for *H. eggertii* no later than December 29, 2003. On January 8, 2004, the court extended the submission deadline to March 30, 2004. On April 5, 2004, we published a proposal in the Federal Register (69 FR 17627) to delist *H. eggertii*. In that proposal, we submitted a new prudency determination in which we determined that designation of critical habitat for *H. eggertii* would not be prudent.

Summary of Comments and Recommendations

In the April 5, 2004, proposed rule, we requested that all interested parties submit comments or information concerning the proposed delisting of *Helianthus eggertii* (69 FR 17627). We provided notification of this document through e-mail, telephone calls, letters, and news releases faxed and/or mailed to the appropriate Federal, State, and local agencies, county governments, elected officials, media outlets, local jurisdictions, scientific organizations, interest groups, and other interested parties. We also provided the document on the Service's Tennessee Field Office Internet site following its release.

We accepted public comments on the proposal for 60 days, ending June 4, 2004. By that date, we received comments from two parties, specifically one Federal agency and one nonprofit organization. One commenter supported the proposed delisting, and one was opposed.

In accordance with our peer review policy published on July 1, 1994 (59 FR 34270), we solicited independent opinions from three knowledgeable individuals who have expertise with the species, who are within the geographic region where the species occurs, and/or are familiar with the principles of conservation biology. We received comments from all three of the peer reviewers, all of whom are employed by State agencies, which are included in the summary below and are incorporated into the final rule.

We reviewed all comments received from the peer reviewers and the public for substantive issues and new information regarding the proposed delisting of *H. eggertii*. Substantive comments received during the comment period have been addressed below and, where appropriate, incorporated directly into this final rule. The comments are grouped below according to peer review or public comments.

Peer Review/State Comments

(1) *Comment:* The commenter concurred with our reasons for proposing to remove *H. eggertii* from the List of Endangered and Threatened Plants pursuant to the Act. The commenter stated that *H. eggertii* was indeed more widespread and abundant than previously known at the time of its listing and that it was also more resilient and less vulnerable to certain habitat-altering activities than previously believed. The species appears to be sufficiently protected on Federal, State, county, and private conservation lands. The commenter concurred that the species now meets the recovery criteria as defined in the species' recovery plan.

Response: We appreciate the support we have received from our Federal, State, and private partners and acknowledge their role in this joint effort to recover and delist this species.

(2) *Comment:* Although the 27 protected populations under a management regime are distributed across the species' known range, the commenter believes that cooperative management agreements should be pursued prior to removal of the species' protection under the Act in order to ensure population persistence.

Response: We have completed cooperative management agreements for 26 of the 27 populations on public lands and a conservation easement for 1 population on land owned by a private conservation group (i.e., TNC). We have finalized cooperative management agreements with KTC (1 population), TWRA (8 populations), AGBP (2 populations), TNC Baumberger Barrens

(1 population), AAFB (11 populations), and MCNP (3 populations) for the long-term protection of *H. eggertii*. These cooperative management agreements will remain in place after the species is delisted. The KSNPC and TNC each hold a 50 percent undivided interest in the Eastview Barrens in Hardin County, Kentucky. There is a conservation easement for the Eastview Barrens as well as a management plan to protect and maintain the barrens, which includes one population of *H. eggertii*. This conservation easement is more restrictive than our cooperative management agreements.

(3) *Comment:* The commenter suggests that the Service work with the Tennessee Department of Transportation (TDOT) to develop and maintain rights-of-way mowing regimes similar to those developed in Kentucky and Alabama to benefit existing occurrences of *H. eggertii* along Tennessee's transportation rights-of-way.

Response: None of the 27 populations that occur on public lands are in rights-of-ways maintained by the State highway departments. The Service will continue to work with State highway departments to adopt a rights-of-way mowing regime that would be favorable to *H. eggertii*. However, these sites are not required in order to meet the delisting requirements for this species.

(4) *Comment:* The Tennessee Department of Environment and Conservation (TDEC) manages the Carter Cave State Natural Area in Franklin County, Tennessee. A population of *H. eggertii* occurs on this land. There was no mention in the proposed rule of a cooperative management agreement being pursued with TDEC for this site.

Response: We visited the Carter Cave State Natural Area site on August 8, 2003. We counted 250 total stems, including 150 flowering stems. However, the entire stand appeared to have hybrid characteristics. We could not find any individuals that we could clearly determine to be pure *H. eggertii*. We believe that further research needs to be conducted to determine if this site contains any pure *H. eggertii* before a cooperative management agreement is pursued. Since we need only 20 protected populations to meet the delisting criteria and we have 27 protected populations, it was not necessary to complete an agreement for this site before *H. eggertii* could be delisted. We will pursue an agreement if it is determined that the site does contain non-hybridized *H. eggertii*.

(5) *Comment:* The commenter believes that the agencies which have signed cooperative management

agreements need to continue reporting the status of populations in Kentucky over the next few years.

Response: Under the Act, the status of all species that are delisted due to recovery must be monitored for at least 5 years. The Service is committed to conducting at least 5 years of monitoring of these 27 populations of *H. eggertii* to ensure that the species remains stable or improving. (For more information, see the Post-delisting Monitoring section later in this notice). If the monitoring data show that the species is declining, there is a mechanism for emergency re-listing of the species.

(6) **Comment:** The commenter believes that the inclusion of the relocated *H. eggertii* at the U.S. Army Corps of Engineers (USACE) property at Nolin Lake should not be considered a functioning population, since this was a preliminary experiment to determine whether this species could be relocated.

Response: Personnel with the USACE were contacted concerning the relocated *H. eggertii* at Nolin Lake in Kentucky. They advised us that in about 1999–2000, approximately 120 stems were moved onto Nolin Lake property from a highway project 0.8 km (0.5 mi) off of the USACE property. There are presently about 136 stems at the Nolin Lake site. We concur that this site, at this time, should not be considered a functioning population and, as such, have not included it in the 27 populations that are being protected and managed under a cooperative management agreement.

(7) **Comment:** The commenter believes that pertinent literature for the delisting proposal should be comprehensive, and should have included the 1994 journal article on “The status of *Helianthus eggertii* Small in the southeastern United States” in *Castanea* 59(4):319–330.

Response: The references listed were only those that were cited in the proposed rule. It was not intended to be a complete list of pertinent literature for the species.

(8) **Comment:** One commenter noted that several other species of sunflowers, especially *Helianthus strumosus*, can be easily misidentified as *H. eggertii*, and some populations that are attributed to *H. eggertii* may be of hybrid origin.

Response: We are aware that there are other species of sunflowers similar to *H. eggertii* and have even observed hybrid sunflowers in the field. However, we were diligent in identifying and counting only those sites that contained true *H. eggertii*. We also have confidence in the identifications made by State botanists for Alabama,

Kentucky, and Tennessee, since we revisited many of these sites and verified their findings.

(9) **Comment:** The unprotected populations of *H. eggertii* will continue to exist only if there is sufficient “natural” barrens habitat available, or if there is sufficient human-caused disturbance in the near vicinity of the populations.

Response: There are presently 73 populations of *H. eggertii* occurring in Alabama, Tennessee, and Kentucky. The majority of these populations occur along roadsides and power line right-of-ways. Most of these sites receive periodic mowing, which appears to be sufficient disturbance for the *H. eggertii* at these sites to continue to exist. We have cooperative management agreements in place for all of the 27 populations on public lands. These agreements ensure that these populations of *H. eggertii* will be properly managed. This exceeds the number of protected populations (20) required in the recovery plan for delisting.

(10) **Comment:** One commenter noted that attempting to protect a plant species by maintaining only a few populations on public land is like trying to protect endangered mammals by only keeping a few breeding pairs in zoos, and not worrying about those in the wild. These efforts are rarely successful.

Response: The 27 protected populations on public lands are in habitat that is as wild and natural as that of any of the other 46 populations that occur on private lands. We have exceeded the delisting criteria of 20 protected populations. Even though the populations on private lands do not have cooperative management agreements, it is highly unlikely that all of these 46 populations that are not covered by an agreement will disappear. Many of these populations occur along road and power line rights-of-way and receive periodic maintenance that keeps these areas open and free of trees. All of the 46 populations have 100 or more flowering stems. However, even if we lose all the 46 populations, we still have enough protected populations on public lands to delist the species and ensure its continued survival.

Public Comments

(11) **Comment:** One commenter noted that the protection of barrens habitat was overlooked in the proposal to delist *H. eggertii*.

Response: Protection under section 4 of the Act is limited to listed species and designated critical habitat (which was not designated for this plant). However, since *H. eggertii* does occur on

barrens habitat, barrens have also received some ancillary protection by the listing of *H. eggertii*. For example, AAFB, which contains the largest known concentration of *H. eggertii* (11 populations), has developed and implemented a barrens restoration plan that includes protections for many of the species normally associated with a barrens habitat, including *H. eggertii*. We concur that the barrens habitat needs to be protected, and we are working with our partners to protect this habitat type along with *H. eggertii*. However, our current actions have enabled us to meet the delisting criteria in the recovery plan and we believe that this species no longer needs the protections of the Act.

(12) **Comment:** One commenter noted that because there has been no determination of the optimal habitat for seedling establishment, the actions required under the recovery plan have not been met.

Response: We have met the recovery criteria outlined in the recovery plan for delisting this species. While not every recovery task has been completed, we have taken the steps necessary to ensure the long-term conservation/protection of 27 populations of *H. eggertii* that are distributed throughout its range. The recovery plan only requires 20 populations. Recent research has shown that genetic diversity was high at both MCNP (3 populations) and AAFB (11 populations) (Starnes 2004). Starnes (2004) found that the high genetic diversity observed suggests that while clones may exist in a population, seedling establishment is actively putting new genetically diverse individuals into a population. Starnes’ results showed that the current management strategies (burning and mowing) are suitable for protecting this species. We have incorporated these two management strategies into each of the cooperative management agreements in place for the 27 *H. eggertii* populations on publicly owned lands.

(13) **Comment:** Cruzan (2002) suggested that populations with less than 100 stems are unlikely to be self-sustaining, but there are no data to suggest what is sufficient. More research is required to determine what constitutes a viable population before delisting proceeds.

Response: The recovery plan requires self-sustaining populations. As defined in the recovery plan, a self-sustaining population is one that is self-regenerating and maintains sufficient genetic variation to enable it to survive and respond to natural habitat changes. Cruzan (2002) suggested that less than 100 flowering stems within an isolated

1 km (0.6 mi) radius are "unlikely to be sufficiently large for the maintenance of genetic diversity" and included areas of 100 or more flowering stems within a 1 km radius in the study area into his estimation of functional metapopulations. Furthermore, in a more recent study, Starnes (2004) stated that a "high amount of genetic diversity [was] seen in populations larger than 50 stems." The recovery plan also requires that these populations must be under a management regime designed to maintain or improve the habitat and each population must be stable or increasing for 5 years. Based on the best available science, we believe that a population of *H. eggertii* that contains 100 flowering stems or more and has been stable or improving for the past 5 years meets the definition of a self-sustaining population. We have 27 populations throughout the range of the species (Alabama, Kentucky, and Tennessee) that are self-sustaining, based on the above definition, and are protected through cooperative management agreements on public lands. The recovery plan only requires 20 protected populations to meet the delisting criteria. Further, while we use the more conservative minimum number of flowering stems (*i.e.*, 100) to define a self-sustaining population, it is important to note that all of the 27 populations we have identified consist of well over 100 flowering stems.

(14) *Comment:* The Tennessee National Guard (TNG) expressed its support of the proposed removal of *H. eggertii* from the Federal List of Endangered and Threatened Plants and its belief that the existing Barrens Restoration and Management Plan, Integrated Natural Resources Management Plan, Eggert's Sunflower Management Plan, and the Cooperative Management Agreement between AAFB and the Service will ensure the long-term protection of *H. eggertii*.

Response: We appreciate the opportunity to work with the TNG to recover *H. eggertii*. We concur that the Barrens Restoration and Management Plan, Integrated Natural Resource Management Plan, Eggert's Sunflower Management Plan, and the cooperative management agreement with AAFB will ensure the long-term protection of *H. eggertii* on AAFB property, including the TNG training area.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Act and the regulations (50 CFR part 424) issued to implement the listing provisions of the Act set forth five criteria to be used in determining whether to add, reclassify,

or remove a species from the Federal List of Endangered and Threatened Wildlife and Plants. These five factors and their application to *Helianthus eggertii* are as follows:

A. The present or threatened destruction, modification, or curtailment of its habitat or range. In 1997, when *H. eggertii* was listed as threatened, most of the 34 known sites of this species were thought to be threatened with destruction or modification of their habitat. It was estimated that over 50 percent of the known sites were threatened by the encroachment of more competitive herbaceous vegetation and/or woody plants that produce shade and compete with this species for limited water and nutrients. Active management was listed as a requirement to ensure the plant's continued survival at all sites. Since most of the sites where this species survives are not natural barrens, but areas such as rights-of-way or similar habitats that mimic barrens, direct destruction of this habitat for commercial, residential, or industrial development or intensive rights-of-way maintenance (*e.g.*, herbicide use) was thought to be a significant threat to the known sites at the time of listing.

Overall, the activities affecting the species' habitat, such as encroachment of more competitive vegetation, direct destruction of habitat for commercial and residential development, intensive rights-of-way maintenance, and conversion of barrens habitat to croplands, pasture, or development, appear to have changed very little since listing. However, the risk that those threats pose for *H. eggertii*'s survival and conservation are considerably less than what was understood at the time of listing. *H. eggertii* appears to respond favorably to mild-to-moderate types of disturbance. One site that occurs in Coffee County, Tennessee, was known to have hundreds of stems in 1998, before the site was clearcut. In 2000, TDEC found that there were very few plants left, and it was thought that the logging had resulted in the destruction of the plants at this site. However, in 2003, we found that the site had 1,578 total stems, including 951 flowering stems. Logging had only a temporary negative effect, and the land disturbance resulted in greatly increasing the population size and vigor of the plants at this site (Service, unpublished data). This same phenomenon has occurred on AAFB. Pine stands that had few to no *H. eggertii* had been clearcut, followed by either the new appearance of *H. eggertii* or a significant increase in population size and vigor of existing plants (K. Fitch, Arnold Engineering

and Development Center, pers. comm. 2003). Many of the known *H. eggertii* sites occur along road and power line rights-of-way. This is probably due to the disturbance of these areas from continual maintenance activities. Plants will not grow and flower well in very deep shade (*i.e.*, 80 percent shade). Moderate levels of shade (from 40 to 60 percent) where *H. eggertii* normally occurs do not appear to have large negative consequences for its growth or reproduction (Cruzan 2002). Cruzan (2002) also found that *H. eggertii* competes well against other more widespread species under full sunlight and 60 percent shade conditions, a fact that was not known at the time of listing.

At the time of listing, we did not fully understand that *H. eggertii* could readily adapt to certain manmade disturbances that are replacing the dwindling natural barrens. We originally thought the species was restricted to these natural barren areas. When *H. eggertii* was listed, manmade areas were thought to be low-quality sites where the species was making a last-ditch effort to survive. Upon discovering that manmade sites were a significant habitat that *H. eggertii* was exploiting and in which it was thriving, we began finding a significant number of new sites. In fact, since listing, an additional 253 sites have been found that contain the species (Alabama Natural Heritage Database 2003, 2004; Kentucky Natural Heritage Database 2003, 2004; Tennessee Natural Heritage Database 2003, 2004; Service unpublished data). The species is also more widespread than originally thought, occurring in 3 counties in Alabama, 9 counties in Kentucky, and 15 counties in Tennessee. The number of stems has also increased dramatically from the time of listing. In Alabama, the one site known at the time of listing was described as vigorous; presently, there are 10 sites and 7 have more than 100 stems (Alabama Natural Heritage Database 2003, 2004; Service unpublished). In Kentucky, most of the 13 original sites at the time of listing contained fewer than 15 stems and 4 sites had fewer than 5 stems. Presently in Kentucky, there are 33 known sites; 18 of these sites have more than 100 stems, and are now considered viable populations (Kentucky Natural Heritage Database 2003, 2004). In Tennessee, about one-half of the 20 original sites at the time of listing contained fewer than 20 stems. Currently in Tennessee, there are 244 known sites, 63 of which have more than 100 stems and are now considered viable populations

(Tennessee Natural Heritage Database 2003, 2004; Service unpublished data).

Of the 287 sites where *H. eggertii* is known to occur in Alabama, Kentucky, and Tennessee, 126 (which make up 27 total populations) are in public ownership or on land owned by TNC and are being managed to protect the species. Protection for the species will continue on these sites after it is delisted. AAFB has 115 of these sites (11 populations) and is the largest Federal landowner harboring this species. Protection and management strategies for *H. eggertii* are covered by AAFB's Integrated Natural Resources Management Plan (INRMP), a Barrens Management Plan (BMP), and a separate Eggert's Sunflower Management Plan (ESMP). The INRMP, BMP, and ESMP are active management plans that provide for the long-term conservation of this species by focusing on restoring barrens habitat and maintaining the necessary ecological processes in habitats the species requires. These processes include various silvicultural treatments (e.g., clearcuts, marked thinning, and row thinning), prescribed burning, and invasive pest plant management (e.g., manual removal and herbicide spot application). Regardless of the Federal status of *H. eggertii*, the BMP, ESMP, and INRMP will continue to provide for the protection and management of this species (U.S. Air Force (USAF) 2001, 2002). AAFB also recently signed a Cooperative Management Agreement with us to further ensure the protection of *H. eggertii* populations on its property even after delisting. In Kentucky, MCNP has three populations. MCNP is actively managing *H. eggertii* populations and has implemented a prescribed burning regime to provide for the long-term protection of this species. In 2004, we signed a 10-year Cooperative Management Agreement with MCNP to provide long-term protection of the three *H. eggertii* populations occurring on Park property. These populations, and the barrens habitats on which they occur, will be sustained by implementing habitat management activities, such as prescribed burns, tree thinning, and invasive plant removal, and will be monitored. These cooperative management agreements will aid in sustaining *H. eggertii* populations on these Federal lands regardless of the Federal status of this species.

H. eggertii is an early successional species and, while historic barrens habitat is becoming increasingly rare, this species readily responds to barrens restoration activities and colonizes manmade disturbed areas. The key to

long-term survival of *H. eggertii* is periodic burning, mowing, or thinning of the competing vegetation. KTC has signed a management agreement with us to maintain, enhance, and monitor *H. eggertii* on its property (41 acres, one population) which includes restoring barrens habitat by thinning the existing trees near *H. eggertii* occurrences, conducting periodic prescribed burns, and monitoring the success of these management practices to refine them if necessary.

The Alabama and Tennessee State Departments of Transportation are working with us to develop and maintain roadside mowing regimes that would benefit existing *H. eggertii* sites. This will also encourage new establishment of plants along road rights-of-way by reducing the competing vegetation and keeping the areas open. TWRA, which owns four wildlife management areas that contain eight *H. eggertii* populations, is managing these areas for small game, which indirectly benefits this species by keeping the area in early successional vegetation. TWRA has signed a Cooperative Management Agreement with us to provide for the long-term protection of *H. eggertii* on its lands. This agreement, like agreements with Federal agencies, involves habitat management activities such as prescribed burns, tree thinning, and invasive plant removal, and monitoring the plants and their habitat to ensure the protection and management of these sites regardless of the Federal status of *H. eggertii*. Similarly, we have signed a Cooperative Management Agreement with the City of Nashville, Metro Parks and Recreation, which owns and operates A.G. Beaman Park in Davidson County, Tennessee. AGBP contains two populations of *H. eggertii*. This park is new and plans are being developed for future uses such as hiking trails, picnic areas, park headquarters, and maintenance buildings. The Cooperative Management Agreement will ensure that AGBP and the Service will continue to work together to protect the existing *H. eggertii* populations regardless of the species' Federal status.

TNC in Kentucky owns a site known as Baumberger Barrens, which contains one population of *H. eggertii*. TNC has an existing management plan for the barrens that includes *H. eggertii*. The site is undergoing management, such as removal of woody species, periodic prescribed burns, and invasive plant removal, to ensure the native barrens species, including *H. eggertii*, are maintained and protected. We signed a 10-year Cooperative Management Agreement with TNC to manage and

monitor the *H. eggertii* population that occurs on this site.

TNC of Kentucky and the State of Kentucky each own 50 percent of a site known as Eastview Barrens. One population of *H. eggertii* occurs at Eastview Barrens. These two landowners are working together to manage the barrens on this site by removing woody species, conducting periodic prescribed burns, and preventing and removing invasive plants to ensure the native barrens species, including *H. eggertii*, are maintained and protected. This site is protected by a conservation easement that will protect the natural barrens and *H. eggertii* in perpetuity for the citizens of Kentucky.

The large increase in new *H. eggertii* sites (253) since listing, the increased understanding of the plant's adaptability, and the protection and management provided by State and Federal landowners and nongovernmental organizations have led us to conclude that the threats to *H. eggertii*'s habitat have been adequately addressed and habitat destruction is no longer considered to be a threat to the species.

B. Overutilization for commercial, recreational, scientific, or educational purposes. We have no documented evidence, records, or information to indicate that overutilization for commercial, recreational, scientific, or educational purposes is a threat to *H. eggertii*. We have found no records of unauthorized collection during our literature review or in discussions with researchers. This species is not believed to be a significant component of the commercial trade in native plants, and overutilization does not constitute a threat for this species.

C. Disease or predation. Disease has been observed by the Service and other observers on small numbers of *H. eggertii* plants (T. Gulya, U.S. Department of Agriculture, pers comm. 2004). This disease is believed to be a rust fungus of either the *Puccinia* or *Coleosporium* genera (T. Gulya, pers comm. 2004). This rust attacks the vegetation and causes orange-to-brown pustules (raised bumps or areas) on the surfaces. It does not appear to kill the plants, and we do not believe that it is a threat to the species' existence. Predation from insects and herbivores has also been noted on small isolated patches of *H. eggertii*. These incidents appear to result from normal environmental conditions. Because of the ability of this plant to sprout stems from rhizomes, the small amount of predation observed does not pose a threat to this species.

D. *The inadequacy of existing regulatory mechanisms.* The Act does not provide protection for plants on private property unless the landowner's activity is federally funded or requires Federal approval. In all three States (Alabama, Kentucky, and Tennessee), plants have no direct protection under State law on private property. Plants on private property are afforded ancillary protection under State criminal trespass laws. Once this delisting rule is in effect, the only change to the protection of *H. eggertii* on private land would be that we would no longer consult under section 7 of the Act for the activities that are federally funded or require Federal approval. However, there are enough populations of *H. eggertii* on public lands (27 populations) to afford the long-term conservation of this species based on the recovery criteria (20 populations) in the recovery plan. The recovery criteria called for the 20 populations to be distributed throughout the species' historical range and, based on the number and distribution of populations known at that time, determined that the relative proportions would be 1 population in Alabama, 3 populations in Kentucky, and 16 populations in Tennessee. Although none of the seven populations in Alabama are currently under a management plan, we believe that the current distribution of populations under such plans meets the intent of the recovery criteria because they are "distributed throughout the species' historical range," including populations that occur near the Tennessee/Alabama border.

Section 9(a)(2)(B) of the Act prohibits removal and possession of endangered plants from areas under Federal jurisdiction. Kentucky has 4 populations and Tennessee has 11 populations of *H. eggertii* that occur on Federal lands. None of the seven populations in Alabama occurs on public lands. *H. eggertii* sites on MCNP in Kentucky are also protected from take by Code of Federal Regulations (CFR), Title 36, Volume 1, which protects all plants on Department of the Interior lands. We have Cooperative Management Agreements with the MCNP and AAFB. These agreements provide for the management and protection of these important *H. eggertii* sites, regardless of the Federal status of the species. Both the plant and its habitat will be protected, managed, and monitored under these agreements.

On public lands in Tennessee and Kentucky, on which 27 populations (composed of 126 of the 287 known sites, and including the 15 populations on Federal lands just discussed) of the

plants are found, *H. eggertii* is adequately protected by other laws. Air Force Instruction 32-7064 at 7.1.1 provides the same protection for candidate and State listed species as for federally listed species "when practical" on AAFB. It is our understanding that the State of Tennessee has no plans to delist *H. eggertii* in the immediate future. In addition, as mentioned previously, *H. eggertii* is covered under three management plans covering AAFB (INRMP, BMP, and ESMP), all of which will continue for some years regardless of whether the species is delisted. TWRA has a rule (1660-1-14-.14) that protects all vegetation on designated wildlife management areas from take regardless of its State or Federal status. There are eight known populations of *H. eggertii* that occur on four different State wildlife management areas managed by the TWRA (Service unpublished data 2004). We mentioned in error 10 populations in our proposed rule. There were only 7 populations known at the time of the proposed rule (69 FR 17627), and now there are 8 with the additional one discovered on Laurel Hill Wildlife Management Area in 2004. On public lands in Kentucky, every natural component is considered public domain and is, therefore, protected from take under State law. Kentucky has three populations of *H. eggertii* that occur on State-owned public lands. This State law will remain in effect regardless of whether this species remains federally listed or not.

The Act protects plants on private lands only if the actions which might adversely impact them are conducted, permitted, or funded by a Federal agency, or constitute criminal trespass or theft of the plants. The limited protection afforded by the Act under these circumstances would be lost through delisting, and other existing regulations do not provide complete protection to all existing habitat on private lands. However, we believe the significant protections afforded to the 27 populations occurring on public lands are adequate to ensure those populations of *H. eggertii* remain viable, and such populations by themselves meet or exceed the recovery goals listed in the recovery plan.

E. *Other natural or manmade factors affecting its continued existence.* Extended drought conditions and an increase in the potential for inbreeding depression due to dwindling numbers were thought to affect the continued existence of *H. eggertii* at the time of listing. The known sites of *H. eggertii* have now increased in number to 287 (73 populations) and are scattered

throughout 27 counties in 3 States. This makes the likelihood of a drought adversely affecting all the known sites much less than originally thought, when there were only 34 known sites. Also, there are 7 populations in Alabama, 18 populations in Kentucky, and 48 populations in Tennessee, for a total of 73 populations that have more than 100 flowering stems. The recovery plan criterion requires only 20 populations to be considered for delisting. Cruzan (2002) suggested that 100 flowering stems or more were needed to maintain genetic diversity and prevent inbreeding depression within a population. Inbreeding depression due to low numbers of individuals per population is no longer a threat to *H. eggertii*. We believe the known number of sites, the numbers of existing populations, and their distribution are sufficient to protect against potential catastrophic events (e.g., drought) and no longer consider such events to be a threat to this species. There are no other natural or manmade factors known to affect the continued existence of *H. eggertii*; therefore, we do not believe these factors will affect the continued existence of this species.

Summary of Findings

According to 50 CFR 424.11(d), a species may be delisted if the best scientific and commercial data available substantiate that the species is neither endangered nor threatened because of (1) extinction, (2) recovery, or (3) error in the original data for classification of the species.

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by *Helianthus eggertii*. Based on surveys conducted in 2001, 2002, 2003, and 2004, we conclude that the threatened designation no longer correctly reflects the current status of this plant. Relative to the information available at the time of listing, recovery actions have resulted in new information that shows a significant (1) expansion in the species' known range, (2) increase in the number of known sites, and (3) increase in the number of individual plants. Furthermore, recovery efforts have provided increased attention and focus on this species. This in turn has led to greater protection for the species such that the recovery criteria in the recovery plan for this species have been met. After conducting a review of the species' status, we have determined that the species is not in danger of extinction throughout all or a significant portion of its range, nor is it likely to become in danger of extinction within the

foreseeable future throughout all or a significant portion of its range. Given the expanded range, number of newly discovered population locations and individuals, the increased knowledge of the genetics of this species, and the protection offered by State and Federal landowners, we conclude, based on the best scientific and commercial information, that *H. eggertii* does not warrant the protection of the Act. Therefore, we are removing *H. eggertii* from the Federal List of Endangered and Threatened Plants.

Effect of This Rule

This rule will revise 50 CFR 17.12(h) to remove *Helianthus eggertii* from the List of Endangered and Threatened Plants. Because no critical habitat was ever designated for this species, this rule will not affect 50 CFR 17.96.

Once this species is removed from the List of Endangered and Threatened Plants, Endangered Species Act protection will no longer apply. Removal of *H. eggertii* from the List of Endangered and Threatened Plants will relieve Federal agencies from the need to consult with us to insure that any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of this species.

Post-Delisting Monitoring

The 1988 amendments to the Act (section 4(g)(1)) require us to implement a system, in cooperation with the States, to monitor all species that have been delisted due to recovery for at least 5 years following delisting. The purpose of this post-delisting monitoring (PDM) is to verify that a species that is delisted due to recovery remains secure from the risk of extinction after it no longer has the protections of the Act. If the species does not remain secure, we can use the emergency listing authorities under section 4(b)(7) of the Act. Section 4(g) of the Act explicitly requires cooperation with the States in development and implementation of PDM programs. However, we are responsible for compliance with section 4(g) and must remain actively engaged in all phases of the PDM.

The Service has drafted a PDM plan for Eggert's sunflower and is making it available for review and comment in a separate notice in this issue of the Federal Register (see the Notices section of today's Federal Register). Following the end of the comment period, any comments will be incorporated as appropriate into the final PDM plan.

Paperwork Reduction Act of 1995

Office of Management and Budget (OMB) regulations at 5 CFR 1320, which

implement provisions of the Paperwork Reduction Act (44 U.S.C. 3501 *et seq.*), require that Federal agencies obtain approval from OMB before collecting information from the public. This rule does not contain any new collections of information that require approval by the Office of Management and Budget (OMB) under the Paperwork Reduction Act. This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act

We have determined that we do not need to prepare an Environmental Assessment, as defined by the National Environmental Policy Act of 1969, in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act. We published a notice outlining our reasons for this determination in the Federal Register on October 25, 1983 (48 FR 49244).

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U.S. Fish and Wildlife Service. 1999b. Endangered and Threatened Wildlife and Plants 50 CFR 17.11 and 17.12; As of December 31, 1999. Special Reprint. U.S. Government Printing Office. p. 56.

Author

The primary author of this proposed rule is Timothy Merritt (see ADDRESSES section).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Regulation Promulgation

■ For the reasons given in the preamble, we amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

PART 17—[AMENDED]

■ 1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361-1407; 16 U.S.C. 1531-1544; 16 U.S.C. 4201-4245; Pub. L. 99-625, 100 Stat. 3500; unless otherwise noted.

§ 17.12 [Amended]

■ 2. Amend § 17.12(h) by removing the entry "*Helianthus eggertii*" under "Flowering Plants" from the List of Endangered and Threatened Plants.

Dated: July 20, 2005.

Marshall Jones,

Acting Director, Fish and Wildlife Service.

[FR Doc. 05-16274 Filed 8-17-05; 8:45 am]

BILLING CODE 4310-55-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 635

[I.D. 080405B]

Atlantic Highly Migratory Species; Atlantic Bluefin Tuna Fisheries

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

Sanchez, Susan

From: Grillon, Benjamin
Sent: Wednesday, December 07, 2005 11:07 AM
To: 'Brackett, Jerry L'
Subject: RE: LGE/KU Transmission Line

Mr. Brackett,

I have had Mark Johnson's secretary keeping an eye out for the letter and she still hasn't received it. It probably got lost in the mail or in our internal mail during the holidays. Is there any way you can fax me a copy of the letter.

Thanks,
Brandon Grillon
859-367-5763

From: Brackett, Jerry L [mailto:Jerry.Brackett@knox.army.mil]
Sent: Wednesday, November 30, 2005 2:29 PM
To: Grillon, Benjamin
Subject: RE: LGE/KU Transmission Line

I talked to Mr. Hickok a few days after you called and he said the letter had already gone out. The author of the letter requesting the info should have gotten our reply. If not, let me know.

Sorry I didn't call you back, but based on the above, I assumed you had gotten the letter.

Jerry L. Brackett
Directorate of Base Operations Support (DBOS)
Building 1110, Fort Knox, KY 40121
502-624-5592, DSN 464-5592

-----Original Message-----

From: Grillon, Benjamin [mailto:Benjamin.Grillon@lgeenergy.com]
Sent: Wednesday, November 30, 2005 10:37 AM
To: jerry.brackett@knox.army.mil
Subject: LGE/KU Transmission Line

Mr. Brackett,

I was just checking to see if you had gotten a chance to talk to Mr. Hickok about the routing letter.

Thanks,
Brandon Grillon
859-367-5763

3/9/2006

Sanchez, Susan

From: Mindi_Brady@fws.gov
Sent: Tuesday, November 01, 2005 8:34 AM
o: Grillon, Benjamin
Subject: website

Hey Brandon,

Below is the link to that document we showed you at the meeting last week.
Hope it helps!!

http://www.energy.ca.gov/reports/2002-12-24_500-02-070F.PDF

Mindi Brady
Fish & Wildlife Biologist

US Fish & Wildlife Service
Kentucky Field Office
3761 Georgetown Rd.
Frankfort, KY 40601
502/695-0468 extn. 229
502/695-1024 fax
Mindi_Brady@fws.gov
<http://frankfort.fws.gov>

Sanchez, Susan

From: Waldrep, Joseph B [joseph.waldrep@knox.army.mil]
Sent: Friday, August 26, 2005 8:12 AM
To: Grillon, Benjamin
Subject: RE: Transmission Line Easement Marking

Thanks

Brian

-----Original Message-----

From: Grillon, Benjamin [mailto:Benjamin.Grillon@lgeenergy.com]
Sent: Wednesday, August 24, 2005 10:11 AM
To: Waldrep, Joseph B
Cc: michael.meyer3@us.army.mil; michael.meyer3@knox.army.mil
Subject: RE: Transmission Line Easement Marking

Brian,
Attached are the shapefiles for the centerline and the edge of right of way. These are in State Plane Coordinates, KY South, NAD 83, and feet. Let me know if these will work for you. If not I can try something else.

Thanks,
Brandon

From: Waldrep, Joseph B [mailto:joseph.waldrep@knox.army.mil]
Sent: Tuesday, August 23, 2005 12:20 PM
To: Grillon, Benjamin
Cc: Meyer, Michael K
Subject: RE: Transmission Line Easement Marking

Brandon,

I would like to have a shape file of the area.

Thanks,

Brian

-----Original Message-----

From: Grillon, Benjamin [mailto:Benjamin.Grillon@lgeenergy.com]
Sent: Tuesday, August 23, 2005 10:28 AM
To: Waldrep, Joseph B
Cc: Meyer, Michael K; Gaines, Gerry E; Pollock, Linda Gail; Brandenburg, Mike G; Kenneth.D.Puckett@lrl02.usace.army.mil; Barry.S.Tucker@LRL02.USACE.ARMY.MIL
Subject: RE: Transmission Line Easement Marking

Brian,
That is correct. The way you put it is easier to understand. Thanks for the clarification. The flagging was complete on Friday and you can begin the timber appraisal process. If you would like

anything further flagged or marked when you begin the process let me know and I'll have our surveyors get right on it. Also if you plan on using any handheld GPS units while in the field I can supply you with some shapefiles or CAD files of the centerline and edge of easements if they would be of help. If you have any further questions please let me know.

Thanks,
Brandon

From: Waldrep, Joseph B [mailto:joseph.waldrep@knox.army.mil]
Sent: Tuesday, August 23, 2005 11:18 AM
To: Grillon, Benjamin
Cc: Meyer, Michael K; Gaines, Gerry E; Pollock, Linda Gail; Brandenburg, Mike G; Dan Puckett (Kenneth.D.Puckett@lr02.usace.army.mil); Barry Tucker (Barry.S.Tucker@LRL02.USACE.ARMY.MIL)
Subject: RE: Transmission Line Easement Marking

Brandon,
Thanks for the info. I have a couple of questions.
On the danger tree definition, I assume 80' tall within 20' and 70' tall with 10' would correlate to meet the "90' tall with 30' of the edge of the easement" guideline. Is this the correct assumption?

Is the flagging complete? Are you ready for us to begin the timber appraisal process?

Thanks,
Brian

Brian Waldrep
Forester
US Army Garrison Fort Knox
IMSE-KNX-PWE-N
Building 112, 11th Avenue
Fort Knox, KY 40121-5000
(502) 624-5070 office
(502) 624-1868 fax
brian.waldrep@us.army.mil

Thanks for taking the time to meet with us last week to discuss the proposed transmission line across Fort Knox. Below I have listed the different types of flagging that our surveyors have used to mark different areas in the transmission corridor. I am also working on checking the structure locations for the areas around Otter Creek. As far as the danger trees we discussed that were off of our right of way that we would like to remove if possible you can use the general guideline of any tree above 90' tall and within 30' of the edge of the easement. If you have any questions please let me know.

Orange Ribbon and Paint - Centerline
Red Ribbon and Paint - Edge of Right of Way
Pink Ribbon - Surveyor's Control Point Identification
Fluorescent Pink Flagging marked WETLAND BOUNDARY - Wetlands
Blue and White Striped Flagging - Intermittent and Lower Perennial Streams
Orange Polk-a-dot Flagging - Sinkholes, Non-jurisdictional ephemeral channels or wet weather conveyances
Thanks again,
Brandon

Brandon Grillon, P.E.
Sr. Civil Engineer
KU / LG&E
One Quality Street
Lexington, KY 40507
ph: 859-367-5763
fax: 859-367-5766
benjamin.grillon@lgeenergy.com

Sanchez, Susan

From: Helmkamp, Richard C [Richard.Helmkamp@knox.army.mil]
Sent: Wednesday, November 09, 2005 9:43 AM
To: Grillon, Benjamin
Subject: SHPO Letter - Fort Knox

Brandon,

Our legal office reviewed the draft SHPO letter and I briefed them on the situation. We concur that the letter is appropriate and that I should attend the proposed meeting with the SHPO. Give me a call so we can discuss possible dates for the meeting.

Criss

R. Criss Helmkamp, Ph.D.
Cultural Resources Program Manager
Directorate of Public Works
Fort Knox, KY 40121-5000
Phone: (502) 624-6581 Fax: (502) 624-6581

Sanchez, Susan

From: Waldrep, Joseph B [joseph.waldrep@knox.army.mil]
Sent: Monday, November 14, 2005 3:25 PM
To: Grillon, Benjamin
Subject: RE: LGE Transmission Line

Brandon,

I called you a couple of times today but you were not available. What is the good news? If you would like to discuss anything over the phone I should be in and out most of the week. I will try calling you again in the morning.

Brian

-----Original Message-----

From: Grillon, Benjamin [mailto:Benjamin.Grillon@lgeenergy.com]
Sent: Thursday, November 10, 2005 8:57 AM
To: Waldrep, Joseph B
Subject: LGE Transmission Line

Brian,

I would like to give you an update of where we stand on the transmission line across the reservation. When would be a good time to give you a call?

Thanks,
Brandon Grillon
859-367-5763

Sanchez, Susan

From: Brackett, Jerry L [Jerry.Brackett@knox.army.mil]
Sent: Wednesday, November 30, 2005 2:29 PM
To: Grillon, Benjamin
Subject: RE: LGE/KU Transmission Line

I talked to Mr. Hickok a few days after you called and he said the letter had already gone out. The author of the letter requesting the info should have gotten our reply. If not, let me know.

Sorry I didn't call you back, but based on the above, I assumed you had gotten the letter.

Jerry L. Brackett
Directorate of Base Operations Support (DBOS)
Building 1110, Fort Knox, KY 40121
502-624-5592, DSN 464-5592

-----Original Message-----

From: Grillon, Benjamin [mailto:Benjamin.Grillon@lgeenergy.com]
Sent: Wednesday, November 30, 2005 10:37 AM
To: jerry.brackett@knox.army.mil
Subject: LGE/KU Transmission Line

Mr. Brackett,

I was just checking to see if you had gotten a chance to talk to Mr. Hickok about the routing letter.

Thanks,
Brandon Grillon
859-367-5763

Sanchez, Susan

From: Brackett, Jerry L [Jerry.Brackett@knox.army.mil]
Sent: Thursday, December 08, 2005 12:36 PM
To: Grillon, Benjamin
Subject: FW: Scan from a Xerox Document Centre
Attachments: Scan001.PDF

Brandon,

The letter went for the Col's signature on 7 Nov and apparently fell into a black hole, it reappeared and was signed yesterday. Hope this scanned copy will do.

Jerry

Jerry L. Brackett
Directorate of Public Works (DPW)
Building 1110, Fort Knox, KY 40121
502-624-5592, DSN 464-5592

-----Original Message-----

From: DBOS3rdFloorAwing@knox.army.mil [<mailto:DBOS3rdFloorAwing@knox.army.mil>]
Sent: Thursday, December 08, 2005 10:45 AM
To: jerry.brackett@knox.army.mil
Subject: Scan from a Xerox Document Centre

Sent by: Guest [DBOS3rdFloorAwing@knox.army.mil]
Number of Images: 1
Attachment File Type: PDF



DEPARTMENT OF THE ARMY
HEADQUARTERS, US ARMY GARRISON
FORT KNOX, KENTUCKY 40121-5000

DEC 6 8 2005

REPLY TO
ATTENTION OF:

Directorate of Public Works

Mark S. Johnson
Director, Transmission
LG&E Energy LLC
P.O. Box 32020
Louisville, Kentucky 40232

Dear Mr. Johnson:

The three electric transmission routes proposed in your letter of September 28 have been evaluated. I concur with Route #2, following the existing gas line south to the Tip Top substation and the south side of US 60 West to the installation boundary. This route has little to no adverse impact to current or future training at Fort Knox. Proposed routes are identified on attached map.

Proposed Route #1 south of US 60 would segment a major maneuver training area causing significant adverse impact to current and future training and therefore is not acceptable.

Proposed Route #3 is parallel to US 31W on the west side from Muldraugh south to the installation boundary. The height of the electric line and support towers would significantly increase the safety risk factor for rotary and fixed wing aircraft operating from Godman Army Airfield and therefore is not acceptable.

Proposed Route #2 is the recommended route, and no other routes would be agreeable to Fort Knox.

This evaluation should satisfy the Public Service Commission's requirement and allow your project to continue.

Please contact Mr. Bill W. Hickok, 502-624-8515, if you have any questions.

Sincerely,

Mark D. Needham
Colonel, US Army
Garrison Commander

Enclosure

SUBJECT: Louisville
9 Nov 05
Electric (LG&E) Utility Easement

Elzy, Tammy

From: brian.waldrep@us.army.mil
Sent: Thursday, August 18, 2005 3:22 PM
To: benjamin.grillion@lgeenergy.com; ronald.bradford@lgeenergy.com;
linearprojects@bellsouth.net
Subject: Timber Assessment for Fort Knox 345kv Transmission Line

All,

Thanks for the meeting today. I am sending you this email in lieu of a business card.
Please let me know when we can begin the timber assessment.

Thanks again,

Brian Waldrep
Forester
US Army Garrison Fort Knox
IMSE-KNX-PWE-N
Building 112, 11th Avenue
Fort Knox, KY 40121-5000
(502) 624-5070 office
(502) 624-1868 fax
brian.waldrep@us.army.mil

Elzy, Tammy

From: Pollock, Linda Gail [Linda.Pollock@knox.army.mil]
Sent: Thursday, October 20, 2005 4:07 PM
To: 'linearprojects'
Cc: McGar, James D Jr
Subject: RE: Info on Ft. Knox storm water permit

Clay,
Sorry it has taken so long to get back to you. I was waiting from Donnie McGar to return from sick leave, but he's still not back.

Fort Knox does have a overall storm water permit. The best management practices plan is a storm water pollution prevention plan. It's reviewed and approved by Donnie McGar. It covers spill prevention and cleanup as well as protecting the water. Donnie hopefully will be back to work in the next week or two to answer your questions.

Gail

-----Original Message-----

From: linearprojects [<mailto:linearprojects@bellsouth.net>]
Sent: Tuesday, September 20, 2005 2:56 PM
To: Linda.Pollock@knox.army.mil
Cc: Brandon Grillon
Subject: Info on Ft. Knox storm water permit

Good afternoon, Gail!

We're developing BMPs for clearing and construction of the proposed Ft. Knox easement. It's my understanding from the Barracks Master Plan EA you sent me that there was a Storm Water Permit issued to Fort Knox Reservation on 21 January 1998 (KY002917). This permit covers construction activities within the confines of the installation provided a Best Management Practices (BMP) Plan is developed for the site. Would a copy of that permit be available?

Specifically, I'm looking for any terms and conditions, BMPs, or other permit guidelines we would need to address.

Have you received everything you need from us at this time? The three surveys (archaeology, historic structures, and ecology) plus the draft EA?

As always, I really appreciate your help!

Best regards,

Clay

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive

Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
linearprojects@bellsouth.net

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Elzy, Tammy

From: linearprojects [linearprojects@bellsouth.net]
Sent: Tuesday, July 26, 2005 10:09 AM
To: 'Pollock, Linda Gail'
Subject: RE: Mike Brandenburg and Brian Waldrep comments for LG&E Biological Field Survey

Good morning, Gail!

Thanks for sending the biology comments along. I'll forward them to JJ&G.

We're finalizing an Historic Structures Resource Survey report to complement the archaeology survey for Section 106 review. I'm hoping to have the report available to send to you within a week.

The draft EA has gone through internal review at LG&E/KU and I'm revising it now. My target date for getting it to you is August 5, but will send it along sooner if possible.

Thanks, Gail!

Clay

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
linearprojects@bellsouth.net

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From: Pollock, Linda Gail [mailto:Linda.Pollock@knox.army.mil]
Sent: Tuesday, July 26, 2005 9:50 AM
To: 'linearprojects'
Subject: FW: Mike Brandenburg and Brian Waldrep comments for LG&E Biological Field Survey

Clay,
We had a few comments on the Biological Survey. When will we receive the draft EA?

Gail

Linda Gail Pollock
Environmental Protection Specialist/NEPA Coordinator

3/10/2006

Environmental Management Division
IMSE-KNX-PWE
Directorate of Public Works
502-624-6684 (FAX: 502-624-3000)

From: Hasty, Michael C
Sent: Thursday, July 14, 2005 9:32 AM
To: Pollock, Linda Gail
Subject: Mike Brandenburg and Brian Waldrep comments for LG&E Biological Field Survey

Gail,

Here are the comments from Mike and Brian for the LG&E Biological Field Survey.

Mike

Elzy, Tammy

From: Pollock, Linda Gail [Linda.Pollock@knox.army.mil]
Sent: Wednesday, June 29, 2005 11:11 AM
To: 'linearprojects'
Subject: RE: Correct mailing address

Here's the correct address:

Environmental Management Division
Directorate of Base Operations Support
ATTN: IMSE-KNX-OSE
6th Avenue, Bldg 1110B
Ft Knox, KY 40121-5000.

Gail

-----Original Message-----

From: linearprojects [<mailto:linearprojects@bellsouth.net>]
Sent: Wednesday, June 29, 2005 11:09 AM
To: Linda.Pollock@knox.army.mil
Subject: Correct mailing address

Good morning, Gail!

Gail, I got this address off your sig on an earlier email. Is this a good mailing address to send reports? Is there a ZIP code?

Linda Gail Pollock
Acting Chief, Environmental Management Division, DBOS
ATTN: ATZK-OSE
Ft Knox, KY

Thanks, Gail!

Have a great day!

Clay

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
linearprojects@bellsouth.net

3/10/2006

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Elzy, Tammy

From: Pollock, Linda Gail [Linda.Pollock@knox.army.mil]
Sent: Tuesday, April 19, 2005 11:33 AM
o: 'linearprojects'
Cc: Helmkamp, Richard C; Brandenburg, Mike G
Subject: RE: Resource Contacts for Kentucky Utilities Power Line EA

Clay,
The points of contact would be Mike Brandenburg (Wildlife Biologist), 502-624-7368, or Dr. Criss Helmkamp, 502-624-6518.

Criss & Mike - This is the L,G&E transmission line project from the Mill Creek Plant.

Gail

From: linearprojects [mailto:linearprojects@bellsouth.net]
Sent: Tuesday, April 19, 2005 11:19 AM
To: Linda.Pollock@knox.army.mil
Subject: Resource Contacts for Kentucky Utilities Power Line EA

Good morning, Gail!

Our biologists, archaeologists, and historic structures people would like to speak with their counterparts on your environmental management team. The object of their conversations would be to ensure that the surveys and reports they prepare are as complete as possible with respect to your team's requirements.

Would you please let me know with whom they should speak and a contact phone number?

I appreciate your help. Have a great day!

Clay

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
linearprojects@bellsouth.net

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Elzy, Tammy

From: Pollock, Linda Gail [Linda.Pollock@knox.army.mil]
Sent: Tuesday, June 21, 2005 3:37 PM
To: 'linearprojects'
Subject: RE: Schedule, Report Submittals, and CFR Citation for LG&E/KU easement

Clay, That's fine. 5 copies should be sufficient.

Gail

From: linearprojects [mailto:linearprojects@bellsouth.net]
Sent: Tuesday, June 21, 2005 2:54 PM
To: 'Pollock, Linda Gail'
Subject: RE: Schedule, Report Submittals, and CFR Citation for LG&E/KU easement

Good afternoon, Gail!

Gail, our biologists normally do one report covering both wetlands and T&E issues. Considering that, will the five copies you're asking for still be good, or will your team need more?

Thanks!

Clay

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
linearprojects@bellsouth.net

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From: Pollock, Linda Gail [mailto:Linda.Pollock@knox.army.mil]
Sent: Monday, June 20, 2005 11:20 AM
To: 'linearprojects'
Cc: Brandenburg, Mike G; Waldrep, Joseph B; Meyer, Michael K; Kenneth. D. Puckett (Kenneth.D.Puckett@LRL02.USACE.ARMY.MIL); Hickok, Bill; Hill, Peter

3/10/2006

Subject: RE: Schedule, Report Submittals, and CFR Citation for LG&E/KU easement

Clay,

We need 5 copies of the Wetlands, T&E surveys, and the Cultural Resource Survey. For the 1st draft of the EA, I need 5 copies. After we've reviewed it and made our changes, then I would need 30 copies of the EA and Draft FNSI to send to the State for their review and comments. At the same time I send the EA/FNSI to the state, you would need to advertise the draft the EA/Draft FNSI in the local papers.

Bill Hickok, Ft Knox Real Property Specialist, will review the EA/FNSI and determine the requirements for the right-of-way citation.

Since trees are considered real property, the Forestry Section (Mike Meyer & Brian Waldrep, 502-624-8147) must coordinate with the Corps of Engineers Forester (Dan Puckett) for a timber sale. Because of the Indiana Bats, timber can only be removed between 15 Oct - 31 Mar.

Gail

Linda Gail Pollock

Acting Chief, Environmental

Management Division

IMSE-KNX-OSE

Directorate of Base Operations Support

502-624-3629 (FAX: 502-624-3000)

-----Original Message-----

From: linearprojects [<mailto:linearprojects@bellsouth.net>]

Sent: Friday, June 10, 2005 9:13 AM

To: Linda.Pollock@knox.army.mil

Subject: FW: Schedule, Report Submittals, and CFR Citation for LG&E/KU easement

Resending as requested

Have a great day, Gail!

Clay

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
linearprojects@bellsouth.net

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3/10/2006

to other parties.

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-----Original Message-----

From: linearprojects [mailto:linearprojects@bellsouth.net]
Sent: Tuesday, June 07, 2005 11:20 AM
To: Linda.Pollock@knox.army.mil
Subject: Schedule, Report Submittals, and CFR Citation for LG&E/KU easement

Good morning, Gail!

Following is the preliminary schedule we are hoping to follow for obtaining an easement across Ft. Knox property. I believe I've taken into consideration your comments on certain durations in your 3/23/05 email. I wanted to run this by you to see whether you notice any obvious problems.

Schedule.

Submit Environmental Surveys for Ft. Knox easement June 16, 2005

Submit Draft EA for Ft. Knox easement
July 1, 2005

Ft Knox Requests Revisions
August 1, 2005

Submit Revised Draft EA for Ft. Knox easement September 15, 2005

EA Approved by Ft Knox NEPA team
September 30, 2005

FNSI Issued
November 15, 2005

Begin Right-of-Way Clearing
Jan 2, 2006

Reports. You said previously that LG&E should provide Ft Knox with 30 copies of the approved EA and draft FNSI. How many copies of the T&E survey, wetlands delineation, and cultural resources survey reports do you need for your review? Can I send those reports to you as they become available? How many copies of the draft EA would your team need?

Draft EA citations. I've started the Draft EA and wanted to make sure I'm citing the correct code. My understanding is that DOA will issue the right-of-way in accordance with its authority under 32 CFR Part 643. Is this correct?

Thanks for your help, Gail!

Best regards,

Clay Doherty

3/10/2006

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
linearprojects@bellsouth.net

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Elzy, Tammy

From: claytondoherty@bellsouth.net
Sent: Wednesday, March 23, 2005 4:27 PM
To: 'Pollock, Linda Gail'
Subject: RE: Thanks for your assistance

Hello, Gail! Thanks very much for the clarifications - very helpful indeed!

Thanks also for the sample EA.

Best regards,

Clay

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
claytondoherty@bellsouth.net

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-----Original Message-----

From: Pollock, Linda Gail [mailto:Linda.Pollock@knox.army.mil]
Sent: Wednesday, March 23, 2005 4:21 PM
To: 'claytondoherty@bellsouth.net'
Subject: RE: Thanks for your assistance
Importance: High

Clay,

I've reviewed the Telephone Contact Report. There are a few changes that need to be incorporated. Question 1: The EA is required because you are crossing Army land, but the proponent (L,G&E) would prepare the EA. The Fort Knox NEPA Team would review the EA as a draft and provide our comments to you for incorporation into the final document. The studies would be used to develop the EA and referenced in the appropriate section. Question 2: The draft Finding of No Significant Impact would be prepared by L,G&E and sent to Ft Knox for review/approval. After Fort Knox approves the EA and the FNSI, L,G&E would publish the draft FNSI in local newspapers. Comments on the EA and FNSI should be directed to Fort Knox. Question 3: L,G&E would provide Ft Knox with 30 copies of the approved EA and draft FNSI. Fort Knox would send those copies to the US Fish & Wildlife Service, state agencies, and other federal agencies for their comments. Those comments would be reviewed and provided to L,G&E. Question 5: Fort Knox would need copies of all permits when they are issued.

Tree removal cannot begin until October 15 and must be completed by 31 Mar because of the federally endangered Indiana Bats.

3/10/2006

The EA/FNSI must be completed before any construction work/tree cutting begins. With the 30 day public comment period/ reviews from the state/federal agencies plus staffing time to get all the signatures from the Ft Knox staff (15-20 days), it will take at least 45-50 days to finish the NEPA process after we get the final document. Other preliminary work (permits, studies) can be started as soon as you want.

I have attached a sample EA for a project we completed last year. Our signatures change from time to time.

Gail

Linda Gail Pollock
Acting Chief, Environmental Management Division, DBOS
ATTN: ATZK-OSE
Ft Knox, KY
Commercial: 502-624-3629, DSN: 464-3629; Fax: 502-624-3000

-----Original Message-----

From: claytondoherty@bellsouth.net [mailto:claytondoherty@bellsouth.net]
Sent: Tuesday, March 22, 2005 3:27 PM
To: Linda.Pollock@knox.army.mil
Subject: Thanks for your assistance

Hello, Gail. Thank you for speaking with me this afternoon. The discussion was very helpful to me. I am attaching a contact report which I believe fairly represents our conversation.

Have a great afternoon!

Clay

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
claytondoherty@bellsouth.net

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**ENVIRONMENTAL ASSESSMENT
BARRACKS COMPLEX
MASTER CONSTRUCTION/OPERATING PLAN**

**U. S. ARMY GARRISON
FORT KNOX, KENTUCKY
June 8, 2004**

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**Information added to the Environmental Assessment and Finding of No Significant Impact during the review process is indicated in italics.*

FINDING OF NO SIGNIFICANT IMPACT

ENVIRONMENTAL ASSESSMENT -BARRACKS COMPLEX MASTER CONSTRUCTION/OPERATION PLAN (Trainee Dining Facility, Project Number (PN): 58658; Basic Combat Training (BCT)/Initial Entry Training (IET) Barracks Complex 1 and 2, PN: 51975, 51976 and 58969; Chapel, PN: 57265; Reception Battalion Complex/Center, PN: 24691; One Station Unit Training (OSUT) Barracks Complex 3, 4, and 5, PN: 53747, 53748 and 53749)

Project Description: Fort Knox proposes to revitalize military barracks and dining facilities by demolishing World War II wooden buildings and 1950's era 2-story concrete buildings and constructing and operating modern facilities to support an increased number of Soldiers entering Basic Combat, Initial Entry or One Station Initial Entry Training.

Alternatives Considered: Alternatives Considered for this action are as follows:

- Alternative 1: No Action. The existing barracks would be maintained with maintenance and repairs as needed. No improvements would be made to the existing facilities.
- **Alternative 2: (Preferred) Demolish Permanent Buildings (6500 block) and Temporary Buildings (6800 and 7200 Block) south of Pickett Road, north of 9th Cavalry Regiment Road and east of Wilson Road; Construct and Operate Seven Barracks Complexes, Dining Facilities and a Chapel**
- Alternative 3: Renovate Current 1950's Era Facilities and remaining World War II wooden barracks.

For this EA, Alternative 1 and 2 were considered. Alternative 3 was dropped from further consideration because the World War II wooden barracks have deteriorated past the point of repair and have been scheduled for demolition in the near future. The renovation of the existing 1950's era barracks facilities is not economically feasible. Renovation costs would exceed the current value of the facilities and would not provide the space requirements to meet the additional student loads.

Facts and Conclusions: Alternative 2 is the only alternative that would allow Fort Knox to provide adequate housing for Soldiers. The EA indicates that no significant adverse environmental impacts would result from the proposed action. The determination is based on the following:

- Construction of the Barracks Complexes would provide adequate facilities to support the increased training loads.
- Land use would remain the same.
- No significant impacts would occur to air quality, biological resources, cultural resources, wetlands or water quality.
- Dust suppressant products or water would be used to control dust at the construction/demolition sites.

**FINDING OF NO SIGNIFICANT IMPACT
ENVIRONMENTAL ASSESSMENT BARRACKS COMPLEX MASTER
CONSTRUCTION/OPERATING PLAN**

- Prior to commencing construction, the contractor would obtain an Air Quality Construction/Operating Permit would be obtained from the Kentucky Division of Air Quality and the Environmental Protection Agency for boilers (gas, oil or propane fired), cooling towers, hot water heaters/boilers and systems that use refrigerants such as refrigerators, air conditioning units, etc. Ground-work cannot begin until the permit is received. The contractor must coordinate the permit request with the Air Program Manager in Environmental Management Division prior to submission.
- The use of geo-thermal energy systems is being considered for the project.
- The contractor would obtain approval from the Kentucky Division of Water before construction begins on any new sewer or water mains.
- In compliance with previous Section 7 consultations with the US Fish and Wildlife Service (USFWS), trees 6-inches in diameter at breast height would only be cut during the period October 15- 31 March. Any changes to USFWS requirements, would be included in future construction contracts.
- Underground heating fuel storage tanks would be removed and the site cleaned in accordance with Kentucky state regulations.
- The contractor/designer would submit a Storm Water Pollution Prevention (SWPPP) Best Management Practices to the Water Quality Program Manager, Environmental Management Division (EMD) prior to construction. EMD would review and approve the SWPPP.
- Asbestos containing materials would be removed prior to demolition.
- Buildings 6536, 6537, 6539-6558, 6583 and 6584 would be reevaluated and the State Historic Preservation Officer would be contacted prior to renovation or removal.
- There would be no adverse impacts regarding Environmental Justice or Child Health and Safety.
- As funds are appropriated for the remaining complexes (2006-2010), this EA will be reviewed to ensure compliance with NEPA and other State and Federal laws and regulations.

This Environmental Assessment has been prepared in accordance with 32 CFR Part 651 Environmental Analysis of Army Actions; Final Rule as published in the Federal Register on March 29, 2002, which implements the National Environmental Policy Act of 1969 (NEPA). This action does not constitute a major federal action significantly affecting the quality of the human environment. Therefore, the action does not require the preparation of a detailed statement under Section 102 (2)(c) of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.).

Public Availability: The Environmental Assessment and this Finding of No Significant Impact (FNSI) are available for review at the Barr Library (Fort Knox) located on Quartermaster Street at Fort Knox. The EA and draft FNSI were provided to the

**FINDING OF NO SIGNIFICANT IMPACT
ENVIRONMENTAL ASSESSMENT BARRACKS COMPLEX MASTER
CONSTRUCTION/OPERATING PLAN**

Kentucky Environmental Protection Cabinet and the US Fish and Wildlife Service for review and comment. The draft FNSI was also published in the News Enterprise on April 20, 2004 and Hardin County Independent on April 22, 2004. No comments were received.

KEITH A. ARMSTRONG
Colonel, Armor
Garrison Commander

Date: _____

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**PROPONENT & STAFFING REVIEW/APPROVALS FOR THE BARRACKS
COMPLEX MASTER PLAN ENVIRONMENTAL ASSESSMENT**

PROPONENT:

_____ Date _____
DAVID BLANDFORD
Project Manager, Master Planning
Directorate of Base Operations Support

**INSTALLATION NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)
COORDINATOR:**

_____ Date _____
LINDA G. POLLOCK
Environmental Protection Specialist/NEPA Coordinator
Environmental Management Division
Directorate of Base Operations Support

CONCURRENCE BY OFFICE OF STAFF JUDGE ADVOCATE:

_____ Date _____
VINCENT C. NEALEY
Chief, Administrative Law Division
Office of Staff Judge Advocate

CONCURRENCE BY INSTALLATION ENVIRONMENTAL COORDINATOR:

_____ Date _____
ALBERT W. FREELAND
Chief, Environmental Management Division
Directorate of Base Operations Support

**DIRECTOR OF BASE OPERATIONS SUPPORT CONCURRENCE FOR THE
BARRACKS COMPLEX MASTER PLAN ENVIRONMENTAL ASSESSMENT:**

Date _____

JOSEPH V. MUSCARELLA
Colonel, Engineer
Director of Base Operations Support

1.0 Introduction

This Environmental Assessment describes the conceptual site plan and the environmental impacts associated with the demolition of existing buildings and the construction of the seven barracks complexes, dining facilities and a chapel.

1.1 Purpose and Need for the Proposed Action

1.2 Purpose

The purpose of this project is to develop a master site plan for the construction/operation of seven (7) standard design barracks complexes, dining facilities and a chapel with a family life center. A conceptual site plan for the area is provided as Figure 1.1. The first phase of the project would be the construction of a dining facility in August 2004. The next phase would be the construction of Basic Combat/Initial Entry Training (BCT/IET) Barracks Complex 1 which is scheduled for 2005-2006. The remaining five complexes would be constructed as Congress appropriates funds. Funding for the Chapel construction has been requested for 2007. Each complex would require construction of five buildings to support a five-company battalion, and separate buildings for a dining facility and battalion headquarters. An exercise track would be in the center of each barrack complex. The chapel would be centrally located to support the complexes. The conceptual site plan is provided at Figure 1.1.

1.3 Need for the Action

This project is necessary to provide adequate housing, dining and training space and religious services for Soldiers entering the Army for Basic Combat/Initial Entry and One Station Unit Training at Fort Knox. Fort Knox currently houses 10 companies of basic trainee Soldiers in 1950s era hammerhead barracks. These concrete structures are the oldest basic trainee barracks facilities in the Army. The number of showers, toilets, urinals, sinks, washers and dryers available to the Soldiers are grossly inadequate for the amount of time available for their use. Training companies are increasing in size from 200 to 240 Soldiers per company with no increase in facility space. This will greatly increase the burden on existing facilities. The current buildings do not adequately provide the space, plumbing fixtures or laundry facilities to handle the increased occupants and the dining facility requirements.

The remaining World War II wooden barracks (Buildings 6803, 6804, 6807, 6810-6827, 6829, 6830, 6839, 6840, 6843-6845, 6848-6850, 6852, 6853, 6857, 6859, 6860, 6862, 6864, 6868, 6869, 6871, 6872, 6875, 6876, 6878-6881, 6883-6887, 6891-6893) located between Spearhead Division Avenue and Eisenhower Avenue are past the point of repair and are scheduled for demolition in 2004, 2005 and 2006. These facilities are past the point of repair and are no longer inhabitable.

Construction of a new chapel and family life center is critical. The installation's current inventory of worship and religious support space is approximately 55,000 square feet short of authorized space to support the Fort Knox Chaplain Program. Cavalry Chapel, Building 6587, is located on Eisenhower Avenue within the footprint of the proposed project. Cavalry Chapel was built in 1959 and seats 350 personnel per service. Cavalry Chapel is in poor physical condition and neither has adequate space for quality religious programs, moral leadership training or family life training. Four Protestant and two Catholic services are held each Sunday with standing room only crowds for each service. As many as 600 Soldiers have been turned away from Sunday services due to fire code restrictions for maximum occupancy.

1.4 Location

The site plan for construction of the proposed seven (7) barrack complexes establishes the boundaries of the project as east of Wilson Road, west of North Delaware Street, south of Picket Road and north of 9th Cavalry Regiment Road (Figure 1.2).

1.5 Description of Proposed Action

Fort Knox proposes construction/*operation of* barracks complexes for seven (7) battalions, dining facilities and a chapel. The conceptual site plan is shown in Figure 1.1. The remaining facilities would be incrementally funded and constructed over a period of years. The first phase of construction would begin in August 2004 with the construction of the Dining Facility (PN: 58658). In 2005-2006, Basic Combat/Initial Entry Training Complex 1 (PN: 51975 and 51976) would be constructed. The remaining complexes would be constructed between 2006-2010 as Congress appropriates funds for these projects.

Each barracks complex would be constructed using the Army's standard-design trainee barracks for a five (5) company training battalion. Construction would include five (5) buildings with open bay billeting (sleeping) areas, a battalion headquarters and classrooms, a dining facility, a central energy plant, covered outdoor training facilities, energy monitoring control system (EMCS), information systems, utility systems (water, sewer, electric and gas), paved walks, curbs, storm drainage, site improvements, access roads, and anti-terrorism force protection systems. Anti-terrorism and force protection measures include standoff distances, laminated glass and vehicle barriers. Access for the handicapped would be provided.

Phase 1 construction includes the demolition of 120 building consisting of 371,130 square feet. Some of these building are outside the footprint for this project. Prior to demolition, asbestos would be removed and lead-paint would be abated as required by state and federal regulations.

Each battalion barracks complex would have a central dining facility. The facility would be constructed using the Army's standard design to support feeding a battalion of soldiers. Currently each hammerhead building supports a single dining facility. Centrally locating a single dining facility within the complex would enable Fort Knox to reduce the number of single facilities.

The chapel would be centrally located to support the complex. The chapel would be a standard design chapel center with worship seating capacity for 600 persons, religious education spaces, multiple use activity spaces, and office spaces. Supporting facilities include utilities, fire protection and alarm systems, paving, walks, curbs, storm drainage, information systems, and site improvements. Anti-terrorism and force protection measures would be incorporated into the facility design. Heating would be provided by natural gas and air conditions would require approximately a 40-ton unit. Access for the handicapped would be provided.

1.6 List of Federal Permits, Licenses, and Entitlements

This Environmental Assessment has been prepared to satisfy National Environmental Policy Act (NEPA) requirements (Public Law (PL) 91-190, 42 United States Code 4321 et seq.) as amended in 1975 by PL 94-52 and PL 94-83. The NEPA process is intended to help public official make decisions based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment. In addition, this document was prepared in accordance with 32 Code of Federal Regulation Part 651, Environmental Analysis of Army Actions; Final Rule (March 29, 2002) and regulations established by the Council of Environmental Quality (CEQ)(40 CFR 1500-1508).

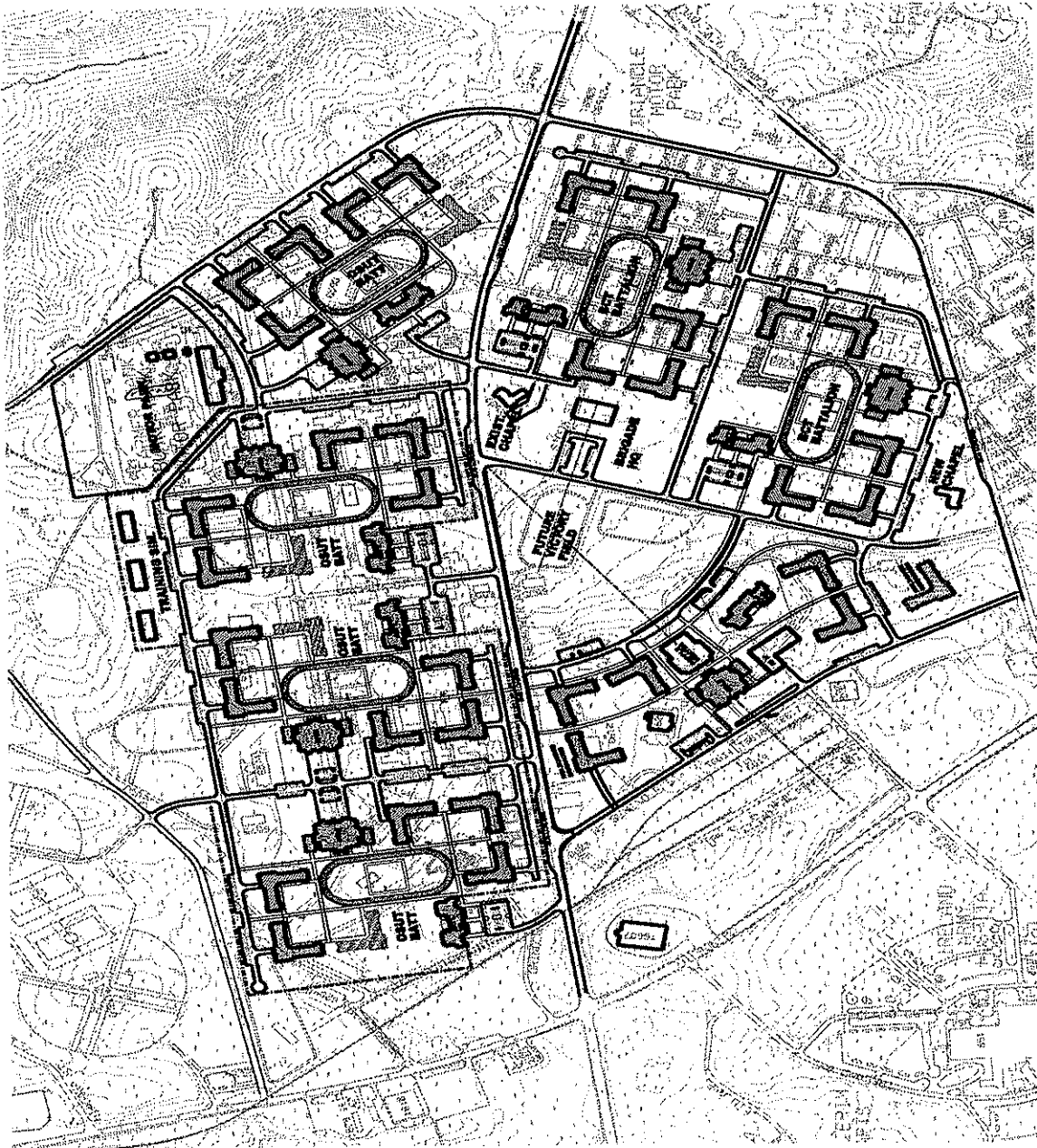


Figure 1.1

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Barracks
Master Plan



Legend
Demolished Buildings
RAILROAD_line
Drainage

BARRACKS MASTER PLAN

Figure 1.2.

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2.0 Alternatives Considered

This section describes the alternatives for the proposed action.

2.1 Alternatives Considered

2.1.1 Alternative 1: No Action

Under this alternative, no new barracks would be constructed at Fort Knox. The current units would continue to be maintained and operated without renovations or remodeling.

2.1.2 Alternative 2: (Preferred) Demolish Permanent Buildings (6500 block) and Temporary Buildings (6800 and 7200 Block) south of Pickett Road, north of 9th Cavalry Regiment Road and east of Wilson Road; Construct and Operate Seven Barracks Complexes, Dining Facilities and a Chapel

Under this alternative, seven barrack complexes, dining facilities, and a chapel would be constructed incrementally, as funding becomes available. The hammerhead barracks in the 6500 block would be maintained until the first barracks complex is completed. Construction would begin in August 2004 with a dining facility. The second phase would occur in 2005 with the construction of the BCT Barracks Complex 1. Construction of the remaining barracks complexes and the chapel would continue as Congress appropriates funding. The World War II buildings located within the proposed site are currently scheduled for demolition in 2004, 2005 and 2006. Those structures would continue to be removed.

2.1.3 Alternative 3: Renovate Existing Facilities.

Under this alternative, the existing facilities would be renovated to support the additional training requirements. Renovations would be extensive.

2.2 Alternatives Eliminated from Further Consideration

Alternative 3 was dropped from further consideration because the renovation costs would exceed the present value of the barracks units.

3.0 Affected Environment

This section identifies existing conditions at the site where the proposed demolition and construction would occur.

3.1 Land Use

An aerial photograph of the barracks complex master site plan is provided at Figure 1.2. Hammerhead barracks are located north of Eisenhower Avenue and are currently used to house Soldiers in Basic Training, Initial Entry Training or Advanced Individual Training. The area south of Eisenhower Avenue contains World War II wooden buildings, which are currently scheduled for demolition in 2004, 2005 and 2006. As shown on Figure 1.2, many building have been demolished in the past 10 years. Farmer Motor Pool and Triangle Motor Park would continue to be operated as motor pools and vehicle maintenance facilities. There are currently no plans to change the use of these motor pools. If future missions require upgrading or changing the use of the motor pools, a separate Environmental Assessment would be developed for the project.

3.2 Air Quality

Fort Knox is located in the Kentucky North Central Quality Control Region for air quality and in the Kentucky portion of the southeast air quality transport zone. Fort Knox is currently in compliance with all regulatory regional air quality standards. The Fort Knox Clean Air Act Title V permit indicates all known point sources. The permit requires an annual inventory update on each of these sources. This information is provided to the Kentucky Division of Air Quality. No problems are anticipated in continuing to obtain air quality permits.

3.3 Soils

Soils at the proposed construction site have been disturbed by construction and demolition activities. Prior to these activities, soils in this area of Fort Knox were classified in three soil types. The soils located generally on the western and southern sections of the project site are classified as Crider silt loam (CrC) with 6-12 percent slopes. These soils are deep and well drained with moderate permeability and high water capacity. Due to the slope and tendency to erode, construction in these areas should be on the contour with minimum removal of vegetation and quick reestablishment in denuded areas.

Soils classified as Vertrees Silt Loam (VrE) found on the areas with 20-30 percent slopes and are located generally on the southwestern corner of the proposed project site. These soils are deep, steep and well drained with slow permeability and high available water capacity. Vertrees Silt Loam soils are subject to erosion if plant cover is removed and must be revegetated quickly when plant cover is removed.

In the remainder of the proposed site, the soils are classified as Nicholson Silt Loam (NcB). Nicholson Silt Loam soils tend to be gently sloping and moderately well drained with moderate permeability and water capacity. This soil erodes easily where exposed. Therefore, disturbed sites must be quickly revegetated.

3.4 Water Quality

The general areas of the proposed demolition and construction site are drained by sinkholes and drainage ditches. The largest drainage area is shown on the map at Figure 1.2. The system drains into Mill Creek south of the Cantonment Area. Water entering this drainage is generally from parking areas.

3.5 Biological Resources

3.5.1 Vegetation

The proposed site is located within an urban area with fescue and bluegrass covered lawns interspersed with a variety of hardwood trees.

3.5.2 Fish and Wildlife

Fort Knox has approximately 59,000 acres available for fish and wildlife activities. The proposed construction and demolition sites are located outside any hunting areas. Principle species that may be found at the sites include mammals such as the white-tailed deer, raccoon, gray and fox squirrels, eastern chipmunks, opossum, woodchucks, and striped skunks. Small reptiles such as the box turtle, rat snake and common garter snake may inhabit the area of the proposed construction site. Numerous neotropical migratory birds inhabit Fort Knox during the spring and summer months.

3.5.3 Threatened and Endangered Species

Fort Knox and the immediate surroundings provide habitat suitable for certain endangered species, species that are candidates for federal threatened and endangered (T&E) listing, state threatened and state species of special concern (Bartholomew, 1995). Table 3.5.3.1 below contains a list of species that are a consideration from a federal and/or state viewpoint.

Fort Knox has two federally listed endangered species, Indiana Bat (*Myotis sodalis*) and the Gray Bat (*Myotis grisescens*) and one federally listed threatened species, Bald Eagle (*Haliaeetus leucocephalus*)(migratory - winter range) that have been observed on the installation. The existence of these species requires caution in the use of pesticides or herbicides. The Installation Environmental Coordinator must approve the use of herbicides and pesticides. The Fort Knox Military Installation lies within the core area boundary for protection of habitation for the federally endangered Indiana Bat.

Table 3.5.3.1 Threatened and Endangered Species

Scientific Name	Common Name	Federal Status	State Status
	Birds		
<i>Accipiter striatus</i> *	Sharp-shinned hawk		Special Concern
<i>Ammadramus henslowii</i> *	Henslow's sparrow	Species of Concern	Special Concern
<i>Dendroica cerulea</i>	Cerulean warbler	Species of Concern	None
<i>Haliaeetus leucocephalus</i>	Southern bald eagle (migratory)	Threatened	Endangered
	Mammals		
<i>Myotis grisescens</i> *	Gray bat	Endangered	Endangered
<i>Myotis sodalis</i> *	Indiana bat	Endangered	Endangered
<i>Sorex hovi winnemana</i>	Pygmy shrew	Species of Concern	None
	Amphibians		
<i>Hyla versicolor</i>	Northern gray tree frog	None	Special Concern
	Fishes		
<i>Amblyopsis spelaea</i>	Northern cavefish	Species of Concern	Special Concern
	Crustaceans		
<i>Orconeces inermis</i>	Cave crayfish	None	Special Concern
	Plants		
<i>Heteranthera limosa</i>	Blue mud-plantain	None	Special Concern
<i>Juglans cinerea</i>	White walnut	Species of Concern	Special Concern
<i>Scleria ciliata</i> **	Nut rush	None	Endangered
<i>Sedum telephiodes</i>	Allegheny stonecrop	None	Threatened
<i>Silphium laciniatum</i>	Compass plant	None	Endangered
<i>Spiranthes magnicamporum</i> *	Great Plains Ladies' tresses	None	Threatened
<i>Sporobolus heterolepis</i> *	Northern Dropseed	None	Endangered
<i>Viola egglestonii</i> *	Glade violet (Eggleston's Violet)	None	Special Concern

* Reported in Bullitt County (Kentucky State Nature Preserve)

** Unconfirmed identification

3.6 Noise

General ambient noise levels at Fort Knox include the following sources: rotary and fixed wing aircraft, weapons firing, and operation of civilian and military vehicles. Noise at the proposed construction site consists of automobiles, trucks, lawn mowers and other maintenance equipment.

3.7 Cultural Resources

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, requires federal agencies to take into account the effect of undertakings on historic properties (archaeological sites and historic buildings, sites and districts) eligible for or listed on the National Register of Historic Places (NRHP). This consideration must be made in consultation with the Kentucky State Historic Preservation Office (SHPO).

A Phase I archaeological survey found that the project area did not find any archaeological resources within the project area. The natural landscape of the project area has been extensively disturbed by construction of the existing aboveground facilities and installation of underground utilities.

The project area contains a total of 155 buildings. Eighty-one of these buildings are World War II temporary structures that are covered under the Programmatic Memorandum of Agreement (MOA) among the Department of Defense (DOD), the Advisory Council on Historic Preservation (ACHP) and the National Conference of State Historic Preservation Officers (NCSHPO). Forty buildings within the project area are permanent structures that are 50 or more years old. These buildings are not eligible for or listed on the National Register of Historic Places. The remaining 34 buildings are less than 50 years old and are not associated in exceptional ways with persons or events of the Cold War Era, and they do not exhibit exceptional stylistic or technical merits that exemplify that era.

3.8 Socioeconomic Resources

Fort Knox's region of socioeconomic influence includes every county within 50 miles commuting radius of the installation. This area receives direct economic effect of Fort Knox employment and expenditures as well as secondary economic impacts. The 2000 U.S. Census Bureau population for the counties bordering the installation are as follows: Meade County: 26,349; Hardin County: 94,174; and Bullitt County: 61,236. The 2000 combined population for these counties are 181,759. The 1998 estimated median household income for each county is as follows: Meade County: \$36,460, Hardin County: \$37,054 and Bullitt County: \$42,421. (Data obtained from the U.S. Census Bureau website)

3.9 Hazardous Waste/Materials

All World War II structures that are scheduled for demolition have been evaluated for hazardous materials. Environmental clearance documents have been prepared for those buildings and are on file in Environmental Management Division, Directorate of Base Operations Support (Building 1110, Room 232)

The remaining permanent concrete structures (Buildings 6536-6537, 6539-6558, 6583 and 6584) may have asbestos-containing flooring and mastics located in the bathrooms, sleeping areas and kitchens. Mercury switches may also be found

throughout these structures. Prior to demolition, these building would be surveyed and environmental clearance documents would be prepared.

All known polychlorinated biphenyl-containing (PCB) transformers, ballasts, or other electrical equipment would be removed and turned in to Environmental Management Division, Directorate of Base Operations Support, as well as all electrical equipment of unknown content.

Underground Storage Tanks (UST) may be located near buildings within the proposed footprint. USTs near building were used to store heating fuel.

3.10 Environmental Justice and Child Health & Safety

Executive Order 12898 requires review of the project to identify proportionately high and adverse human health or environmental effects on minority populations and low-income populations. The U.S. Census Bureau, Census 2000 Summary Files indicates the following minority populations within the region of influence:

Meade County: Black or African American: 1,088 (4.1%); American Indian and Alaskan Native: 156 (0.6%); Asian: 139 (0.5%); Native Hawaiian & Other Pacific Islander: 33 (0.1%); Hispanic or Latino (of any race): 567 (2.2%).

Hardin County: Black or African American: 11,178 (11.9%); American Indian and Alaskan Native: 392 (0.4%); Asian: 1,693 (1.8%); Native Hawaiian & Other Pacific Islander: 209 (0.2%); Hispanic or Latino (of any race): 3,159 (3.4%).

Bullitt County: Black or African American: 233 (0.4%); American Indian and Alaskan Native: 206 (0.3%); Asian: 167 (0.3%); Native Hawaiian & Other Pacific Islander: 8 (0.0%); Hispanic or Latino (of any race): 383 (0.6%). (Data from U.S. Census Bureau, State & County Quick Facts.)

3.11 Utilities

Water, electricity and sewer systems are located at the proposed demolition and construction sites. Nolin Rural Electric Co-Op Corporation provides electrical service.

The wastewater collection system is located throughout the site. The system is connected to the Fort Knox sanitary sewer system at the proposed demolition and construction sites. The Fort Knox Water Treatment Facility is adequate to support the proposed facilities. The Fort Knox Water Treatment Plant provides potable water. Fort Knox is currently undergoing privatization of its Waste Water and Water Treatment facilities. Services would continue to the proposed site.

The current legal names for the potable water and wastewater facilities are as follows: Potable Water Servers: Fort Knox Central Water Plant and the Muldraugh Water Plant; Wastewater server: Fort Knox Wastewater

Treatment Plant. The Fort Knox Water Plants produce 3 million gallons of water on a daily basis. The plants have the capacity to treat and produce 11 million gallons per day. The Wastewater Treatment Plant (WWTP) currently treats 2.5 million gallons of water per day. The WWTP has the capacity to treat 6 million gallons per day. These are currently federally owned and operated facilities. However, the systems are programmed for privatization by 2005.

4.0 Environmental Consequences

This section describes the direct and in-direct short-term and long-term impacts associated with implementing the proposed action and the mitigation measures to avoid or minimize environmental impacts.

4.1 Land Use

4.1.1 Alternative 1: No Action

Under the No Action Alternative, no impacts related to land use would occur. Existing barracks would continue to be operated in their current configuration and World War II wooden buildings would continue to be demolished.

4.1.2 Alternative 2: Preferred

Under this alternative, construction of the Barracks Complexes would begin in areas that were previously occupied by World War II wooden barracks and continue into areas currently occupied by the hammerhead barracks (6500 block). Although the former wooden barracks sites are currently grass-covered, constructing barracks in these areas would have no impact on the installation's land use since the area was originally used for trainee barracks.

4.2 Air Quality

4.2.1 Demolition and Construction

4.2.1.1 Alternative 1: No Action

Under the No Action Alternative, no impacts related to air quality would occur.

4.2.1.2 Alternative 2: Preferred

Direct short-term impacts to the ambient air quality could occur due to the demolition of buildings and the clearing of land during the demolition and construction phases of the project. Air contaminants include fugitive dust particles from demolition and soil transfer operations. Engine Exhaust emissions from construction vehicles may contribute to increased levels of nitrogen oxides, sulfur dioxide, carbon monoxide, particulate matter less than or equal to 10 microns in diameter, and volatile organic hydrocarbons. The impact of fugitive

dust is expected to be localized and short-term. No long-term impacts are anticipated as a result of this project.

Mitigation

- Addition of furnace and air conditioning systems requires a construction and operating permit from the Kentucky Division of Air Quality (KDAQ) *and the Environmental Protection Agency (EPA) for boilers (gas, oil or propane fired), cooling towers, hot water heaters/boilers and systems that use refrigerants such as refrigerators, air conditioning units, etc.* Prior to beginning each phase of the construction project, the contractor must submit an application for the Air Quality Construction/Operating Permit. The DEP 7007 form must be submitted to the Directorate of Base Operations Support (DBOS) Air Quality Program Manager for review and concurrence prior to submission to the KDAQ. *Ground-work cannot begin until the permit is issued by the KDAQ and/or EPA.*
- During demolition and construction, the contractor would spray the demolition debris and the roadways with water or a dust suppressant product to control fugitive dust.
- Fort Knox is considering the use of geothermal energy systems with a gas fired or other fuel backup system for heating and air conditioning. This would have a positive impact on air quality and energy usage.

4.2.2 Operation

Energy efficient heating and cooling systems, windows, and appliances would be installed in the new housing units.

4.3 Soils

4.3.1 Alternative 1: No Action

Under the No Action Alternative, no impacts related to soils would occur. The current facilities would continue to operate, as they currently exist.

4.3.2 Alternative 2: Preferred

Under this alternative, there would be minimal impacts to soils. The soils in this area have been disturbed by previous construction and demolition activities.

Best Management Practices would be implemented to reduce erosion and soil loss from the project construction site.

4.4 Water Quality

4.4.1 Alternative 1: No Action

Under the No Action Alternative, no impacts related to water quality would occur. The current facilities would continue to operate, as they currently exist.

4.4.2 Alternative 2: Preferred

During construction, soil removal activities would be kept to a minimum. Soil erosion and sediment controls/best management practices would be used to minimize sediment transport into drainage ways and sinkholes to avoid sediment loading of nearby surface and ground water. No long-term adverse impacts to surface or ground water is anticipated. The new housing units would be connected to the Fort Knox Sanitary Sewer System and Water system.

Mitigation:

- *The contractor/designer would submit a Storm Water Pollution Prevention (SWPPP) Best Management Practices to the Water Quality Program Manager, Environmental Management Division (EMD) prior to construction. EMD would review and approve the SWPPP.*
- Best Management Practices at the construction site would include the use of silt fences installed according to manufacturing guidelines on slopes, along drainage ways, streams and around sinkholes during construction.
- A vegetated buffer of at least 25 feet would be maintained along the drainage area that runs through the site from Eisenhower Avenue to 9th Cavalry Regiment Road.
- Vegetation would be planted as soon as possible after the land is cleared for construction.
- Mulch would be applied to the site to reduce soil loss and sediment transport during rain events.
- Portable toilets would be used at the construction site and the collected sewage would be transported off-site for appropriate disposal in accordance with state and federal regulations.
- Erosion control barriers would be placed around storm sewer inlet pipes.

4.4.3 Permit Requirements

- The Storm Water Permit issued to the installation on 21 January 1998 (KY002917) covers construction activities within the confines of the installation provided a Best Management Practices (BMP) Plan is developed for the site. The BMPs must follow the guidelines set forth in the permit.
- The Contractor would provide a copy of their *Storm Water Pollution Prevention/Soil Erosion Control Best Management Practices Plan* to the Water Quality Program Manager (Donnie McGar), Environmental Management Division (EMD), Directorate of Base Operations Support (DBOS) for review and approval.
- Fort Knox *currently* plans to connect the new buildings to the existing water and sewer mains. *However*, during the site layout, if a determination is made that new water and sewer lines must be constructed, the contractor must obtain approval from the Kentucky Division of Water prior to any sewer or water main construction. The application and submission of the permit must be coordinated with the Water Quality Program Manager (Donnie McGar), EMD, DBOS *prior to submission to the Kentucky Division of Water.*

4.5 Biological Resources

4.5.1 Vegetation

4.5.1.1 Alternative 1: No Action

Under the No Action Alternative, no impacts related to vegetation would occur. The current facilities would be maintained in their current state.

4.5.1.2 Alternative 2: Preferred

Under this alternative, a few trees would be removed and grassed areas would be disturbed to construct the new buildings. The disturbed areas would be planted as quickly as possible to prevent erosion and native trees would be planted within the construction site. As many large trees as possible would be maintained at the project site. Best Management Practices for Sediment Control would be established as indicated in Paragraph 4.4.

4.5.2 Wildlife

4.5.3 Threatened and Endangered Species

4.5.3.1 Alternative 1: No Action

Under the No Action Alternative, no impacts related to Threatened and Endangered species would occur.

4.5.3.2 Alternative 2: Preferred

Under the preferred alternative, the following mitigation would occur:

Mitigation

- To ensure compliance with the Section 7 provisions of the Endangered Species Act, and to avoid potential impacts to endangered Indiana bats, trees 6 inches and above diameter at breast height (dbH) would only be cut during the period of October 15 to March 31.
- As much as possible, native plants would be used in landscaped areas to enhance habitat for small mammals and birds and in force security vegetated barriers.

4.6 Noise

4.6.1 Alternative 1: No Action

Under the No Action Alternative, no impacts related to noise would occur. Facilities and operations would continue, as they currently exist.

4.6.2 Alternative 2: Preferred

Under the preferred alternative, direct short-term adverse effects would be the increase in noise pollution during the demolition of existing building and construction of new building due to the use of heavy equipment. There would also be an increase in vehicles on Wilson Road, Spearhead Division Avenue and other minor streets during the construction of these facilities. Since the facilities would be constructed over a period of years, the noise impacts would be minimal.

4.7 Cultural Resources

4.7.1 Alternative 1: No Action

The No Action Alternative could result in negative affects to the 81 World War II temporary buildings. If allowed to stand, these aging temporary facilities would continue to deteriorate. They have outlived the lifespan for which they were designed and cannot be maintained through normal maintenance procedures. The No Action Alternative would *not* result in adverse effects to the other 74 structures.

4.7.2 Alternative 2: Preferred

Alternative 2 would not result in adverse effects to cultural resources eligible for or listed on the NRHP. No archaeological sites are located within the project area. Of the 155 buildings located within the project area, 81 are temporary World War II facilities. Demolition of temporary World War II buildings is not

considered to be an adverse effect under the Programmatic MOA among the DOD, ACHP and NCSHPO. Forty buildings within the project area are permanent structures that are 50 or more years old. These buildings do not meet the eligibility criteria for the NRHP. While many of the other 34 buildings that are less than 50 years old were built during the Cold War Era, they are not associated in exceptional ways with persons or events of that era, and they do not possess exceptional stylistic or technical merits that exemplify that era.

Mitigation

- Prior to removal, Buildings 6536, 6537, 6539-6558, 6583 and 6584 would be reevaluated and the SHPO would be consulted.

4.8 Socio-economics

4.8.1 Alternative 1: No Action

Under the No Action Alternative, no impacts related to socio-economics would occur. The buildings would continue to be used in their current configuration.

4.8.2 Alternative 2: Preferred

Under the preferred alternative, demolition of existing buildings and construction of the new barracks complexes, dining facilities and chapel building would have a positive short-term impact upon the regional economy. There would be an increase in employment for contractors during the duration of the project. Additionally, materials and services would be purchased within the surrounding counties.

4.9 Hazardous Materials and Solid Waste Management

4.9.1 Alternative 1: No Action

Under the No Action Alternative, no impacts related to hazardous materials and solid waste management would occur.

4.9.2 Alternative 2: Preferred

Under this alternative, there is a potential for spills and the use of hazardous materials at the demolition and construction sites. Those impacts would be mitigated as follows:

Mitigation

- All spills or releases of petroleum, oil and lubricant (POL) products, hazardous media, pollutants or contaminants would be immediately reported

to the Fort Knox Fire Department and the Environmental Management Division (EMD).

- A Spill Prevention and Containment Plan would be submitted to Environmental Management Division DBOS for containment of any spills that may occur from maintenance vehicles or patrons of the recreational area.
- Prior to demolition of any buildings, the Fort Knox Asbestos Program Manager (Bobby Barker) would survey for asbestos-containing flooring and mastics, mercury switches. Environmental Clearance documents would be prepared and submitted to DBOS Real Property Section prior to demolition.
- *All known PCBs (transformers, ballasts or other electrical equipment containing PCBs)* would be removed and turned in to Environmental Management Division, DBOS for disposal in accordance with Federal and state regulations.
- Prior to construction, all underground storage tanks (fuel oil tanks) would be removed in accordance with Kentucky Underground Storage Tank Regulations.
- Nolin RECC would remove and relocate transformers for the construction project.

4.10 Environmental Justice

4.10.1 Alternative 1: No Action

Under the No Action Alternative, no impacts related to environmental justice would occur.

4.10.2 Alternative 2: Preferred

No significant adverse impacts regarding Environmental Justice as enunciated in Presidential Executive Order 12898 are anticipated as a result of the proposed action. The proposed construction is outside the Military family housing areas of Fort Knox. Therefore, the nature of the proposed action would not result in a disproportionate impact on members of minority groups or on members of economically disadvantaged neighborhoods due to the implementation of the proposed action.

4.11 Child Health & Safety

4.11.1 Alternative 1: No Action

Under the No Action Alternative, no impacts related to child health and safety would occur.

4.11.2 Alternative 2: Preferred

No adverse impacts regarding Child Health and Safety and as enunciated in Presidential Executive Order 13045 (Protection of Children from Environmental Health Risks and Safety Risks, dated 21 April 1997), are anticipated as a result of the proposed action.

4.12 Traffic

4.12.1 Alternative 1: No Action

Under the No Action Alternative, no impacts related to traffic would occur.

4.12.2 Alternative 2: Preferred

Although there would be a short-term impact in traffic during construction, no long-term impacts are anticipated. Soldiers attending the Basic Combat/Initial Entry Training and One Station Unit Training are not authorized to have privately owned vehicles during this phase of their military service. Therefore, no significant increase in traffic is anticipated.

4.13 Utilities

4.13.1 Alternative 1: No Action

Under the No Action Alternative, no impacts related to utilities would occur.

4.13.2 Alternative 2: Preferred

The electrical, telephone, fiber optics, water and sewage at this location are part of the Fort Knox utility systems. Through the privatization of installation utilities, Nolin RECC provides electrical service. The wastewater and water treatment facilities are scheduled for privatization in the near future. As stated in Paragraph 3.11, the Fort Knox Central Water Plant and the Muldraugh Water Plant and the Fort Knox Wastewater Treatment Plant have sufficient capacity for the new structures. The telephone and fiber optics systems would be updated as the buildings are constructed.

4.1.4 Cumulative Impacts

Impacts associated with this project would be short in duration. The installation would mitigate those impacts as indicated in paragraphs 4.1 – 4.13. Therefore, no long-term cumulative impacts are anticipated as a result of the proposed action or other projects on the installation that may occur in the reasonable foreseeable future.

Throughout the planning process, the project has been reviewed to minimize environmental impacts. This EA included field investigations of the area, examination of the proposed action, review of applicable laws and regulations, reports, documents, and aerial photographs. The following matrix was developed to review the environmental impacts.

Table 4.13, Summary of Impacts

Resource	Alternative 1 "No Action"	Alternative 2 (Preferred)
Land Use	0	0
Air Quality	0	0
Noise	0	0
Geology & Soils	0	0
Surface Water	0	0
Ground Water	0	0
Wetlands	0	0
Biological	0	0
Threatened and Endangered Species	0	0
Cultural Resources	0	0
Socio-Economic	0	0
Hazardous Materials/Waste	0	0
Environmental Justice	0	0

+Potential Positive Impact
- Potential Negative Impact
0 No Change

5.0 Conclusions

The best alternative for Fort Knox Soldiers would be to construct the Barracks Complexes as described in Paragraph 2.1.2. This determination is based on the following:

- Construction of the Barracks Complexes would provide adequate facilities to support the increased training loads.
- Land use would remain the same.

- No significant impacts would occur to air quality, biological resources, cultural resources, wetlands or water quality.
- Dust suppressant products or water would be used to control dust at the construction/demolition sites.
- Prior to beginning construction, an Air Quality Construction/Operating Permit would be obtained from the Kentucky Division of Air Quality *and/or the Environmental Protection Agency as stated in Paragraph 4.2.*
- The Contractor would provide a copy of their *Storm Water Pollution Prevention/Soil Erosion Control Best Management Practices Plan* to the Water Quality Program Manager (Donnie McGar), Environmental Management Division (EMD), Directorate of Base Operations Support (DBOS) for review and approval.
- The contractor must obtain approval from the Kentucky Division of Water prior to any sewer or water main construction. The application and submission of the permit must be coordinated with the Water Quality Program Manager (Donnie McGar), EMD, DBOS *prior to submission to the Kentucky Division of Water.*
- The use of geo-thermal energy systems is being considered for the project.
- In compliance with previous Section 7 consultations with the US Fish and Wildlife Service (USFWS), trees 6-inches in diameter at breast height would only be cut during the period October 15- 31 March. Any changes to USFWS requirements, would be included in future construction contracts.
- Underground heating fuel storage tanks would be removed and the site cleaned in accordance with Kentucky state regulations.
- *Buildings 6536, 6537, 6539-6558, 6583 and 6584 would be reevaluated and the State Historic Preservation Officer would be contacted prior to renovation or removal.*
- Asbestos *and PCB* containing materials would be removed prior to demolition.
- There would be no adverse impacts regarding Environmental Justice or Child Health and Safety.

Although there is a possibility of short-term minor impacts during construction, those impacts are considered insignificant. There are no long-term cumulative environmental impacts anticipated as a result of this project. Therefore, the

proposed project will not require preparation of an Environmental Impact Statement and a Finding of No Significant Impact (FNSI) is appropriate.

6.0 List of Preparers, Agencies & Persons Consulted

6.1 Preparers

- Al Freeland, Chief, Environmental Management Division, Directorate of Base Operations Support (EMD, DBOS)
- Gail Pollock, Environmental Protections Specialist/NEPA Coordinator, (EMD DBOS)
- Gerry Gaines, Environmental Protection Specialist, EMD, DBOS (Air Quality)
- Dr. R. Criss Helmkamp, Archaeologist, EMD, DBOS (Cultural Resources)
- Donnie McGar, Environmental Engineer, EMD, DBOS (Water/Waste Water)
- Don Sheroan, Fish and Wildlife Manager, EMD, DBOS (Fish & Wildlife/Threatened & Endangered Species)
- Mike Brandenburg, Wildlife Biologist, EMD, DBOS (Fish & Wildlife/Threatened & Endangered Species)
- Mike Meyer, Forester, EMD, DBOS (Forest Management)
- Bobby Barker, Environmental Protection Specialist, EMD, DBOS (Asbestos)
- Vicki Loyall, Environmental Protection Specialist, EMD, DBOS (PCB/USTs)
- Mike Hasty (Contractor), Environmental Analyst (NEPA Intern), ECW Environmental

6.2 Persons and Agencies Contacted

US Fish and Wildlife Service (Threatened and Endangered Species)
(Memorandum, April 16, 2004)
Kentucky Clearing House (Memorandum, April 16, 2004)

7.0 References

Field Manual on Sediment and Erosion Control Best Management Practices for Contractors and Inspectors, Jerald S. Fifield, (Forester Press, 2001).

Soils Survey of Hardin and Larue County, USDA Soil Conservation Service, January 1979.

Elzy, Tammy

From: claytondoherty@bellsouth.net
Sent: Tuesday, March 22, 2005 3:27 PM
To: 'Linda.Pollock@knox.army.mil'
Subject: Thanks for your assistance
Attachments: Gail Pollock Contact 032205.doc

Hello, Gail. Thank you for speaking with me this afternoon. The discussion was very helpful to me. I am attaching a contact report which I believe fairly represents our conversation.

Have a great afternoon!

Clay

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
claytondoherty@bellsouth.net

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3/10/2006

Telephone Contact Report

Contact: Gail Pollock
Organization: Ft. Knox Environmental Management
Phone: 502-624-6684
Date: Tuesday, March 22, 2005
Time: 2:15 PM
Project: Mill Creek - Harbin County
Subject: Environmental Review Issues

I called Gail with the following questions:

- Q. How will this action be classified? The Army is responsible for preparing the EA?
- A. EA-level review. Eleven or so miles of new right-of-way involves a lot of area of potential impact. Ms/ Pollock said the Ft. Knox NEPA Team will review our surveys and Environmental Report (ER). The newer citation for the Army's environmental policies and procedures is 32 CFR Part 615.
- Q. Can you talk about the overall process in terms of time?
- A. The process involves staff review of the submittal documents, coordination with resource agencies coinciding with a public comment period, response to comments, sign-off on the document by Gail and the garrison commander, and publication of a FONSI. She was hopeful that the process could be accomplished within several months following survey report and ER submittal.
- Q. How do we get this started?
- A. The EA process will start with our submittal of the studies and the ER. That will allow the NEPA Team to begin its work of review, coordination, notice, etc.
- Q. How much assistance can the Applicant provide the Army in characterizing baseline conditions, identifying impacts, and proposing mitigation?
- A. The Army will not perform surveys independently of the ones we perform, but the NEPA Team will review our information. If important issues are identified through the field investigations, we will coordinate with and through the NEPA Team, not directly with the resource agencies.

- Q. Who coordinates reviews by the resource agencies?
- A. All reports and agency communications flow through the NEPA Team, so they will coordinate agency review. The exception is permits such as the KY stormwater permit; we would acquire that permit and provide a copy to the NEPA Team as part of our submission.
- Q. How do we identify other issues we should be prepared to address?
- A. Gail will email me an example of an EA format they have used, and could be available to meet with us in April.
- Q. Can we coordinate the Army's public involvement process with KU's public information people in terms of making the KU people aware that of nature and timing of letters, notices, etc?
- A. Gail was curious what sort of other NEPA processes KU might be following as a regulated electric utility. I mentioned that there is a requirement to file a Certificate of Convenience and Necessity with the KY Public Service Commission, which involves notice, but environmental issues are not a part of that submittal. KU's environmental surveys are being undertaken as a part of due diligence, in support of wetlands permitting, and in support of the Army's NEPA process.



United States Department of the Interior

FISH AND WILDLIFE SERVICE

3761 Georgetown Road
Frankfort, Kentucky 40601

June 17, 2005

Mr. Dan Rice
Jordan, Jones & Goulding
6801 Governors Lake Pkwy
Norcross, Georgia 30071

Subject: FWS #05-1031; Electric Transmission Line Survey, Trimble, Franklin,
Woodford, Anderson, Jefferson, Bullitt, Meade, and Hardin Counties, Kentucky

Dear Mr. Rice:

Thank you for your correspondence of May 17, 2005, regarding the proposed corridor route for a section of transmission line across Fort Knox, Kentucky. It is our understanding that habitat surveys will be conducted during summer 2005 on the proposed corridor for the entire project. We are providing you with species-specific information on certain federally listed species that may be affected by the proposed project in order to familiarize you with their preferred habitats and any habitat that may be critical to their recovery. Below is a list of federally threatened or endangered species and the county and/or counties in which they may occur.

<u>Common Name</u>	<u>Scientific Name</u>	<u>County</u>
Eggert's sunflower	<i>Helianthus eggertii</i>	Hardin
running buffalo clover	<i>Trifolium stoloniferum</i>	Jefferson, Woodford
Braun's rockcress	<i>Arabis perstellata</i>	Franklin, Anderson
globe bladderpod	<i>Lesquerella globosa</i>	Franklin, Anderson
clubshell	<i>Pleurobema clava</i>	Bullitt, Meade, Hardin
orangefoot pimpleback	<i>Plethobasus cooperianus</i>	Bullitt
whooping crane	<i>Grus Americana</i>	Hardin
gray bat	<i>Myotis grisescens</i>	Bullitt, Hardin, Meade, Jefferson
Indiana bat	<i>Myotis sodalist</i>	Franklin, Bullitt, Hardin, Meade, Jefferson, Woodford Anderson

Eggert's sunflower (*Helianthus eggertii*) - Eggert's sunflower occurs in barrens/woodland ecosystems which are a mix of grassy treeless openings among a thin overstory of small to medium sized trees, usually oaks. They have also been found on roadsides and even in fields where barrens formerly existed. Eggert's sunflower blooms during August and September. Loss of habitat due to development is the primary cause of decline. Surveys for Eggert's sunflower

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should be conducted during the flowering period in August and September so that it can be properly identified.

Running buffalo clover (*Trifolium stoloniferum*) - Habitat for running buffalo clover can range from stream banks and low mesic forests to lawns and cemeteries. Running buffalo clover requires periodic disturbance such as light grazing or occasional mowing. Changes in landscape resulting from settlement and the elimination of large herbivores (bison and deer) are major causes of decline. Surveys for running buffalo clover should be conducted during the flowering period in April and May in order to properly identify it.

Braun's rock cress (*Arabis perstellata*) - Habitat for Braun's rock cress can be found in steeply sloped, dry to mesic forests on thin calcareous soils. This plant is endemic to Kentucky and more specifically to the Kentucky River drainage north of Frankfort. However, records do exist just south of Frankfort. Surveys for this plant should be concentrated on those areas where the transmission line will be crossing the Kentucky River and South Benson Creek in Franklin and Anderson Counties.

Globe bladderpod (*Lesquerella globosa*) - Globe bladderpod is a federal candidate for listing and occurs in Anderson, Bourbon, Clark, Fayette, Jessamine, Mercer, Powell, and Scott Counties, Kentucky. It grows on steep, rocky wooded slopes and talus areas. The species also occurs along cliff tops and bases and cliff ledges. Most populations are closely associated with outcrops of calcareous rocks. Like Braun's rock cress, surveys for this plant should be concentrated where the transmission line will be crossing the Kentucky River, South Benson Creek, and any steep, rocky areas.

Gray bat (*Myotis grisescens*) - Gray bats are restricted to caves or cave-like habitats. They roost, breed, rear young, and hibernate in caves year round. For hibernation, the roost site must have an average temperature 45 to 52 degrees F. Summer caves must be between 57 and 77 degrees F. Gray bats forage for insects over streams and reservoirs. They are very vulnerable to human disturbance, which has contributed greatly to their decline. It is very important that the proposed transmission corridor is thoroughly surveyed for the presence of any caves. It is our understanding that the transmission line poles are driven into the ground several feet. We want to be sure that the poles will not puncture through a cave system, which could lead to temperature changes and air flow alteration thereby causing potential harm to bats.

Indiana bat (*Myotis sodalis*) - This species utilizes floodplain and riparian forests for both summer foraging and roosting habitat; however, other habitats are often used as well. Indiana bats typically roost under exfoliating bark, or in cavities of dead and live trees, and in snags (i.e., dead trees or dead portions of live trees). For hibernation, the Indiana bat prefers limestone caves, sandstone rockshelters, and abandoned underground mines with stable temperatures of 39 to 46 degrees F and humidity above 74 percent but below saturation. Project-related activities that may impact this species include, but are not limited to, logging practices, which include the removal of trees greater than six inches in diameter at breast height, and clearing of forested riparian corridors. In order to avoid impacting summer roosting Indiana bats, trees within the project area should only be cleared between October 15 and March 31. If trees cannot be cleared

during this time frame, the Service would recommend a summer mist net survey for the entire reach of the project corridor to determine the presence or absence of this species.

Clubshell (*Pleurobema clava*) and Orange-foot pimpleback (*Plethobasus cooperianus*) - Both of these mussels are considered big river species. The orange-foot pimpleback is typically found in the Ohio and Tennessee Rivers burrowed in sand or gravel substrates. The clubshell is currently known in the upper Green River and has also been recorded historically from the lower Ohio River. A record for the orange-foot pimpleback does exist for the Salt River, and the clubshell has been recorded in the Rough River in Hardin County. The transmission line should span any streams that could provide suitable habitat for these mussels. In order to decrease the amount of sediment being introduced to the streams from construction efforts, we strongly encourage you to leave a sufficient riparian/vegetated buffer along each stream crossing in order to avoid impacts to mussels and other aquatic life.

Whooping Crane (*Grus Americana*) - The whooping crane is known for being the tallest bird in North America standing 5 feet tall. The crane nests in marshy areas among bulrushes, cattails, and sedges that provide protection from predators. When migrating, whooping cranes stop along the way to roost and feed in a variety of wetlands and croplands. During the spring of 2005, a whooping crane was documented at a pond in Hardin County, Kentucky, traveling with several sandhill cranes. The pond where this particular bird stopped for a couple days is within the proposed transmission line corridor. Whooping cranes are federally listed as endangered; however, this particular bird is part of an established Nonessential Experimental Population (NEP) of whooping cranes from Florida. NEPs are the most common and flexible type of experimental population established by the Service because they allow for the reintroduction and protection of species, but their associated regulatory burden is far less stringent. The federal NEP rule was necessary to carry out the Whooping Crane Eastern reintroduction. Even though NEP whooping cranes are not afforded the same kind of protection as an endangered whooping crane, we still want to emphasize the importance of these birds toward recovery efforts. Because we know that suitable habitat for the whooping crane exists in Hardin County and has been utilized, we strongly encourage LG&E to make every effort to avoid transmission line construction in areas that may provide suitable habitat for whooping cranes.

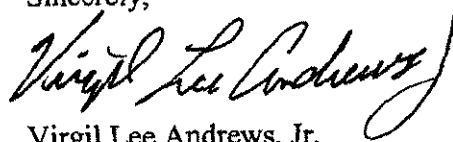
As mentioned earlier, wetlands provide important foraging and roosting habitat for the whooping cranes, but they also provide cover and foraging habitat for other wildlife such as deer, turkey, song birds, etc.. Information available to the Service indicates that wetlands exist within the vicinity of the proposed project corridor. Avoidance of these areas is extremely important. However, if avoidance of these areas is not possible, the Corps of Engineers, Louisville District, should be contacted regarding the presence of regulatory wetlands and the requirements of wetlands protection statutes.

In addition, we would also like to take the opportunity to request that you provide us with any alternative routes which were previously considered and that those alternative routes be discussed within the Alternative Analysis portion of the Environmental Assessment (EA). A "least damaging to the environment" alternative should be discussed in the EA and should include a justification as to why it has or has not been selected as the preferred alternative. Also, we know that other transmission lines exist near sections of the proposed transmission corridor.

The EA should consider using the existing corridors for these lines as opposed to new line construction.

Thank you for the opportunity to provide comments on this proposed action. If you have any questions regarding the information that we have provided, please contact Mindi Brady at (502) 695-0468 (ext. 229).

Sincerely,



Virgil Lee Andrews, Jr.
Field Supervisor

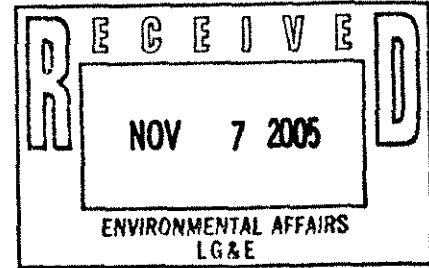


United States Department of the Interior

FISH AND WILDLIFE SERVICE

3761 Georgetown Road
Frankfort, Kentucky 40601

October 31, 2005



Mr. Mike Winkler
LG&E Energy Corp.
P.O. Box 32010
Louisville, Kentucky 32010

Subject: FWS #06-0109; Technical Assistance Request for a Portion of a Proposed
Electric Transmission Line in Hardin County, Kentucky

Dear Mr. Winkler:

Thank you for meeting with us recently regarding Louisville Gas & Electric Company's (LG&E) proposed construction of a section of 345 kV transmission line. LG&E should note that this letter is only in response to the specific section in Hardin County and does not represent the Fish and Wildlife Service (Service) comments for the entire transmission line project. At this time, only a limited amount of information has been submitted to our office regarding the proposed transmission line project. Comments from the Service pertaining to additional areas proposed for construction will be submitted once this office has received further detailed information and survey results. With that said, the intent of our comments is to provide technical assistance to your specific questions regarding the section in Hardin County. Specifically, you have requested our input regarding the original route's proposal to traverse a large pond and adjacent forested wetland complex that has been documented to be utilized heavily by migratory birds and a whooping crane (*Grus americana*) in late February 2005.

LG&E has provided the Service with both an original and alternative route for the proposed transmission line. The alternate route proposed by LG&E would avoid the forested wetland areas and the pond while still remaining on the same property. Based on a site visit by biologists from the Service and Kentucky Department of Fish and Wildlife Resources (KDFWR) on June 13, 2005, it was concluded that high quality habitat for migratory birds (e.g., sandhill cranes, whooping cranes, ducks, geese, etc...) exists on the property. The pond that is proposed to be crossed by the transmission line has both shallow and deep water which provide a food source for a variety of wading/shorebirds and diving waterfowl. Also, the forested wetlands adjacent on both sides of the pond provide additional foraging, roosting/resting, and cover for birds and other wildlife. The forested wetlands are intact with little to no invasive species, and consist of a wide variety of mature hard-mast producing species. These wetlands are also connected to a significantly larger wetland complex found directly south and east of the property visited. We believe that the combination of the forested wetlands, the pond, and the surrounding agriculture create a favorable area for wildlife, thus providing an optimal stopover location for migrating birds.

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As mentioned, a whooping crane traveling with several sandhill cranes was documented at the pond during late winter 2005. The whooping crane is known for being the tallest bird in North America standing 5 feet tall. The crane nests in marshy areas among bulrushes, cattails, and sedges that provide protection from predators. When migrating, whooping cranes stop along the way to roost and feed in a variety of wetlands and croplands. Whooping cranes are federally listed as endangered; however, this particular bird is part of an established Nonessential Experimental Population (NEP) of whooping cranes from Florida. NEPs are the most common and flexible type of experimental population established by the Service because they allow for the reintroduction and protection of species, but their associated regulatory burden is far less stringent. The federal NEP rule was necessary to carry out the Whooping Crane Eastern reintroduction. Even though NEP whooping cranes are not afforded the same kind of protection as an endangered whooping crane, these birds are still extremely valuable for the species' recovery efforts. Because suitable habitat for the whooping crane exists in Hardin County and has been documented on the pond and adjacent wetlands in question, we have strongly encouraged LG&E to make every effort to avoid transmission line construction in areas that may provide suitable habitat for whooping cranes.

In an effort to meet the Service's recommendations regarding migratory birds, LG&E has proposed an alternate route for the transmission line, which would be considered the "least damaging to the environment" alternative. The alternate transmission line corridor would utilize an open field to the north and east of the pond and would avoid impacting all of the forested wetland areas while still remaining on the same property ownership. Based on habitat characterization work done by the Service in occupied whooping crane habitat, we have determined that a 328-foot buffer is required between foraging roosting/resting sites and transmission line structures in order to avoid collisions with transmission lines. This is because birds, especially large birds such as cranes, herons, and egrets, are not adept at avoiding such lines. In order to prevent collisions, diverter devices can be placed on the transmission lines to increase line visibility to the birds and divert them away. The alternate route proposed would exceed the buffer requirement by 72 feet, thus negating the need for any mitigative measures such as bird flight diverters. With the documented large number of shorebirds and waterfowl that have used the pond and adjacent wetlands in the past and because the pond's future use by migratory birds is highly probable based on the available surrounding cover, foraging, and resting/roosting habitat, the Service strongly recommends that LG&E select the alternate route as the preferred alternative.

The original proposed transmission corridor would cross a large portion of the forested wetlands adjacent to the pond on the property and also span the pond. A 200-foot right-of-way (ROW) is also proposed for the transmission line, which would require clearing of trees and maintenance activities. We recommend that all woody vegetation be left inside the ROW and only the trees classified as hazard trees be topped to fifteen feet and girdled in order to provide habitat for wildlife such as other migratory birds and small mammals. In order to maintain the habitat within the ROW, we have provided below recommendations LG&E should consider implementing during regularly scheduled maintenance activities for the ROW.

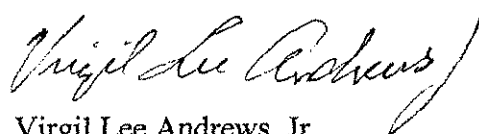
1. No removal or felling of trees that are 6-inches in diameter or larger and that have loose bark, exfoliating bark, and/or broken branches should occur between April 1 and October 31.
2. No removal or side-trimming of tree branches that are larger than 4-inches and that have dead or loose bark should occur between April 1 and October 31.
3. No use of herbicides should occur.

As mentioned earlier, forested wetlands provide important foraging and roosting habitat for whooping cranes, but they also provide cover and foraging habitat for other wildlife such as deer, turkey, and migratory birds. Based on the information provided to us, the ROW would result in the loss of a substantial amount of mature hard-mast producing trees which would in turn decrease the quality of the wetlands and reduce the forage base for wildlife. Therefore, we would recommend LG&E consider off-site protection of similar quality habitat within the same watershed as mitigation for the loss of such important resources. We offer our assistance in identifying and selecting suitable properties, if necessary.

In addition to the above mentioned mitigation measures, the Service also recommends that LG&E use bird diverting structures over the section of transmission line proposed to span the pond in order to reduce the potential for avian collisions if the original transmission line route is used. If LG&E decides to adopt the alternative route instead of the original route, bird-diverting devices would not be necessary. However, if the original route is chosen, this office will provide more detailed information to LG&E on the number, type, and positioning of bird diverter structures that will need to be used in order to minimize avian collisions associated with the transmission line.

Thank you for the opportunity to provide comments on this specific request for technical assistance. We look forward to further coordinating with LG&E and providing additional recommendations for mitigation measures if the original route is chosen. The comments we have provided to you in this letter have been in coordination with the Kentucky Department for Fish and Wildlife Resources. If you have any questions regarding the information that we have provided, please contact Mindi Lawson at (502) 695-0468 (ext. 229).

Sincerely,



Virgil Lee Andrews, Jr.
Field Supervisor

cc: Mr. Mike Hardin, KDFWR, Frankfort, KY



KENTUCKY COMMERCE CABINET
DEPARTMENT OF FISH & WILDLIFE RESOURCES

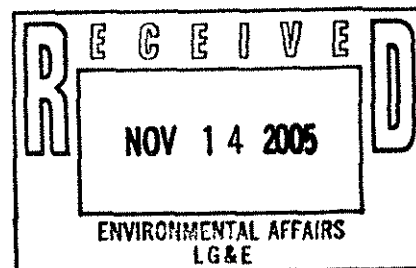
Ernie Fletcher
Governor

#1 Game Farm Road
Frankfort, Kentucky 40601
Phone (502) 564-3400
(800) 858-1549
Fax (502) 564-0506
www.kentucky.gov

W. James Host
Secretary

Dr. Jonathan W. Gassett
Commissioner

November 7, 2005



Mr. Mike Winkler
LG&E Energy Corp.
P.O. Box 32010
Louisville, Kentucky 32010

RE: Technical Assistance Request for a Portion of a
Proposed LG&E Electric Transmission Line in Hardin
County, Kentucky

Dear Mr. Winkler:

We appreciate the opportunity to work with the Louisville Gas & Electric Company (LG &E) and the United States Fish & Wildlife Service Kentucky Field Office (USFWS) concerning a specific section of a proposed 345 kV transmission line. Accordingly, we offer the following project summary and recommendations.

On May 16th, 2005 LG&E met USFWS and KDFWR to discuss a proposed transmission line that would extend from Mill Creek in Jefferson County to Hardin County. LG&E has expressed concern about a wetland complex located in Hardin County that had been used by a whooping crane (*Grus Americana*) and requested technical guidance on this specific issue relative to the proposed project. On June 13th, 2005 biologists from the USFWS and KDFWR visited the site in question. Based on this site visit we determined that habitat for migratory birds do exist in the wetlands within the project vicinity. The pond and the adjacent forested wetland provide a favorable habitat for migratory birds. The corridor initially proposed would fragment the forested wetlands and traverse the pond, making it difficult for migratory birds to land. The transmission lines could pose a risk of mortality to large migratory birds such as cranes, egrets, and herons as initially proposed. In an effort to avoid impacts to migratory birds and the wetland complex LG&E has proposed an alternate route that would be the "least damaging to the environment". The alternate route would avoid the wetland complex by crossing an open field to the north and east of the pond. We believe the alternate transmission line route would significantly reduce the risk to migratory birds and would negate the need for additional mitigative measures.

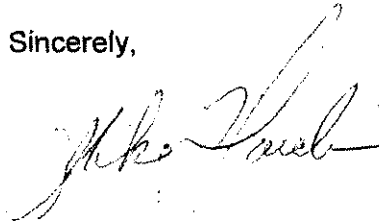
The Kentucky Department of Fish and Wildlife Resources concurs with the recommendations and findings provided by the U. S. Fish & Wildlife Service in their guidance

Page Two
Mr. Winkler
November 7, 2005

letter to LG&E dated October 31, 2005. We recommend the selection of the alternate route. In the event that the original route is chosen we request the adoption of mitigative measures recommended by USFWS and request that LG&E continue to work with us to minimize impacts to the wetland complex and migratory birds.

We appreciate the opportunity to comment on this specific request for technical guidance. Should you require any additional information, please contact Doug Dawson at 502/564-7109, ext. 366.

Sincerely,

A handwritten signature in cursive script, appearing to read "Mike Hardin".

Mike Hardin,
Environmental Section Chief

MDH/DAD

cc: Lee Andrews, USFWS, Frankfort, KY
Environmental Section Files

Harper, Vicki

From: Winkler, Michael
Sent: Tuesday, October 11, 2005 3:51 PM
To: 'Mike_Armstrong@fws.gov'; 'Lee_Andrews@fws.gov'; 'mindi_brady@fws.gov'
Subject: Whooping Crane Pond Crossing

Attachments: mill_creek_aerial.pdf

Mike/Lee/Mindi -

Attached please find an aerial view of the proposed transmission line in Hardin County that we discussed earlier, involving the lake where a whooping crane was previously sighted. If this particular transmission line corridor is chosen as the preferred route, the blue line would be the least cost and the green line provides an alternative route around the pond at a higher cost.

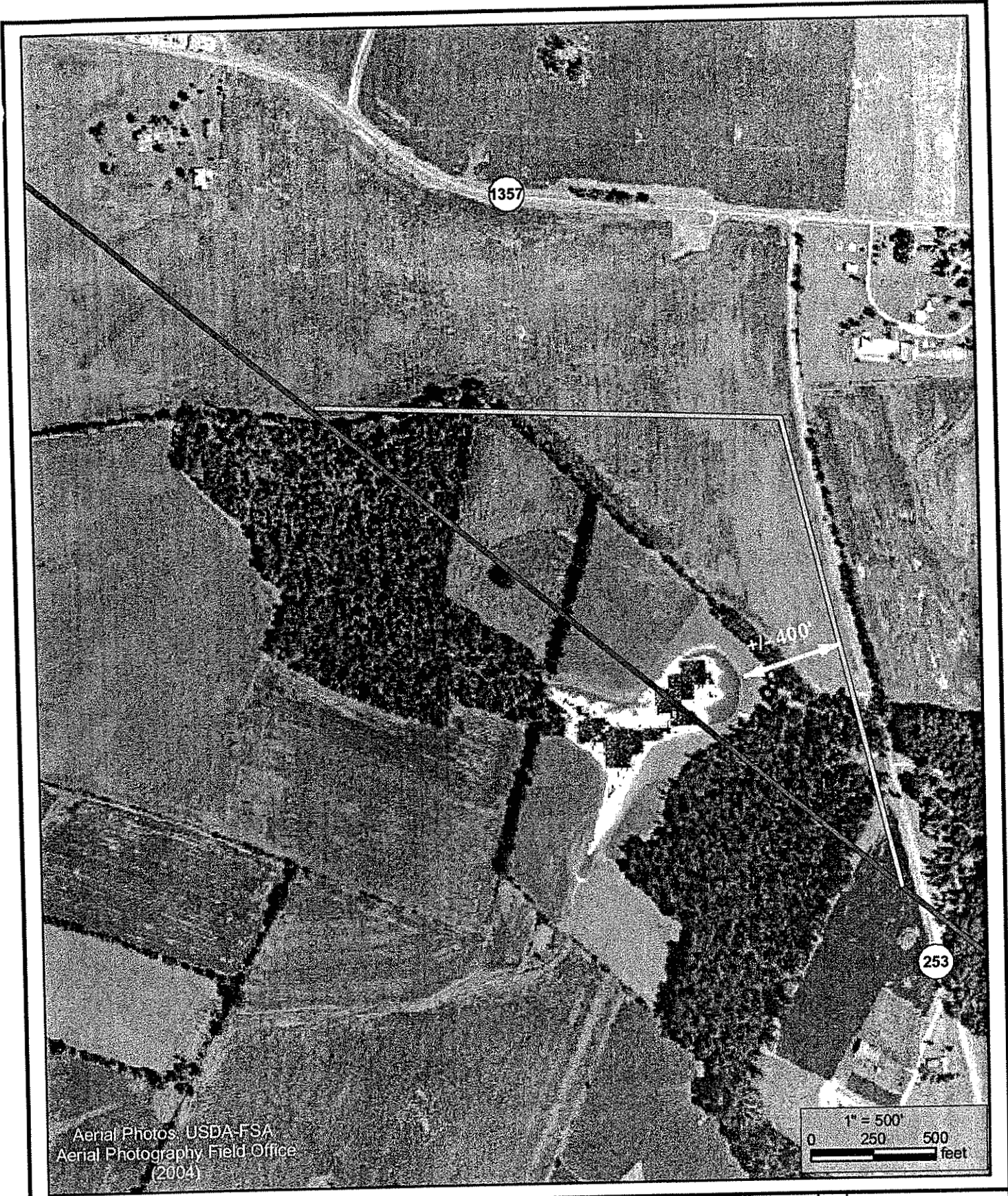


mill_creek_aerial.pdf
(834 KB)...

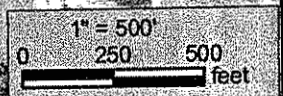
We need your remediation requirements (if any) in writing by the end of October. I would be glad to meet with you in person to discuss the routes in more detail than what we have done previously over the phone should you feel that would be helpful.

Thank you in advance for your timely consideration.

Michael Winkler
LG&E Energy
Environmental Affairs Dept.
702-627-2338



Aerial Photos USDA-FSA
Aerial Photography Field Office
(2004)



**Mill Creek - Hardin County
345 kV Transmission Line**



Location Map
09/28/05



Harper, Vicki

From: Winkler, Michael
Sent: Tuesday, October 18, 2005 2:57 PM
To: 'Mike_Armstrong@fws.gov'; 'Lee_Andrews@fws.gov'; 'mindy_brady@fws.gov'
Subject: Additional Info for Hardin County Line
Attachments: 345 KV H-Frame.pdf; example poles.pdf

Mike/Lee/Mindi -

Here is the additional info on the towers and lines you asked for earlier, as provided by Brandon Grillon from our Transmission Group.

There are two different possible structure configurations for the proposed 345 KV line in Hardin County. The original proposed route would have H-Frame Structures that would be approximately 135' tall and could be made taller up to approximately 165' tall. The phases would be spaced horizontally on these structures approximately 30' apart and it would have two static lines 25' above the conductors and spaced 30' apart. I have enclosed an example picture of this type of structure. The other type of configuration that can be used on the proposed alteration to the original proposed route is a single pole structure where the phases would be stacked vertically approximately 25' apart. The typical pole height above ground line for this type of structure would range from 125' to 165'. The phase conductors would be approximately 1" in diameter and would be bundled such that they are 18 inches apart horizontally. For the single pole configuration we could place the bundles vertically if this would be advantageous. The statics would be approximately 1/2" in diameter. The lines would maintain a minimum of 30' of ground clearance at all times but could be adjusted to have a higher amount of ground clearance up to 45 - 50 feet above the ground.

If you have any questions concerning this info, please let me know.

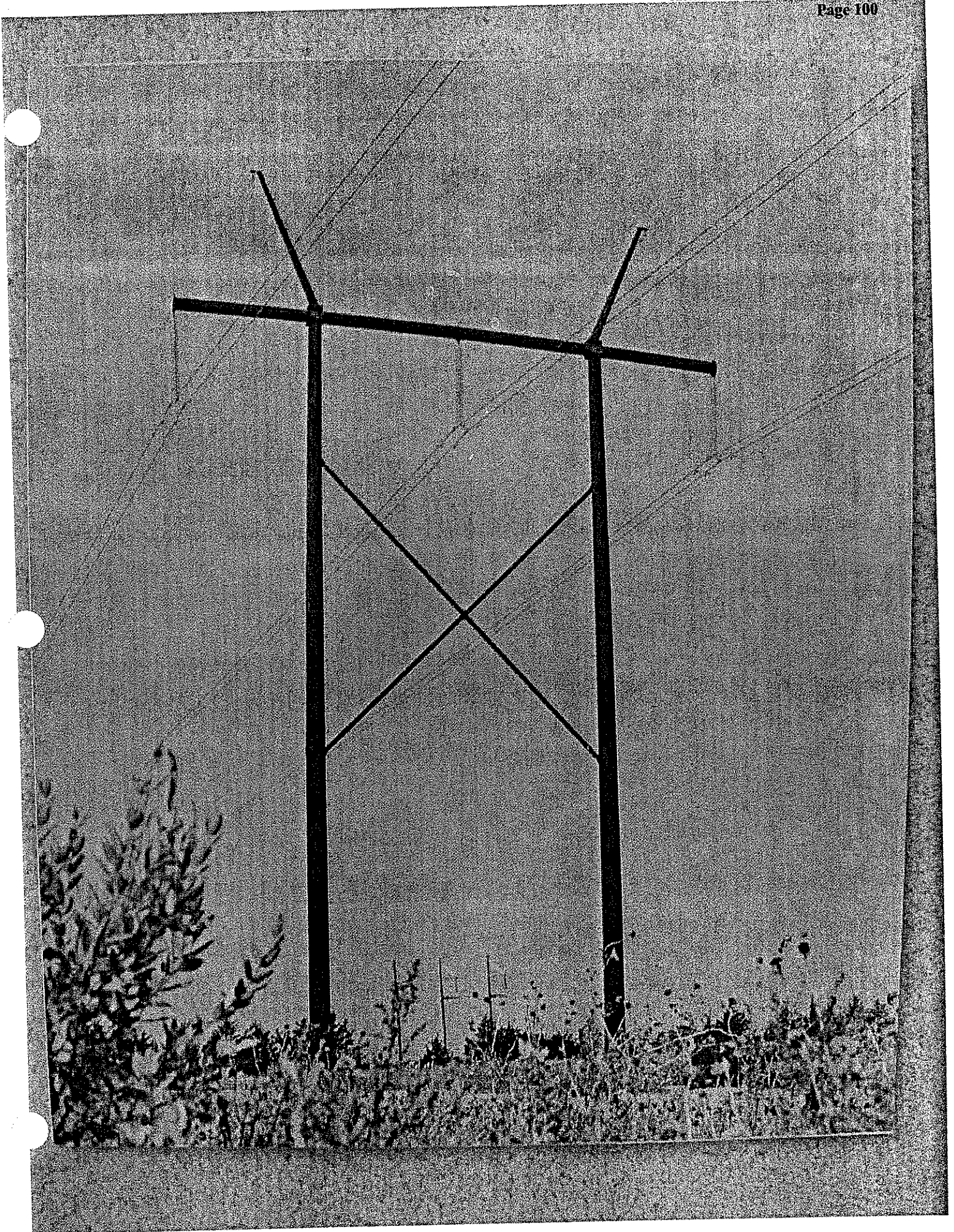


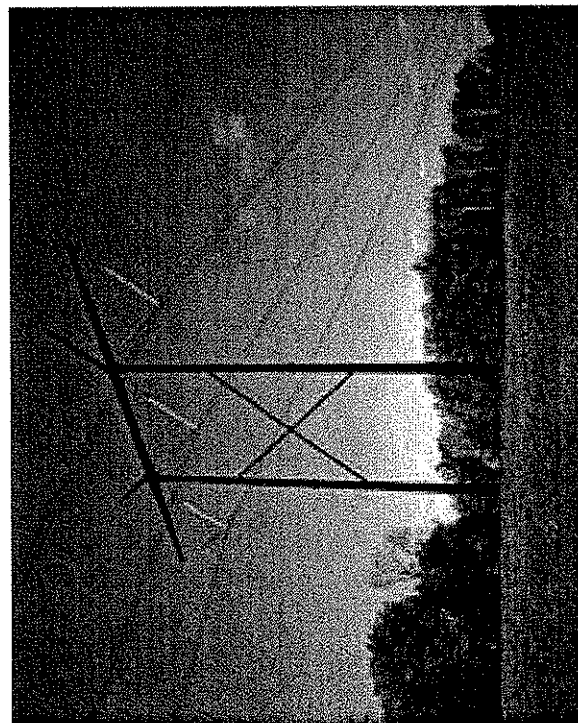
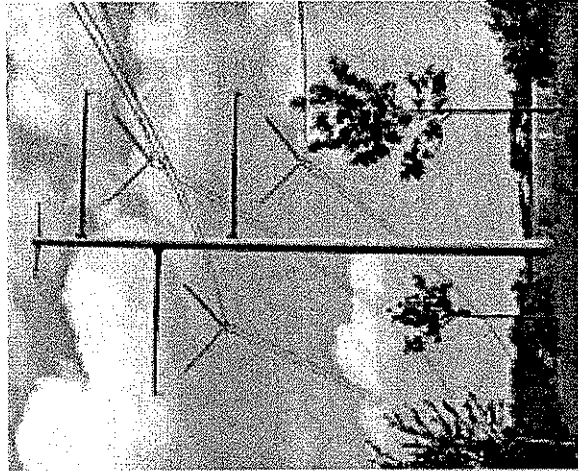
345 KV
-Frame.pdf (110 K



example poles.pdf
(40 KB)

Michael Winkler
LG&E Energy
Environmental Affairs Dept.
502-627-2338





Harper, Vicki

From: Winkler, Michael
Sent: Thursday, October 20, 2005 5:58 PM
To: 'Mike_Armstrong@fws.gov'
Subject: RE: Additional Info for Hardin County Line

Mike -

I'll check with Brandon tomorrow to check his schedule and then give you a call to set up a meeting. Anything else we can bring to the table to help explain the lines (pictures, maps, drawings) ??

Mike

-----Original Message-----

From: Mike_Armstrong@fws.gov [mailto:Mike_Armstrong@fws.gov]
Sent: Thursday, October 20, 2005 5:29 PM
To: Winkler, Michael
Cc: Lee_Andrews@fws.gov; Mindi_Brady@fws.gov; Doug.Dawson@ky.gov
Subject: Re: Additional Info for Hardin County Line

Mike:

Thanks for all the info you have provided. It has been helpful.

Upon further review of the published literature, conversations with our Whooping Crane Coordinator, and our review of the project, we have decided that it would be helpful after all if you could come talk to us about this some more. When might you be available next week (October 24-28)? I currently have a site visit scheduled for Tuesday the 25th but that is it.

Let us know ASAP.

Sincerely,

Mike

Mike Armstrong
Fish & Wildlife Biologist
U.S. Fish and Wildlife Service
3761 Georgetown Road
Frankfort, Kentucky 40601
502-695-0468
502-229-4632 (cell)
502-695-1024 (fax)

"Winkler,
Michael"
<Michael.Winkler@
lgeenergy.com>

10/18/2005 02:57
PM

<Mike_Armstrong@fws.gov>,
<Lee_Andrews@fws.gov>,
<mindy_brady@fws.gov>

To

cc

Subject
Additional Info for Hardin County
Line

Mike/Lee/Mindi -

Here is the additional info on the towers and lines you asked for earlier, as provided by Brandon Grillon from our Transmission Group.

There are two different possible structure configurations for the proposed 345 KV line in Hardin County. The original proposed route would have H-Frame Structures that would be approximately 135' tall and could be made taller up to approximately 165' tall. The phases would be spaced horizontally on these structures approximately 30' apart and it would have two static lines 25' above the conductors and spaced 30' apart. I have enclosed an example picture of this type of structure. The other type of configuration that can be used on the proposed alteration to the original proposed route is a single pole structure where the phases would be stacked vertically approximately 25' apart. The typical pole height above ground line for this type of structure would range from 125' to 165'. The phase conductors would be approximately 1" in diameter and would be bundled such that they are 18 inches apart horizontally. For the single pole configuration we could place the bundles vertically if this would be advantageous. The statics would be approximately 1/2" in diameter. The lines would maintain a minimum of 30' of ground clearance at all times but could be adjusted to have a higher amount of ground clearance up to 45 - 50 feet above the ground.

If you have any questions concerning this info, please let me know.

<<345 KV H-Frame.pdf>> <<example poles.pdf>>

Michael Winkler
G&E Energy
Environmental Affairs Dept.
502-627-2338

[attachment "345 KV H-Frame.pdf" deleted by Mike Armstrong/R4/FWS/DOI] [attachment "example poles.pdf" deleted by Mike Armstrong/R4/FWS/DOI]

Harper, Vicki

From: Winkler, Michael
Sent: Tuesday, October 25, 2005 8:27 AM
o: 'Mike_Armstrong@fws.gov'
Subject: RE: Meeting on Thursday, Oct. 27

The site doesn't matter to us, just tell us where. Thursday at 1:30 is fine. Do you want us to bring anything in particular?

Michael

-----Original Message-----

From: Mike_Armstrong@fws.gov [mailto:Mike_Armstrong@fws.gov]
Sent: Monday, October 24, 2005 5:16 PM
To: Winkler, Michael
Cc: Mindi_Brady@fws.gov; Lee_Andrews@fws.gov; Doug.Dawson@ky.gov
Subject: Meeting on Thursday, Oct. 27

Mike:

I have talked to Lee, Mindi, and Doug and we would be available to meet at 1:30 pm. We can meet at our office or at KDFWR. Does it matter to you?

Mike

Mike Armstrong
Fish & Wildlife Biologist
U.S. Fish and Wildlife Service
3761 Georgetown Road
Frankfort, Kentucky 40601
502-695-0468
.02-229-4632 (cell)
502-695-1024 (fax)

"There are more tensions released, anguishes soothed, and wracking decisions realized on our fishing waters and in our deer forests than in the offices of psychiatrists or family consultants, or in the offices of all the other trouble shooters for our ailing humanity"
-- George Mattis

Harper, Vicki

From: Winkler, Michael
Sent: Tuesday, November 15, 2005 2:23 PM
To: 'McKay, Gregory A LRL'
Subject: RE: Tree clearing in transmission line right-of-way

Will do ! Thanks again for all your help.

From: McKay, Gregory A LRL [mailto:Gregory.A.McKay@lrl02.usace.army.mil]
Sent: Tuesday, November 15, 2005 2:16 PM
To: Winkler, Michael
Subject: RE: Tree clearing in transmission line right-of-way

Michael,

Please fill out the regular permit application and submit it. We'll make the final determination on how it will be processed after reviewing the application.

Greg

From: Winkler, Michael [mailto:Michael.Winkler@lgeenergy.com]
Sent: Tuesday, November 15, 2005 1:29 PM
To: McKay, Gregory A LRL
Cc: Devine, Lee Anne LRL
Subject: RE: Tree clearing in transmission line right-of-way

Thanks Greg ! We will get back to you for the river crossings when we have the routes nailed down. Do you want me to send in a regular individual permit application or just send the crossing info with a cover letter and request a letter of permission?

Michael

From: McKay, Gregory A LRL [mailto:Gregory.A.McKay@lrl02.usace.army.mil]
Sent: Monday, November 14, 2005 4:47 PM
To: Winkler, Michael
Cc: Devine, Lee Anne LRL
Subject: Tree clearing in transmission line right-of-way

Mr. Winkler,

This is a follow-up to our previous conversations about tree clearing along proposed aerial transmission line corridors that cross federally jurisdictional wetlands. To reiterate, any discharge of dredged or fill material into waters of the U.S., including wetlands, will require a Department of the Army (DA) permit under Section 404 of the Clean Water Act. Similarly, any project involving a crossing of a navigable waterway requires a permit under Section 10 of the Rivers and Harbors Act.

Per our discussions, it is my understanding that you intend to avoid impacts involving the discharge of dredged or fill material in all of the wetlands located along the proposed transmission line corridors. Your projects will require tree clearing within the wetlands but would be limited to felling trees and cutting other vegetation only to ground level. A DA permit is not required in these circumstances, provided no mechanized land clearing is necessary and the sites can be accessed using low ground pressure equipment or construction mats (i.e. no fill is necessary to construct access roads or work platforms). It is my recommendation that all felled trees and other vegetation be

3/10/2006

left in place where it falls. No windrowing or brush piles should be created. If you determine that it is not possible to complete the project in this manner, you should contact me for further evaluation of the project.

Please contact me if you have any questions or need further clarification.

Greg McKay
Biologist
US Army Corps of Engineers
Louisville District
PO Box 59
Louisville, KY 40201

Phone (502) 315-6685
Fax (502) 315-6677

Harper, Vicki

From: McKay, Gregory A LRL [Gregory.A.McKay@lr02.usace.army.mil]
Sent: Monday, November 14, 2005 4:47 PM
To: Winkler, Michael
Cc: Devine, Lee Anne LRL
Subject: Tree clearing in transmission line right-of-way

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Please contact me if you have any questions or need further clarification.

Greg McKay
Biologist
US Army Corps of Engineers
Louisville District
PO Box 59
Louisville, KY 40201

Phone (502) 315-6685
Fax (502) 315-6677

Harper, Vicki

From: Grillon, Benjamin
ent: Tuesday, November 01, 2005 4:09 PM
o: Winkler, Michael; Ehrler, Bob; 'Glasgow, Jesse'; 'linearprojects'
Subject: FW: website

Below is the link to the document the FWS discussed in our meeting last week.

Thanks,
Brandon

-----Original Message-----

From: Mindi_Brady@fws.gov [mailto:Mindi_Brady@fws.gov]
Sent: Tuesday, November 01, 2005 8:34 AM
To: Grillon, Benjamin
Subject: website

Hey Brandon,

Below is the link to that document we showed you at the meeting last week.
Hope it helps!!

http://www.energy.ca.gov/reports/2002-12-24_500-02-070F.PDF

Mindi Brady
Fish & Wildlife Biologist

US Fish & Wildlife Service
Kentucky Field Office
1761 Georgetown Rd.
Frankfort, KY 40601
502/695-0468 extn. 229
502/695-1024 fax
Mindi_Brady@fws.gov
<http://frankfort.fws.gov>

Harper, Vicki

From: Grillon, Benjamin
Sent: Tuesday, February 22, 2005 2:41 PM
To: Winkler, Michael; 'Clay Doherty'; 'Derek McDonald'; Dimas, Jim; Dowdy, Tim; Grillon, Benjamin; 'Jack Bender'; 'Jesse Glasgow'; Kuriger, Jeff; Mullins, Nate; 'Renu Gupta'; Strunk, Alan; 'William Bumpers'
Subject: FW: Environmental Surveys for State Requirements

FYI...

-----Original Message-----

From: Grillon, Benjamin
Sent: Tuesday, February 22, 2005 2:39 PM
To: 'linda.pollock@knox.army.mil'
Cc: 'jerry.brackett@knox.army.mil'; 'bill.hickok@knox.army.mil'; Bradford, Ronald
Subject: Environmental Surveys for State Requirements

Gail,

Below is a list of permits and surveys that we will be obtaining in conjunction with the state's CCN process. Please let me know if Fort Knox will require any further surveys or permits beyond these.

- COE Nationwide Permits for construction of utility lines (takes care of 404 permit and 401 permit in both KY and IN).
COE Section 10 Permit
- Endangered Species Survey
- Section 106 Review (historical, cultural or archeological surveys)
- KY and IN General Permits for construction activities that discharge storm water
KY and IN Floodplain Construction Permits
- Wetlands Survey
- MSD "EPSC" Permit (Jefferson County storm water runoff permit)

Thanks,

Brandon Grillon

859-367-5763

Harper, Vicki

From: Grillon, Benjamin
Sent: Tuesday, February 22, 2005 3:28 PM
To: Winkler, Michael; 'Clay Doherty'; 'Derek McDonald'; Dimas, Jim; Dowdy, Tim; Grillon, Benjamin; 'Jack Bender'; 'Jesse Glasgow'; Kuriger, Jeff; Mullins, Nate; 'Renu Gupta'; Strunk, Alan; 'William Bumpers'
Subject: FW: NEPA Categorical Exclusions

FYI

-----Original Message-----

From: Grillon, Benjamin
Sent: Tuesday, February 22, 2005 3:27 PM
To: 'linda.pollock@knox.army.mil'
Cc: 'jerry.brackett@knox.army.mil'; 'bill.hickok@knox.army.mil'; Bradford, Ronald
Subject: NEPA Categorical Exclusions

Gail,
As we talked about in the meeting, we are concerned whether we would meet any of the categorical exclusions for the NEPA review. Our environmental permitting team has identified the following categorical exclusions which this project may fall under. If you require any further information in order to make your determination on the NEPA review please let me know.

- CX A-7: Construction that does not significantly alter land use, provided the operation of the project when completed would not of itself have a significant environmental impact; this includes grants to private lessees for similar construction.
- CX A-17: Acquisition, installation, and operation of utility and communication systems, data processing, cable and similar electronic equipment that use existing rights of way, easements, distribution systems, and facilities.
- CX A-20: Grants of easements for the use of existing rights-of-way for use by vehicles; electrical, telephone and other transmission and communication lines; transmitter and relay facilities; water, wastewater, stormwater and irrigation pipelines, pumping stations, and facilities; and for similar public utility and transportation uses.
- CX A-21: Grants of leases, licenses, and permits to use existing Army controlled property for non-Army activities, provided there is an existing land-use plan that has been environmentally assessed and the activity will be consistent with that plan.
- CX A-22: Grants of consent agreements to use a Government-owned easement in a manner consistent with existing Army use of the easement...
- CX A-23: Grants of licenses for the operation of telephone, gas, water, electricity, community television antenna, and other distribution systems normally considered as public utilities.

Thanks,
Brandon Grillon
859-367-5763

Harper, Vicki

From: Grillon, Benjamin
Sent: Tuesday, November 01, 2005 3:31 PM
To: 'Glasgow, Jesse'; 'linearprojects'; Ehrler, Bob; Winkler, Michael
Subject: FW: SHPO Response - Architectural Report
Attachments: LG&E SHPO architectural.pdf

FYI...
We need to discuss.

Thanks,
Brandon

From: Helmkamp, Richard C [mailto:Richard.Helmkamp@knox.army.mil]
Sent: Tuesday, November 01, 2005 2:37 PM
To: Grillon, Benjamin
Subject: SHPO Response - Architectural Report

Brandon,

SHPO letter is attached. Not good news. Give me a call when you get a chance.

Criss

R. Criss Helmkamp, Ph.D.
Cultural Resources Program Manager
Directorate of Public Works
Fort Knox, KY 40121-5000
Phone: (502) 624-6581 Fax: (502) 624-6581

11/01/05 12:04 FAX 5025645820



#16440

COMMERCE CABINET
KENTUCKY HERITAGE COUNCIL.

Ernie Fletcher
Governor

The State Historic Preservation Office
300 Washington Street
Frankfort, Kentucky 40601
Phone (502) 564-7005
Fax (502) 564-5820
www.kentucky.gov

W. James Host
Secretary

David L. Morgan
Executive Director and
State Historic Preservation Officer

October 25, 2005

Mr. Joseph T. Hutchins, Jr.
Director of Public Works
Department of the Army
Headquarters, US Army Garrison
Fort Knox, Kentucky 40121-5000

Re: Proposed Electric Utility Easement, Fort Knox, Kentucky

Dear Mr. Hutchins:

The State Historic Preservation Office has received for review and approval the above-referenced report. At this time, we cannot comment on an isolated section (the 10.9 miles within the Fort Knox corridor) of this project without reviewing the entire undertaking. Additionally, the Kentucky Public Services Commission rejected the proposed 41.9-mile line from Jefferson to Hardin County on September 8, 2005. Furthermore, our review indicates that this report does not meet the Kentucky Heritage Council's *Specifications for Conducting Fieldwork and Preparing Cultural Resource Assessment Reports*. In order for us to complete our review of this report and the project in general, the following deficiencies need to be addressed.

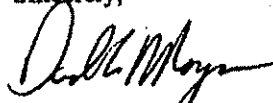
- The report is poorly formatted and organized; in particular there is no title page, no table of contents and no list of figures, plates or tables. (*Specifications*, Chapter VI, A.1-4)
- There is no discussion and/or development of a historic context. (*Specifications*, Chapter VI, G.2)
- The site descriptions are minimal at best; the information provided on individual properties must be sufficient to allow the SHPO to evaluate each property within the project area based on the report. Determinations of eligibility are not possible with the lack of information provided. (*Specifications*, Chapter VI, H.2.a)
- All newly recorded properties 50 years or older must be evaluated individually against the National Register for Historic Places Criteria A, B, C and D. (*Specifications*, Chapter VI, H 2.d.1)
- Documentation for each site 50 years or older shall include a KHC inventory form with color or black and white photographs and negatives. Site inventory forms were not completed for this report. (*Specifications*, Chapter V, B.2.a-b)

11/01/05 12:05 FAX 5025845820

Mr. Hutchins
Page 2
October 25, 2005

Should you have any questions, feel free to contact Janie-Rice Brothner of my staff at (502) 564-7005 extension 121.

Sincerely,



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

Harper, Vicki

From: Grillon, Benjamin
Sent: Friday, July 29, 2005 7:25 PM
To: Ehrler, Bob; Winkler, Michael; 'Glasgow, Jesse'; 'linearprojects'
Subject: FW: Ft Knox New 100' Easement

Attachments: New additional Esmt running along US 60 from Tip Top Sub Southward.pdf

Privileged and Confidential
Attorney-Client Communications/Attorney Work Product

Here is the easement as it has been renewed.

Thanks,
Brandon

From: Kuriger, Jeff
Sent: Friday, July 29, 2005 2:35 PM
To: Ehrler, Bob; Grillon, Benjamin
Subject: Ft Knox New 100' Easement

ATTORNEY-CLIENT COMMUNICATION
ATTORNEY WORK PRODUCT PREPARED IN ANTICIPATION OF LITIGATION
PRIVILEGED AND CONFIDENTIAL



ew additional Esmt
running al...

Jeff Kuriger
Agent, LG&E Energy Right of Way Department
Office 502-627-4522
Fax 502-217-2261
jeff.kuriger@lgeenergy.com



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, LOUISVILLE
CORPS OF ENGINEERS
P. O. BOX 59
LOUISVILLE KY 40201-0059

<http://www.trl.usace.army.mil/>

**Real Estate Division
Military Branch**

June 15, 2005

Louisville Gas & Electric Company
ATTN: Mr. Jeff Kuriger, Agent
Right of Way Department
P.O. Box 32010
Louisville, Kentucky 40232

Dear Mr. Kuriger:

Enclosed is a fully executed copy of the Department of the Army Easement No. DACA27-2-05-235, granting the right-of-way for electrical transmission lines and an electrical substation, located on Fort Knox Military Reservation.

Thank you for your cooperation in this matter. If further assistance is needed you may contact Mr. Bruce McPheeters at (502) 315-6976.

Sincerely,

A handwritten signature in cursive script, appearing to read "Michael G. Barter".

Michael G. Barter
Chief, Real Estate Division

Encls.

EASEMENT NO. DACA27-2-05-235

DEPARTMENT OF THE ARMY

EASEMENT FOR RIGHT OF WAY FOR OVERHEAD ELECTRIC LINE

AND ELECTRICAL SUBSTATION

LOCATED ON

FORT KNOX MILITARY RESERVATION

HARDIN COUNTY, KENTUCKY

THE SECRETARY OF THE ARMY, under and by virtue of the authority vested in the Secretary by Title 43, United States Code, Section 961, having found that the granting of this easement is not incompatible with the public interest, hereby grants to Louisville Gas and Electric Company, a corporation duly organized and existing under and by virtue of the laws of the Commonwealth of Kentucky, with its principal office at Louisville, Kentucky, hereinafter referred to as the grantee, an easement for a right of way one hundred (100) feet in width, approximately 14,384 feet in length (138 KV electrical transmission line) extending from 0.7 miles southwest of the intersection of U.S. highway 60 and U.S. Highway 31W, at Tip Top, Kentucky and for the operation and maintenance of an electrical substation on approximately 4.68 acres, hereinafter referred to as the facilities, over, across, in and upon lands of the United States as identified in Exhibits "A" and "B", hereinafter referred to as the premises, and which are attached hereto and made a part hereof.

THIS EASEMENT is granted subject to the following conditions.

1. TERM

This easement is hereby granted for a term of fifty (50) years, beginning on 1 May 2005 and ending on 30 April 2055.

2. CONSIDERATION

a. The grantee shall pay in advance to the United States the amount of **THIRTY TWO THOUSAND SIX HUNDRED AND 00/100** in full for the term hereof payable in advance to the order of USAED, Louisville District and delivered to Post Office Box 59, Louisville, Kentucky 40201-0059.

b. All consideration and other payments due under the terms of this easement must be paid on or before the date they are due in order to avoid the mandatory sanctions imposed by the Debt Collection Act of 1982, 31 U.S.C. Section 3717. This statute requires the imposition of an interest charge for the late payment of debts owed to the United States, an administrative charge to

EASEMENT NO. DACA27-2-05-235
SUPERSEDES EASEMENT NO. 052-FK-34
FORT KNOX, KENTUCKY

cover the costs of processing and handling delinquent debts, and the assessment of an additional penalty charge on any portion of a debt that is more than 90 days past due. The provisions of the statute will be implemented as follows:

(1) The United States will impose an interest charge, the amount to be determined by law or regulation, on late payment of debts. Interest will accrue from the due date. An administrative charge to cover the cost of processing and handling each payment will also be imposed.

(2) In addition to the charges set forth above, the United States will impose a penalty charge of six percent (6%) per annum on any payment, or portion thereof, more than ninety (90) days past due. The penalty shall accrue from the date of the delinquency and will continue to accrue until the debt is paid in full.

3. NOTICES

All notices to be given pursuant to this easement shall be addressed, if to the grantee, to Louisville Gas & Electric Company, 220 West Main Street, P.O. Box 32010, Louisville, Kentucky and, if to the United States, to the District Engineer, Attention: Chief, Real Estate Division, Post Office Box 59, Louisville, Kentucky 40201-0059, or as may from time to time otherwise be directed by the parties. Notice shall be deemed to have been duly given if and when enclosed in a properly sealed envelope or wrapper addressed as aforesaid, and deposited postage prepaid in a post office regularly maintained by the United States Postal Service.

4. AUTHORIZED REPRESENTATIVES

Except as otherwise specifically provided, any reference herein to "Secretary," "District Engineer," "Installation Commander," or "said officer" shall include their duly authorized representatives. Any reference to "grantee" shall include assignees, transferees and their duly authorized representatives.

5. SUPERVISION BY THE DISTRICT ENGINEER

The construction, operation, maintenance, repair or replacement of said facilities, including culverts and other drainage facilities, shall be performed at no cost or expense to

EASEMENT NO. DACA27-2-05-235
SUPERSEDES EASEMENT NO. 052-FK-34
FORT KNOX, KENTUCKY

the United States and subject to the approval of the District Engineer, Louisville District, hereinafter referred to as said officer. Upon the completion of any of the above activities, the Grantee shall immediately restore the premises to the satisfaction of said officer. The use and occupation of the premises for the purposes herein granted shall be subject to such rules and regulations as said officer prescribes in writing from time to time.

6. APPLICABLE LAWS AND REGULATIONS

The grantee shall comply with all applicable Federal, state, county and municipal laws, ordinances and regulations wherein the premises are located, including, but not limited to, the provisions of the latest edition of the National Electrical Safety Code (NESC) and the Environmental Protection Agency regulations on Polychlorinated Biphenyl (PCB).

7. CONDITION OF PREMISES

The grantee acknowledges that it has inspected the premises, knows the condition, and understands that the same is granted without any representation or warranties whatsoever and without any obligation on the part of the United States.

8. INSPECTION AND REPAIRS

The grantee shall inspect the facilities at reasonable intervals and immediately repair any defects found by such inspection or when required by said officer to repair any such defects.

9. PROTECTION OF GOVERNMENT PROPERTY

The grantee shall be responsible for any damage that may be caused to the property of the United States by the activities of the grantee under this easement and shall exercise due diligence in the protection of all property located on the premises against fire or damage from any and all other causes. Any property of the United States damaged or destroyed by the grantee incident to the exercise of the privileges herein granted shall be promptly repaired or replaced by the grantee to a condition satisfactory to said officer, or at the election of said officer, reimbursement made therefore by the grantee in an amount necessary to restore or replace the property to a condition satisfactory to said officer.

EASEMENT NO. DACA27-2-05-235
SUPERSEDES EASEMENT NO. 052-FK-34
FORT KNOX, KENTUCKY

10. RIGHT TO ENTER

The right is reserved to the United States, its officers, agents, and employees to enter upon the premises at any time and for any purpose necessary or convenient in connection with government work, to make inspections, to remove timber or other material, except property of the grantee, and/or to make any other use of the lands as may be necessary in connection with government purposes, and the grantee shall have no claim for damages on account thereof against the United States or any officer, agent, or employee thereof.

11. TRANSFERS AND ASSIGNMENTS

Without prior written approval by said District Engineer, the grantee shall neither transfer nor assign this easement or any part thereof nor grant any interest, privilege or license whatsoever in connection with this easement. The provisions and conditions of this easement shall extend to and be binding upon and shall inure to the benefit of the representatives, successors and assigns of the grantee.

12. INDEMNITY

The United States shall not be responsible for damages to property or injuries to persons which may arise from or be incident to the exercise of the privileges herein granted, or for damages to the property or injuries to the person of the grantee's officers, agents, or employees or others who may be on the premises at their invitation or the invitation of any one of them, and the grantee shall hold the United States harmless from any and all such claims not including damages due to the fault or negligence of the United States or its contractors.

13. SUBJECT TO EASEMENTS

This easement is subject to all other existing easements, or those subsequently granted as well as established access routes for roadways and utilities located, or to be located, on the premises, provided that the proposed grant of any new easement or route will be coordinated with the grantee, and easements will not be granted which will, in the opinion of said officer, interfere with the use of the premises by the grantee.

EASEMENT NO. DACA27-2-05-235
SUPERSEDES EASEMENT NO. 052-FK-34
FORT KNOX, KENTUCKY

14. REQUIRED SERVICES

The grantee shall furnish through said facilities such services as may be required from time to time for governmental purposes, provided that payment for such service will be made by the United States at rates which shall be mutually agreeable but which shall never exceed the most favorable rates granted by the grantee for similar service.

15. RELOCATION OF FACILITIES

In the event all or any portion of the premises occupied by the said facilities shall be needed by the United States, or in the event the existence of said facilities is determined to be detrimental to governmental activities, the grantee shall from time to time, upon notice to do so, and as often as so notified, remove said facilities to such other location as may be designated by said officer. In the event said facilities shall not be removed or relocated within ninety (90) days after such notice, the United States may cause such relocation at the sole expense of the grantee.

16. TERMINATION

This easement may be terminated by the Secretary upon 30 days written notice to the grantee if the Secretary shall determine that the right-of-way hereby granted interferes with the use or disposal of said land by the United States, or it may be revoked by the Secretary for failure of the grantee to comply with any or all of the conditions of this easement, or for non-use for a period of two (2) years, or for abandonment.

17. SOIL AND WATER CONSERVATION

The grantee shall maintain, in a manner satisfactory to said officer, all soil and water conservation structures that may be in existence upon said premises at the beginning of or that may be constructed by the grantee during the term of this easement, and the grantee shall take appropriate measures to prevent or control soil erosion within the right-of-way herein granted. Any soil erosion occurring outside the premises resulting from the activities of the grantee shall be corrected by the grantee as directed by said officer.

EASEMENT NO. DACA27-2-05-235
SUPERSEDES EASEMENT NO. 052-FK-34
FORT KNOX, KENTUCKY

18. ENVIRONMENTAL PROTECTION

a. Within the limits of their respective legal powers, the parties hereto shall protect the premises against pollution of its air, ground, and water. The grantee shall promptly comply with any laws, regulations, conditions or instructions affecting the activity hereby authorized if and when issued by the Environmental Protection Agency, or any Federal, state, interstate or local governmental agency having jurisdiction to abate or prevent pollution. The disposal of any toxic or hazardous materials within the premises is strictly prohibited. Such regulations, conditions, or instructions in effect or prescribed by the said Environmental Protection Agency or any Federal, state, interstate or local governmental agency are hereby made a condition of this easement. The Grantee shall not discharge waste or effluent from the premises in such a manner that the discharge will contaminate streams or other bodies of water or otherwise become a public nuisance.

b. The use of any pesticides or herbicides within the premises shall be in conformance with all applicable Federal, state and local laws and regulations. The grantee must obtain approval in writing from said officer before any pesticides or herbicides are applied to the premises.

c. The grantee will use all reasonable means available to protect the environment and natural resources, and where damage nonetheless occurs arising from the grantee's activities, the grantee shall be liable to restore the damaged resources.

19. HISTORIC PRESERVATION

The grantee shall not remove or disturb, or cause or permit to be removed or disturbed, any historical, archeological, architectural or other cultural artifacts, relics, remains or objects of antiquity. In the event such items are discovered on the premises, the grantee shall immediately notify said officer and protect the site and material from further disturbance until said officer gives clearance to proceed.

EASEMENT NO. DACA27-2-05-235
SUPERSEDES EASEMENT NO. 052-FK-34
FORT KNOX, KENTUCKY

20. NON-DISCRIMINATION

The grantee shall not discriminate against any person or persons because of race, color, age, sex, handicap, national origin, or religion in the conduct of operations on the premises.

21. RESTORATION

On or before the expiration or termination of this easement, the grantee shall, without expense to the United States, and within such time as said officer may indicate, remove said facilities and restore the premises to the satisfaction of said officer. In the event the grantee shall fail to remove said facilities and restore the premises, the United States shall have the option to take over said facilities without compensation, or to remove said facilities and perform the restoration at the expense of the grantee, and the grantee shall have no claim for damages against the United States or its officers or agents for such action.

22. DISCLAIMER

This instrument is effective only insofar as the rights of the United States in the property are concerned, and the grantee shall obtain such permission as may be required on account of any other existing rights. It is understood that the granting of this easement does not eliminate the necessity of obtaining any Department of the Army permit which may be required pursuant to the provisions of Section 10 of the Rivers and Harbors Act of 3 March 1899 (30 Stat. 1151; 33 U.S.C. § 403), Section 404 of the Clean Water Act (33 U.S.C. § 1344) or any other permit or license which may be required by Federal, state or local statute in connection with use of the premises.

EASEMENT NO. DACA27-2-05-235
SUPERSEDES EASEMENT NO. 052-FK-34
FORT KNOX, KENTUCKY

THIS EASEMENT is not subject to Title 10, United States Code, Section 2662, as amended.

IN WITNESS WHEREOF, I have hereunto set my hand by authority of the Secretary of the Army this 15TH day of JUNE, 2005.

Michael G. Barter

MICHAEL G. BARTER
Chief, Real Estate Division
Louisville District, Corps of Engineers
Louisville, Kentucky

Attn:

THIS EASEMENT is also executed by the grantee this 25th day of May, 2005.

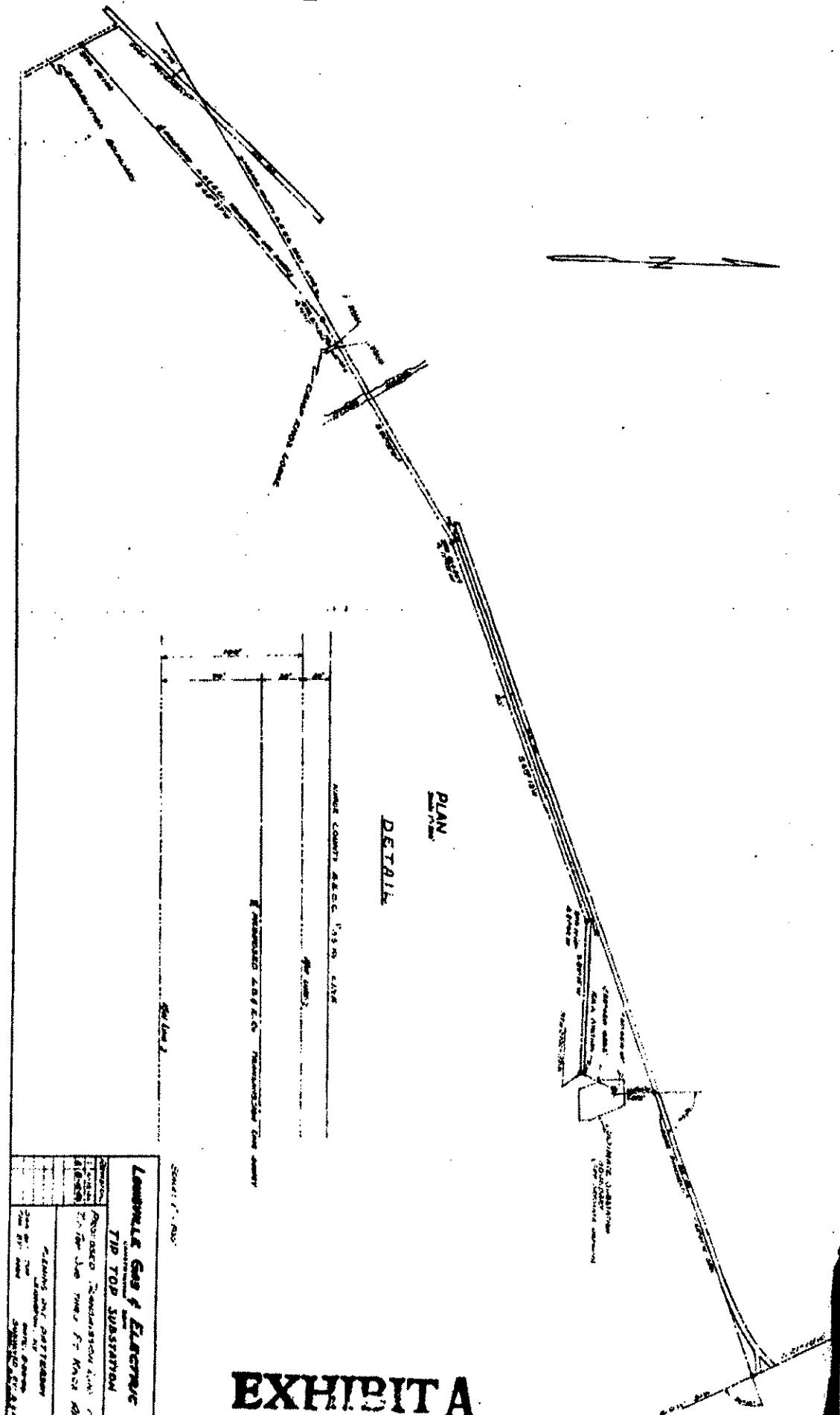
LOUISVILLE GAS AND ELECTRIC COMPANY

Printed Name & Title

Kathy Slav
Director - Operating Services

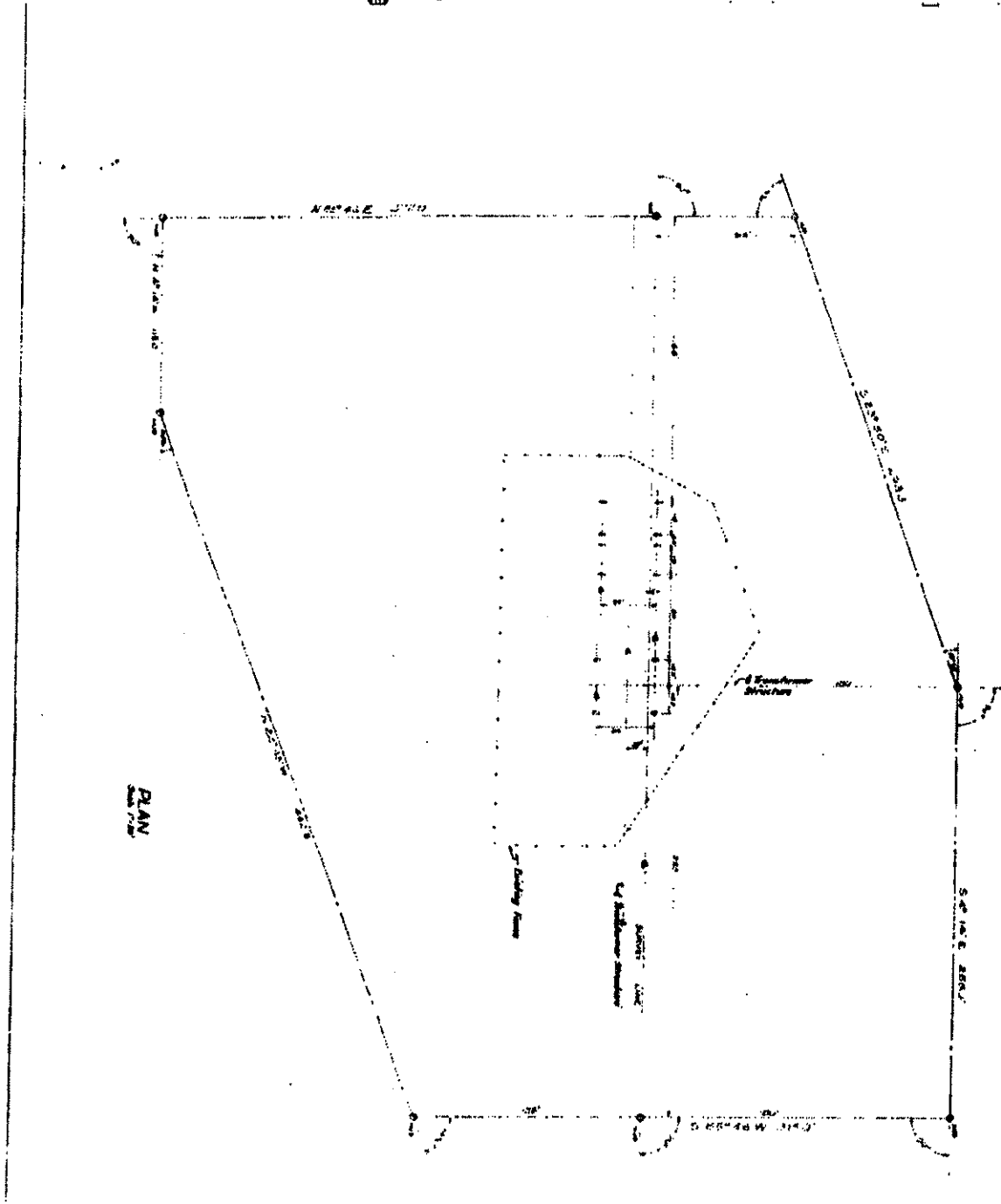
Signature

Kathy Slav



Lowvoltage Gas & Electric	
TIP TOP SUBSTATION	
PROJECT NO.	05000000000000000000
DATE	07/29/05
BY	...
CHECKED BY	...
SCALE	AS SHOWN
PROJECT LOCATION	...
PROJECT DESCRIPTION	...
PROJECT OWNER	...
PROJECT MANAGER	...
PROJECT ENGINEER	...
PROJECT ARCHITECT	...
PROJECT CONTRACTOR	...

EXHIBIT A



LOUISVILLE GAS & ELECTRIC CO.
T.P. TOP SUBSTATION

Approved by: _____
 Date: _____

Checked by: _____
 Date: _____

Drawn by: _____
 Date: _____

Scale: _____

EXHIBIT B



A SUBSIDIARY OF
LG&E ENERGY

One Quality Street
Lexington, Kentucky 40507



A SUBSIDIARY OF
LG&E ENERGY

August 17, 2005

Ms. Linda Gail Pollock
Environmental Management Division
Directorate of Base Operations Support
ATTN: IMSE-KNX-OSE
6th Avenue, Bldg 1110B
Ft Knox, KY 40121-5000

**RE: Report of No Adverse Effect on Historic Resources,
Proposed LG&E/KU Electric Utility Easement,
Ft. Knox Army Reservation**

Dear Ms. Pollock:

Enclosed are five copies of a determination of eligibility and assessment of effect on historic structure resources prepared by Historic Preservation Consulting. The purpose of this report is to assist Ft. Knox with its Section 106 obligations in the matter of granting the proposed LG&E/KU electric utility easement across Ft. Knox Army Reservation.

If you have any questions regarding this report, please call me at (859) 367-5763.

Sincerely,

A handwritten signature in black ink that reads 'B. Grillon'. The signature is written in a cursive, flowing style.

Brandon Grillon
Transmission Engineer
(859) 367-5763

CC: Bob Ehrler
Clayton Doherty



A SUBSIDIARY OF
LG&ENERGY

One Quality Street
Lexington, Kentucky 40507



A SUBSIDIARY OF
LG&ENERGY

September 6, 2005

Ms. Linda Gail Pollock
Environmental Management Division
Directorate of Base Operations Support
ATTN: IMSE-KNX-OSE
6th Avenue, Bldg 1110B
Ft Knox, KY 40121-5000

**RE: Phase One Archaeological Survey Report,
Proposed LG&E/KU Electric Utility Easement,
Ft. Knox Army Reservation**

Ms. Pollock:

Enclosed are five copies of a finalized archaeological resources survey prepared by Brockington & Associates. The purpose of this report is to assist Ft. Knox with its Section 106 obligations in the matter of granting the proposed LG&E/KU electric utility easement across Ft. Knox Army Reservation.

If you have any questions regarding this report, please call me at (859) 367-5763.

Sincerely,

A handwritten signature in black ink, appearing to read 'Brandon Grillon'.

Brandon Grillon
Transmission Line Design Engineer

Enclosure

Harper, Vicki

From: Ehrler, Bob
Sent: Wednesday, October 26, 2005 3:08 PM
To: Winkler, Michael
Subject: FW: Fort Knox Draft EA Comments

Attachments: LGE EA Comment Sheet - 26 Sep 05.doc



LGE EA Comment
Sheet - 26 Sep ...

FYI.

-----Original Message-----

From: linearprojects [mailto:linearprojects@bellsouth.net]
Sent: Wednesday, October 26, 2005 9:15 AM
To: Grillon, Benjamin
Cc: Ehrler, Bob
Subject: Fort Knox Draft EA Comments

ATTORNEY-CLIENT COMMUNICATION
PRIVILEGED AND CONFIDENTIAL
WORK PRODUCT- PREPARED IN ANTICIPATION OF LITIGATION

Good morning, Brandon and Bob!

Received comments on the draft EA from Ft. Knox (attached).

Best regards,

.lay

Clayton M Doherty
Environmental & Regulatory Coordinator
Linear Projects, Inc.
608 Herb River Drive
Savannah, GA 31406
912.354.7565 office
912.224.5988 cell
linearprojects@bellsouth.net

This e-mail is intended only for the addressee(s) shown. It contains information that is confidential and may not be disclosed to other parties. The review, dissemination, or other use of this transmission or its contents by persons other than those intended is prohibited.

Reviewer	Section Number	Page Number	Line Number	Comment	L,G&E RESPONSE
Gail Pollock	FNSI	ii		Change Keith A. Armstrong TO MARK D. NEEDHAM	
Gail Pollock	Staffing Sign. Page	iii		Change all Directorate of Base Operations Support (DBOS) TO Directorate of Public Works (DPW) throughout the document	
Gail Pollock	Staffing Sign. Page	iii		Change Vincent C. Nealey, Chief, Administrative Law Division TO J. Peter Hill, Attorney Advisor, Administrative Law Division, Office of Staff Judge Advocate	
Gail Pollock	Signature Page	iv		DELETE ALBERT W. FREELAND, (Leave blank space for new Division Chief's Name)	
Gail Pollock	Staffing Sign. Page	iv		Add line between Division Chief's signature block and Director of Public Works	
Gail Pollock	Staffing Sign. Page	iv		Change Joseph V. Muscarella, Colonel Engineer TO Joseph T. Hutchins, Jr., Director of Public Works	
Mike Meyer	Section 1.3	5	9-10	Is it Cloverport or Cloverdale? Or both?	
Mike Meyer	Section 1.5	8	28	Misspelled names---should read Mike Hasty eliminate "e" and Brian Waldrep... change the "t" to a "d."	
Gail Pollock	Section 2.3	10 & 11, 15		Cloverport or Cloverdale?	
Gail Pollock	Section 3.2, Air Quality	18		Insert: " Fugitive dust may be generated by construction activities. Generally, this is limited to the drier months of year and does not cause significant environmental impacts when precautionary measures associated with dust control are practiced.	
Gail Pollock	4.15, Cumulative Impacts	55		Reference Question: The Base Realignment and Closure Action currently pending Congressional Approval and the Army Transformation and restationing of units may result in additional construction projects at Fort Knox. Those projects may begin as early as FY 2006 and continue until FY 2011. Projects include construction	

				sites for relocatable barracks and administrative buildings, construction of new office buildings, and restructuring of some range facilities.	
Gail Pollock	6.1, Preparers, etc.	58		Delete Gail Pollock, Chief, Environmental Management Division; Change next line "xxxx" TO Gail Pollock, Environmental Protection Specialist/NEPA Delete: Don Sheroan	
Art Smaagard & Gail Pollock				The alternative to bring the line down 31W may potentially impact airport expansion and would not be acceptable to Ft Knox.	

Harper, Vicki

From: Ehrler, Bob
Sent: Friday, February 10, 2006 3:13 PM
To: Johnson, Mark S.; Bradford, Ronald; Schetzel, Doug; Wolfram, John; Keisling, Jennifer; Dimas, Jim; O'Brien, Dorothy (Dot); 'greg.cornet@skofirm.com'; 'robert.watt@skofirm.com'; Winkler, Michael; Dodson, Sharon
Subject: FW: LG&E/KY Transmission Easement Across Ft. Knox

FYI.

From: Ehrler, Bob
Sent: Friday, February 10, 2006 3:03 PM
To: 'Janie-Rice.Brother@ky.gov'
Cc: 'davidl.morgan@ky.gov'; 'david.pollack@ky.gov'; 'Richard.Helmkamp@knox.army.mil'
Subject: LG&E/KY Transmission Easement Across Ft. Knox

Ms. Brother,

I received your voicemail message yesterday in which you advised that the SHPO concurs that the scope of the Section 106 studies for the above project is limited to the portion that crosses Ft. Knox as no federal approval is required for the remainder. I would appreciate it if you could confirm this understanding in writing for our project records.

In addition, we are in the process of revising the historic structures report to address the comments previously provided by the SHPO. The revised report for the transmission easement across Ft. Knox will be submitted for your further review. Finally, in response to your request that we voluntarily consider potential impacts on historic properties on the portion of the project outside the boundaries of Ft. Knox, I wish to assure you that we are conducting surveys to identify archaeological resources and historic structures for that part of our project. Upon completion, those reports will be provided for the SHPO's information.

We look forward to continuing to work with the SHPO staff on this project.

Robert J. Ehrler
Senior Corporate Attorney
E.ON U.S. LLC
220 West Main Street
Louisville, KY 40202
Phone: 502/627-2305
Fax: 502/627-3367
bob.ehrler@eon-us.com



Mark S. Johnson
Director, Transmission

LG&E Energy LLC
119 North Third Street
PO Box 32020, 40232
Louisville, KY 40202
office: 502-627-2824
fax: 502-627-4716
mark.johnson@lgeenergy.com

September 28, 2005

Colonel Mark D. Needham
Garrison Commander
Fort Knox Army Reservation
IMSE-KNX-ZA-GC
Fort Knox, KY 40121

Re: Request for Evaluation of Additional Electric Utility Easement Routes Across the Fort Knox Military Reservation

Dear Colonel Needham:

I want to thank your staff for working with our engineers at Kentucky Utilities earlier this year to evaluate various routes for our proposed 345 kV transmission line going from our Mill Creek generating plant in Jefferson County to the Elizabethtown substation in Hardin County. Your staff had suggested a route which utilized the existing electric transmission easement along US 60. Please note that the suggested route is in close proximity to the Tip Top Substation which has the potential to facilitate another feed into Ft. Knox if it should become needed.

As part of our effort to identify optimal routes, the route evaluation process we are utilizing earlier analyzed several additional potential routes through the Fort Knox Reservation. These additional routes follow a series of existing gas and electric transmission easements which were obtained in the past by Louisville Gas & Electric, Kentucky Utilities, or East Kentucky Power. Each of these routes is identified on the attached map.

Certain of the additional routes we analyzed earlier this year may have been discussed previously with Jerry Brackett, Gail Pollock, Michael Sullivan, and Bill Hickok as part of the earlier efforts in the route selection process for the project. Kentucky Utilities is once again giving consideration to these additional routes to ensure that it satisfies the Public Service Commission's requirement that it evaluate alternative routes and avoid duplicative facilities. Accordingly, Kentucky Utilities respectfully requests you and your staff to provide comments on potential impacts associated with the use of the following routes. Each of the routes identified below follows existing easements through the Reservation.

Colonel Mark D. Needham
Page 2
September 28, 2005

- #1. Following existing gas transmission line along 31W from US 60 south to Radcliff at the reservation boundary
- #2. Following existing gas transmission line south of the Tip Top substation, south of US 60 to the reservation boundary
- #3. A new transmission easement, running along the west side of 31W parallel to the current gas transmission route

We welcome any suggestion by your staff of other routes across the Reservation that would be agreeable to Ft. Knox. In addition, please let us know if the recommendations of the 2005 Base Realignment and Closure (BRAC) Commission will result in removal of facilities on Ft. Knox in a way that would make any of the three routes listed above more favorable than the route suggested by your staff. Your staff's suggestion was made well before the BRAC Commission announced its recommendations and we want to make sure that route selection takes into account any changes to operations at Ft. Knox.

Kentucky Utilities appreciates your assistance with evaluating the additional routes and I look forward to receiving your comments. We also respectfully request that you expedite the evaluation to the extent you reasonably can while still giving each potential route thorough consideration. If you have any questions, please contact me at (502) 627-2824.

I look forward to your evaluation of the routing information.

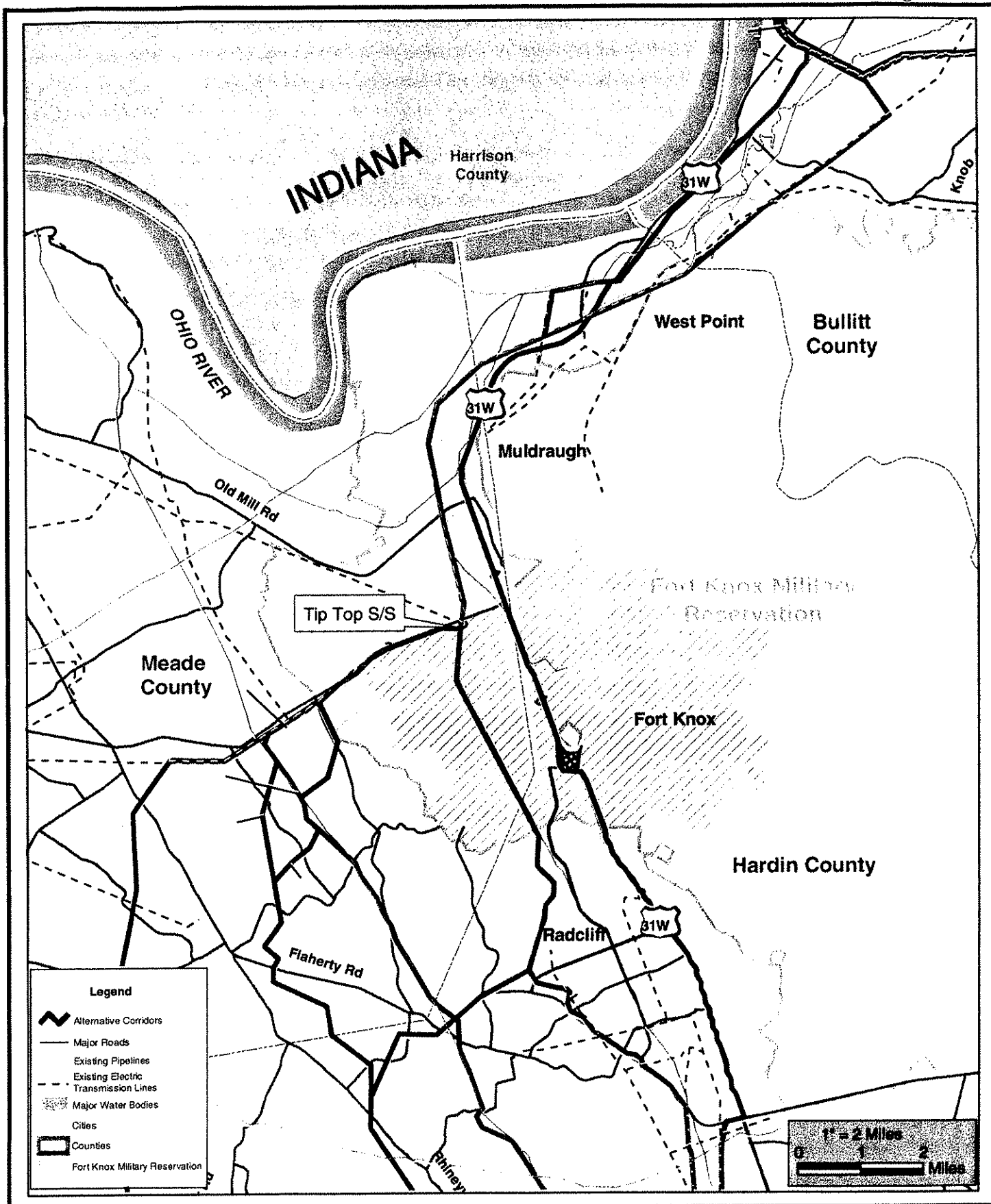
Regards,



Mark S. Johnson

Enclosure

cc: Mr. Tom Hutchins, Director of Base Operations Support
Mr. Jerry Brackett



LG&E ENERGY

KU



PHOTO SCIENCE
CORPORATION



Mark S. Johnson
Director, Transmission

LG&E Energy LLC
119 North Third Street
PO Box 32020, 40232
Louisville, KY 40202
office: 502-627-2824
fax: 502-627-4716
mark.johnson@lgeenergy.com

November 9, 2005

David L. Morgan, Executive Director
and State Historic Preservation Officer
300 Washington Street
Frankfort, Kentucky 40601

RE: Proposed Electric Line Easement across Fort Knox Military Reservation

Dear Mr. Morgan:

This is to provide additional information regarding an electric transmission line easement which Louisville Gas and Electric Company and Kentucky Utilities Company (collectively referred to as "LG&E") have proposed to locate on the Fort Knox Military Reservation. The proposed transmission line is essential to ensure our continued ability to provide reliable electric service to our customers. As you know, LG&E is working with Fort Knox staff on archaeological and historic structures surveys for the potential easement areas to facilitate the Army's review pursuant to Section 106 of the National Historic Preservation Act. The archaeological report and historic structure report were submitted to your office by letter dated September 26, 2005. Fort Knox staff have continued to consult with the State Historic Preservation Officer (SHPO) concerning the proposed project and the scope and sufficiency of the survey reports. After reviewing your recent letters to Fort Knox dated October 25 and 27, 2005, we wish to provide additional clarification on certain issues you have raised.

In your October 25, 2005 letter to Mr. Joseph T. Hutchins, Director of Base Operations Support for Fort Knox, regarding the draft historic structures report, you decline to comment on the report's analyses and findings, noting, among other things, that the Kentucky Public Service Commission (PSC) "rejected" the proposed transmission project on September 8, 2005. This appears to suggest that you do not view the report as ripe for SHPO review until such time as LG&E obtains PSC approval for the project. However, such a position would contradict your July 25, 2005 letter to the PSC urging the PSC to reject the proposed transmission line project until completion of SHPO review pursuant to Section 106. We regard review of the proposed easement across Fort Knox by the SHPO pursuant to Section 106 and review of the transmission line project by the PSC pursuant to KRS Chapter 278 as two separate and independent regulatory reviews. The PSC has also taken the position that it is within the discretion of the utility to determine the

David L. Morgan, Executive Director
and State Historic Preservation Officer

November 7, 2005

Page 2 of 3

order in which to apply for various permits and certificates that may be applicable to a project.¹ We plan on resubmitting our revised application to the PSC after addressing the concerns identified in the PSC's order. That revised application is expected to address additional alternative routes, as requested by the PSC. However, LG&E's plan to submit a revised application to the PSC does not affect the need for the SHPO to proceed with its review of the Fort Knox segment of the project. Accordingly, we request that the SHPO commence review and consultation prior to any future PSC proceedings, consistent with the statements in your July 25, 2005 letter.

In your October 25, 2005 letter, you also decline to comment on "an isolated section (10.9 miles within the Fort Knox corridor) of the project without reviewing the entire undertaking." We believe that this determination is based on a misunderstanding of the nature and scope of the "federal undertaking" that triggers Section 106 review in the present situation. In this case, the specific federal undertaking in question is the determination by Fort Knox whether to approve an electric transmission line easement across federal property. The portion of our proposed transmission project which is beyond the boundaries of the Fort Knox Military Reservation is a purely private project outside the jurisdiction, control, or responsibility of Fort Knox or any other federal agency. Unlike electric cooperative transmission projects that you have reviewed in the past that require U.S. Rural Utility Service approval, in our case no federal funding is involved in the project and no federal agency permits or approvals are required. Thus, the scope of the "federal undertaking" is limited to the issuance of an easement for the approximately 10.9 - mile segment of transmission line to be located at Fort Knox. In the present situation, limiting the review to the 10.9 mile portion across the Fort Knox Military Reservation leaves the Army free to give full and fair consideration to the alternates that will be addressed in the environmental assessment for the easement. We firmly believe that the draft historic structures report correctly identifies the area of potential effect and that this determination is fully supported by the applicable statutory and regulatory provisions.

In addition, while your October 25, 2005 letter regarding the historic building survey suggests that the "entire" project must be reviewed, your October 27, 2005 letter regarding the archaeological report draws no such conclusion. In fact, you raise no objection to the area of potential effect specified in the draft archaeological report and conclude that:

In accordance with 36 CFR Part 800.4(d) of the Advisory Council's revised regulations our finding is that there is No Effect on Historic Properties within the undertaking's area of potential impact. Therefore, we have no further comments and the U.S. Army Armor Center and Fort Knox's responsibility to consult with the Kentucky State Historic Preservation Officer under the Section 106 review process is fulfilled. Provided that site 15Md429 is avoided, we have no objection to the project.

Perhaps the two conflicting letters stem from a misunderstanding among your staff as to the exact scope of the federal undertaking. Some of them may be aware that LG&E initially anticipated that it might be required to obtain Section 404 dredge and fill permits and/or Section 10 river crossing permits from the Army Corps of Engineers for some portions of the proposed

¹ In the Matter of: Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for the Construction of Transmission Facilities in Jefferson, Bullitt, Meade, and Hardin Counties, Kentucky, Case No. 2005-00142, Order dated September 8, 2005, page 4.

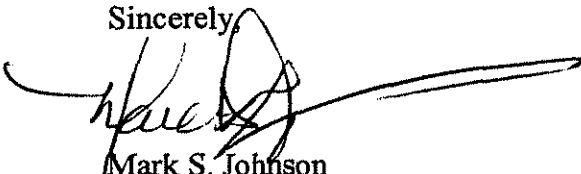
David L. Morgan, Executive Director
and State Historic Preservation Officer
November 7, 2005
Page 3 of 3

transmission corridor beyond the boundaries of Fort Knox and that these permits could potentially trigger additional Section 106 review for areas associated with those permits. However, subsequent discussions with the Corps of Engineers indicates that the project will not require such permits. Consequently, as explained above, our transmission project involves no federal undertaking other than the issuance of an easement across Fort Knox. We trust that this information will resolve any remaining confusion on the issue.

LG&E is committed to working with the Army and the SHPO in a cooperative manner to ensure that our proposed electric transmission line easement across Fort Knox complies with all applicable laws and regulations. In addition, we are committed to taking appropriate measures to ensure that cultural resources are adequately protected for the remainder of our project beyond the boundaries of Fort Knox in accordance with all laws or regulations applicable to non-federal projects. Please be assured that we will work with our consultants and the Army to address the remaining technical issues identified in your October 25, 2005 letter. We take the Section 106 consultation process seriously and remain confident that, through continued dialogue with the SHPO and the Army, we can resolve any and all issues as required under Section 106. Toward that end, we would like to request a meeting with you and your staff to discuss any unresolved Section 106 issues. We left telephone messages at your office on October 26 and 28, 2005, but have not yet received a response. Please contact Brandon Grillon at (859)376-5763 at your earliest convenience to schedule a meeting. We look forward to working with you and your staff to expeditiously resolve these matters.

Do not hesitate to contact Brandon Grillon or myself if you have any questions. Please note that this letter states the position of Louisville Gas and Electric Company and Kentucky Utilities Company and is not intended to represent the position of the U.S. Army or Fort Knox staff with respect to these issues.

Sincerely,



Mark S. Johnson
Director of Transmission

cc: Mr. Joseph T. Hutchins, Jr.

TRANSMISSION VERIFICATION REPORT

TIME : 11/09/2005 14:23
NAME : LGEE WATERSIDE ESOC
FAX : 502-6274716
TEL : 502-6274706
SER. # : 000M4J413483

DATE, TIME	11/09 14:22
FAX NO./NAME	915025645820
DURATION	00:01:13
PAGE(S)	04
RESULT	OK
MODE	STANDARD ECM

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 9

Witness: Michael G. Toll / Counsel

- Q-9. Please provide any studies, reports, or other written documentation of the “upcoming voltage problems” in Hardin County that provide a basis for the need to construct the subject transmission line.
- A-9. The Companies object to this request on grounds that the information sought is not relevant to the subject matter of this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence. The Companies also object to the premise of the question, on grounds that it misstates the evidence of record regarding the need for the proposed transmission facilities. Without waiver of that objection, the Companies state that the referenced “upcoming voltage problems” are not the sole, or even the primary, basis for the need for the subject line. As the Commission determined in Case No. 2005-00142, the proposed line is needed to support the integration of the TC2 generating unit in 2010. The proposed line will also resolve voltage problems that are forecast to occur in the Hardin County area between five to eight years after TC2 comes on line in 2010. Those voltage problems were identified in the MISO studies, and confirmed by the review of Liberty Consulting, produced in Case No. 2005-00142, all of which are incorporated here by reference.

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 10

Witness: Mark S. Johnson

- Q-10. What is the current estimate of the date by which LG&E/KU will need to have TC2 on line?
- A-10. TC2 is needed for LG&E/KU native load and reserve margin requirements by June 1, 2010, and for testing beginning in the third quarter of 2009.

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 11

Witness: Michael G. Toll / Counsel

- Q-11. Is the current estimate for the need for the subject line to address “upcoming voltage problems” in Hardin County still from 5 to 8 years after the TC2 comes on line?
- A-11. The Companies object to this request on grounds that the information sought is not relevant to the subject matter of this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence. Without waiver of that objection, see the Response to Question No. 9 above.

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 12

Witness: Michael G. Toll / Counsel

- Q-12. What alternatives other than the subject transmission line did LG&E/KU consider as a remedy for the “upcoming voltage problems” in Hardin County? Provide all studies or other documentation of all such alternatives considered and the reasons they were not implemented.
- A-12. The Companies object to this request on grounds that the information sought is not relevant to the subject matter of this proceeding and is not reasonably calculated to lead to the discovery of admissible evidence. Without waiver of that objection, the Companies state that the existing 345 kV line into, and the existing 345 kV to 138 kV transformer in Hardin County were placed in service in 1982. The Companies are currently evaluating the addition of a second 345 kV to 138 kV transformer in Hardin County to alleviate imminent voltage problems in that area. With regard to the referenced “upcoming voltage problems” after the addition of TC2, the Companies considered all other available technology or engineering options, including the addition of capacitors, transformers and interconnections, and concluded that there were no other feasible solutions to address those problems. In addition, see the Response to Question No. 9 above.

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 13

Witness: Clay Doherty

Q-13. Please provide the *Alternative Route Analysis and Evaluation* model taken from EPRI and GTC (Georgia Transmission Lines) used by Linear Projects and Photo Science referenced in testimony of Doherty, and identify any variations from the Georgia model that were used in this case.

A-13. A copy of the requested pages from the EPRI-GTC Overhead Transmission Line Siting Methodology Report is attached. The alternative route evaluation tool (or model) was designed to be used as step 4 out of 5 in the comprehensive siting Methodology. In the context of the Methodology this tool is used to identify evaluation criteria, measure route characteristics, and compare routes for the purpose of narrowing the pool of routes which go on to the expert judgment portion of the process (step 5).

The "EPRI/GTC Alternative Route Analysis and Evaluation" considers eligible historic resources for statistics as well as NRHP-listed historic resources. The Companies' evaluation used only NRHP-listed historic resources.

The EPRI/GTC Analysis and Evaluation tool uses the mileage of rebuild, co-location with existing utilities, and co-location with roads in the Engineering section. For the Companies' evaluation, percent of the total route was used instead. It was determined that capturing the statistic as a percent more accurately represented those categories.

The "EPRI/GTC Alternative Route Analysis and Evaluation" evaluates all alternate routes together, which usually do not exceed 20 to 30 alternatives. The alternatives evaluated in the EPRI/GTC evaluation are not all possible routes from point A to point B, but the most suitable routes from point A to point B, given the

criteria of each perspective of the Alternate Corridor Generation component. The Companies applied the Alternative Route Analysis and Evaluation to all 1,203 routes in the study area.

See also the Companies' responses to the Commission Staff's data requests in this proceeding.

PHASE 3: ALTERNATIVE ROUTE ANALYSIS AND EVALUATION

Alternative Route Generation

In Phase 2, the LCP algorithm was run to generate Alternative Corridors for each of the three perspectives emphasizing: Built, Natural, Engineering factors and an overall Simple Combination of all three. This algorithm generates a 15-foot wide “Optimal Path” (the size of one grid cell) in each Corridor. (See Figure 2.32 Alternative Routes within Alternative Corridors) As with the other two phases, additional detailed data are collected for areas within the Alternative Corridors. Property lines are identified and building centroids that were digitized during the Phase 2 Alternative Corridor are classified by types: occupied house, commercial building, or industrial building. These additional data are entered into the GIS Siting Model. These data aid the project team in refining the “Optimal Path” within each of the Alternative Corridors. By waiting until these Alternative Corridors have been identified before collecting this very detailed data, the total time and cost to the project are greatly reduced.

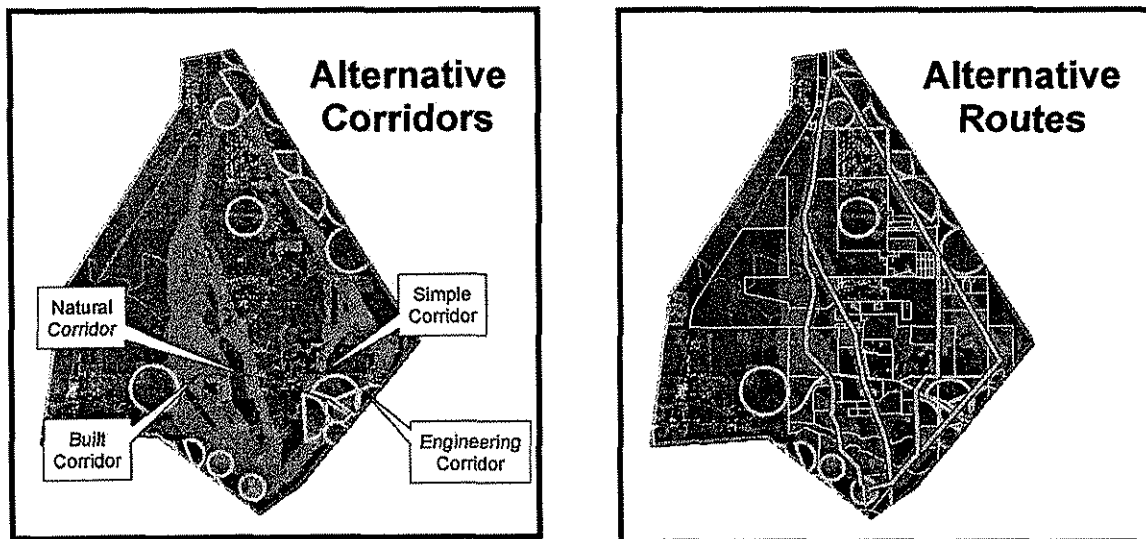


Figure 2.32
Phase 3: Alternative Route Generation
Alternative Routes within Alternative Corridors”

Right-of-Way Considerations

Because the width of the “Optimal Path” is 15 feet, it is too narrow for meaningful analysis of the Alternative Routes by the current GIS Siting Model. To increase the “Optimal Path” from 15 feet (width of one grid cell) to the right-of-way width for the voltage of the project, additional grid cells must be added to each side of the “Optimal Path”. This refinement creates an “Optimal Route”. For example, the width of the “Optimal Route” for a 500 kV (kilovolt) transmission line would require a width of 12 grid cells to form a 180-foot right-of-way.

Map Overlay Analysis

The route evaluation process is designed to provide necessary information to a team of siting professionals. Staff from the areas of engineering, land acquisition and environmental evaluates the advantages and disadvantages of the Alternative Routes and selection of the Preferred Route. Their evaluation includes an extensive set of siting criteria as well as summaries of Data Layers (preferences layers) using map overlay analysis, spreadsheet processing, interactive geo-queries, and other quantitative and qualitative metrics. Variations between the Built Environment Perspective, Natural Environment Perspective, and Engineering Requirements Perspective (preference surface alternatives) can be illustrated to the project siting team by using this Map Overlay Analysis. (See Figure 2.33: Map Overlay Analysis)

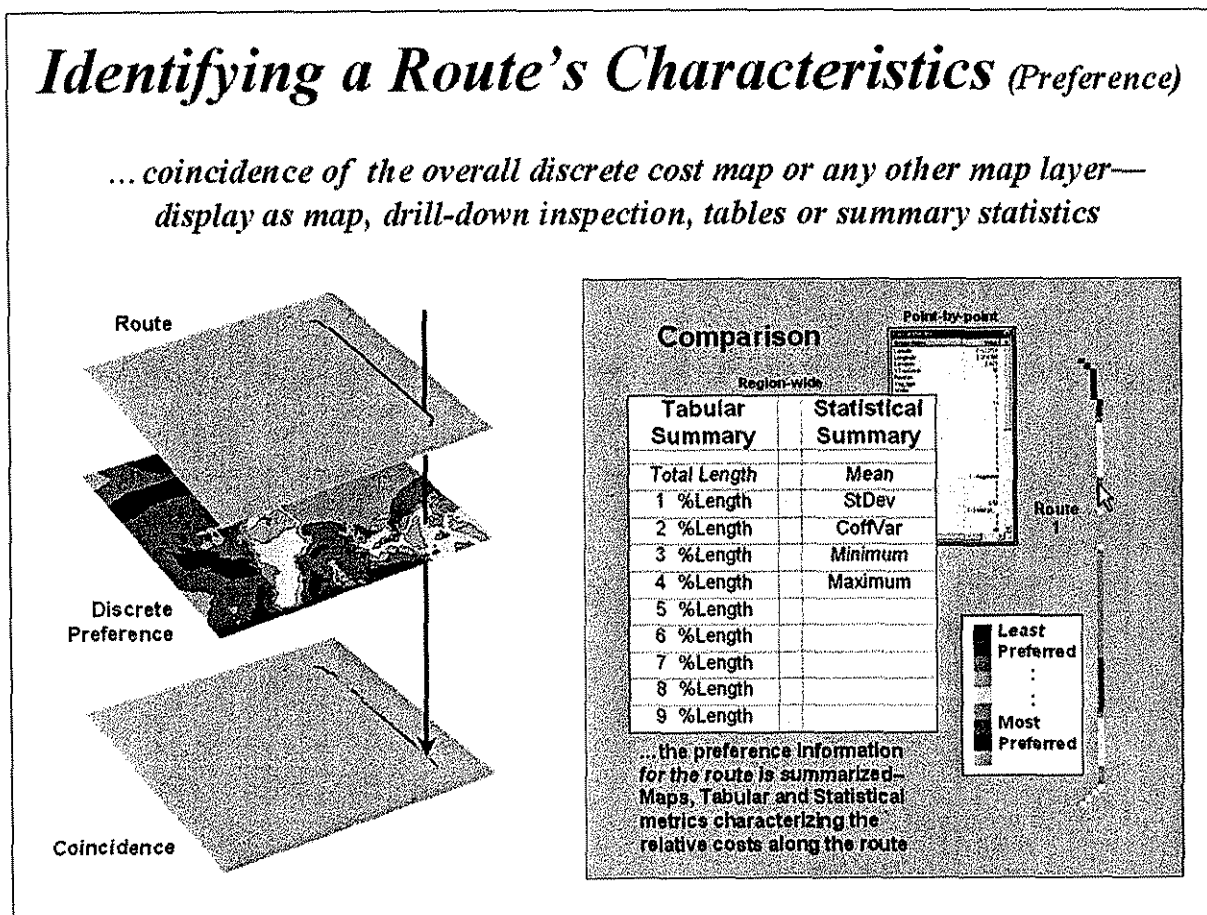


Figure 2.33

Phase 3: Alternative Route Generation

Map Overlay Analysis is used to summarize the relative siting preference along an Alternative Route.

In analyzing a composite Alternative Route, the GIS Siting Model isolates the evaluation criteria for all Data Layers. The results can be reported in a variety of formats: as a map display, as an inspection of “drill-down data”, as a graphic or as summary statistics. For

example, the hypothetical route in Figure 2.33 shows that only a small stretch at the top of the route crosses a “least preferred” area (red), while the majority of the route crosses moderate to most preferred areas (green).

In a similar manner, a siting team member can “click” at any location along the route and pop-up a table listing preference conditions on any of the other active map layers. This interactive geo-query feature facilitates rapid retrieval of information supporting siting team discussions. In addition to graphical display, interactive geo-query of evaluation criteria, metrics summarizing individual segments and/or Alternative Routes are available as a spreadsheet table.

Table 2.6, Tabular Summary of Alternative Routes, shows an example spreadsheet of summary information (rows) for several Alternative Routes (columns). Corridor Analyst™ software is used to summarize the evaluation metrics in terms of counts for the siting team discussion of relative lengths, and acres of easement.

Tabular Summary of Alternative Routes

DATA	A	B	C	D	E	F	G
FOR ALL ROUTES							
Route	Route A	Route B	Route C	Route D	Route E	Route F	Route G
Relocated Residences (within 75' Corridor)	0.0	0.0	1.0	0.0	1.0	0.0	0.0
Proximity to Residences (300')	0.5	0.5	1.0	0.5	1.0	0.5	0.5
Proximity to Residences (300')	5.0	37.0	15.0	9.0	14.0	19.0	19.0
Proposed Developments	0.2	1.2	0.4	0.3	0.5	0.3	0.3
Proximity to Commercial Buildings (300')	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proximity to Commercial Buildings (300')	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Proximity to Industrial Buildings (300')	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Proximity to Industrial Buildings (300')	1.0	1.0	1.0	1.0	1.0	1.0	1.0
School, Daycare, Church, Cemetery, Park Parcels (8)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NRHP Listed/Eligible Structures/Districts	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Natural Forests (Acres)	12	64	5.8	7.0	9.6	10.7	11
Stream/River Crossings	4.0	5.0	4.0	4.0	6.0	6.0	6.0
Wetland Areas (Acres)	2.0	1.9	5.4	5.9	6.9	7.5	7.5
Floodplain Areas (Acres)	0.4	0.4	1.0	1.0	1.2	1.3	1.3
Total Length (Miles)	5.5	5.7	6.1	6.4	6.5	6.7	6.7
Miles of Rebuild with Existing TA*	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Miles of Co-location with Existing TA*	5.5	5.7	6.1	6.4	6.5	6.7	6.7
Miles of Co-location with Roads*	0.6	0.2	0.9	0.3	1.0	1.1	1.1
Number of Parcels	12.0	30.0	23.0	28.0	20.0	21.0	21.0
Total Project Costs	0.7	1.6	1.6	1.6	1.1	1.2	1.2
Total Project Costs	184	170	182	187	194	200	200

Evaluation Metrics

- ✓ Relocated Residences
- ✓ Proximity to Residences
- ✓ Proposed Developments
- ✓ Proximity to Commercial Buildings
- ✓ Proximity to Commercial Buildings
- ✓ School, Daycare, Church, Cemetery, Park Parcels
- ✓ NRHP Listed/Eligible Structures/Districts
- ✓ Natural Forests
- ✓ Stream/River Crossings
- ✓ Wetland Areas
- ✓ Floodplain Areas
- ✓ Total Length
- ✓ Miles of Rebuild
- ✓ Miles of Co-location
- ✓ Number of Parcels
- ✓ Total Project Costs

*Table 2.6
Phase 3: Alternative Route Generation
Spreadsheet statistics summarizing evaluation criteria for Alternative Routes*

Metrics, such as the number of relocated residences or length of the route passing through natural forests, are used to guide discussions comparing the advantages and disadvantages of the Alternative Routes. These discussions help organize and focus the

siting team’s review, as well as provide ample opportunity for free exchange of expert experience and opinion.

Qualitative Expert Judgment

The project team uses evaluation metrics are normalized and assigned weights developed using AHP to derive a relative score for each Alternative Route. (See Appendix G: Phase 2-Alternative Corridor Weighting: AHP Pairwise Comparison Questions) The scores are combined for the three Perspectives (Built Environment Perspective, Natural Environment Perspective and Engineering Requirements Perspective,) and then totaled for an overall score. The numerical score provides an objective reference for comparing Alternative Routes and stimulates discussion of their relative merits.

The left side of Table 2.7, Evaluating Alternative Routes, shows the translation of the “raw” evaluation metrics to a normalized and weighted score. In this example the sub-criteria for each Perspective are assigned relative weights. For example, the Built Environment Perspective consideration of Relocated Residences is considered much more important (40 percent) than the consideration of close Proximity to Industrial Buildings (2 percent). The three perspectives are equally weighted (33 percent) in this example, but could reflect preferential treatment if a routing situation was thought to be more sensitive to the Built Environment Perspective, Natural Environment Perspective, or to the Engineering Requirement Perspective.

Evaluating Alternative Routes											FOR TOP 3 ROUTES (INTERNAL EXPERT JUDGEMENT)								
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Expert Judgment			P	
															Weight	Route A	Route B		Route C
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

...the evaluation metrics are normalized and assigned weights to derive a relative score for the alternative routes. The siting team applies expert judgment to rank the top three routes (routes A, B and D).

Table 2.7 Phase 3: Alternative Route Generation Expert judgment is applied to the top three routes to identify their relative rankings

Selecting the Preferred Route

The final step in the evaluation process applies expert judgment for ranking the top

Alternative Routes. (See Appendix H: Phase 3: Preferred Route Weighting AHP Pairwise Comparison Questions) Each of the siting team members ranks the top scoring routes based on their expert experience and opinion of several important considerations-visual concerns, community concerns, schedule delay risk, special permit issues, construction and maintenance accessibility, and environmental justice. (See Appendix I: Environmental Justice) The considerations are assigned relative importance weights (5, 25, 30, 30, and 10 percent respectively) and the individual responses are combined for an overall team ranking.

It is important to note that the specific evaluation criteria can be expanded or contracted as the unique aspects of routing situations vary. However, the general process of deriving and evaluating explicit metrics remains the same. The format of the process is designed to encourage thorough discussion of clearly defined evaluation criteria that explicitly captures the thought process of the siting team in evaluating and selecting a final route. The process is objective, consistent, and comprehensive while directly engaging, focusing and capturing siting team deliberations

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 14

Witness: Mark S. Johnson / Clay Doherty / Counsel

- Q-14. Please provide the results of using the above model (Request # 13) with the criteria adjusted to reflect the results of the stakeholders' meeting held in Lexington, Kentucky on February 28, 2006.
- A-14. The Companies do not have the requested data. To the extent that this request seeks to have the Companies perform original work to create this data, the Companies object on grounds that the request is unduly burdensome, beyond the scope of permissible discovery, and seeks the production of information which would be of no probative value and would tend to confuse the issues at hearing in light of the fact that the referenced "results of the stakeholders' meeting" were preliminary in nature (as stated at the conclusion of that meeting) and have not been tested or validated at this time. Without waiver of that objection, the Companies also state that stakeholder preference data is used at a step in the EPRI methodology prior to creation of alternate routes and is not used in the analysis and evaluation tool, the only part of the EPRI methodology the Companies used.

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
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CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 15

Witness: Mark S. Johnson

- Q-15. 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.
- A-15. Because the particular herbicides or pesticides that may be used have not been selected, the product names cannot be specifically identified at this time. However, all herbicides and pesticides used by the Companies are either Federal EPA or State approved and used in small amounts, and all applicators are certified by the Kentucky Division of Pesticides. Herbicides and pesticides are applied by aerial and/or ground spraying. The Companies work with landowners to try and accommodate their preferences regarding the use and application of herbicides and pesticides.

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
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Dated March 6, 2006**

Question No. 16

Witness: W. Michael Winkler / John Wolfram

Q-16. Have LG&E/KU made application to any federal or state agency for any permits, licenses, authorizations or other approvals necessary for these proposed transmission facilities?

A-16. No applications for permits or licenses have been made. The Companies have, however, sought an easement for the portion of the proposed line crossing Fort Knox. As part of that process, the Companies and their contractors have supplied data to Fort Knox in connection with an Environmental Assessment being conducted by Fort Knox, and have had a number of discussions with Fort Knox and the SHPO regarding archaeological and cultural resource reviews. Those processes are all ongoing. No other authorizations or approvals have been sought, although the Companies have had discussions with the U.S. Army Corps of Engineers, the Kentucky Division of Water, and the state and federal Fish and Wildlife departments regarding the proposed facilities. See the response to Question No. 8 above.

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
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CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 17

Witness: W. Michael Winkler / John Wolfram

Q-17. If the answer to Question 16 is "yes," please identify each application by date and agency to which application was made.

A-17. Please see the responses to Question Nos. 8 and 16.

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 18

Witness: Kathleen A. Slay

- Q-18. Does LG&E/KU intend to acquire the necessary rights-of-way on a voluntary basis or through condemnation?
- A-18. As with any of their transmission projects, the Companies intend to attempt to acquire necessary easements and rights-of-way through negotiations with affected landowners. However, if those negotiations are not successful, the Companies have, and intend to use, the right to exercise eminent domain.

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

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Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 19

Witness: W. Michael Winkler / John Wolfram

Q-19. Please provide a copy of all applications that have been made to any federal and/or state agency related to any permit or other authorization for the proposed transmission facilities and provide a copy of the response, if any, from such agency.

A-19. Please see the responses to Question Nos. 8 and 16.

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 20

Witness: Clay Doherty

Q-20. Please provide the identification of all residences that would be acquired, by owners and street address, and the proximity of the residence to an existing transmission line, and the identification of all listed or eligible NRHP properties within 3,000 feet of the routes identified as:

ROUTE ACQ

ROUTE ACU

ROUTE ADC

ROUTE ADS

ROUTE ADK

ROUTE AGU

ROUTE E

ROUTE G

ROUTE AGW

ROUTE ADG

A-20. The Companies provide the requested information in paper and/or electronic form in the attachments.

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
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CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 21

Witness: Brandon Grillon / Clay Doherty

Q-21. For each of the above routes (Request #20) please describe the portion of the line that would be rebuilt and the portion of the line that would be collocated without rebuilding existing lines, and provide the estimated cost of rebuilding.

A-21. The Companies provide the requested rebuild and collocation information in paper and/or electronic form in the attachments. The estimated costs for rebuilding portions of the lines are set forth below.

ROUTE E	\$34,256,206.60
ROUTE G	\$34,263,133.70
ROUTE ACQ	\$34,206,754.66
ROUTE ACU	\$29,524,142.12
ROUTE ADC	\$29,561,861.63
ROUTE ADG	\$20,537,317.57
ROUTE ADK	\$20,559,301.51
ROUTE ADS	\$29,559,770.00
ROUTE AGU	\$20,577,260.95
ROUTE AGW	\$29,630,496.25

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 22

Witness: Clay Doherty / Mark S. Johnson / Brandon Grillon

- Q-22. Please provide all field surveys and other site specific data collected by or for LG&E/KU for each of the above routes (Request #20).
- A-22. The Companies provide the requested information in paper and/or electronic form in the attachments. See also the Companies' response to Question No. 6 of these data requests.

**LOUISVILLE GAS AND ELECTRIC COMPANY
KENTUCKY UTILITIES COMPANY**

CASE NOS. 2005-00467 AND 2005-00472

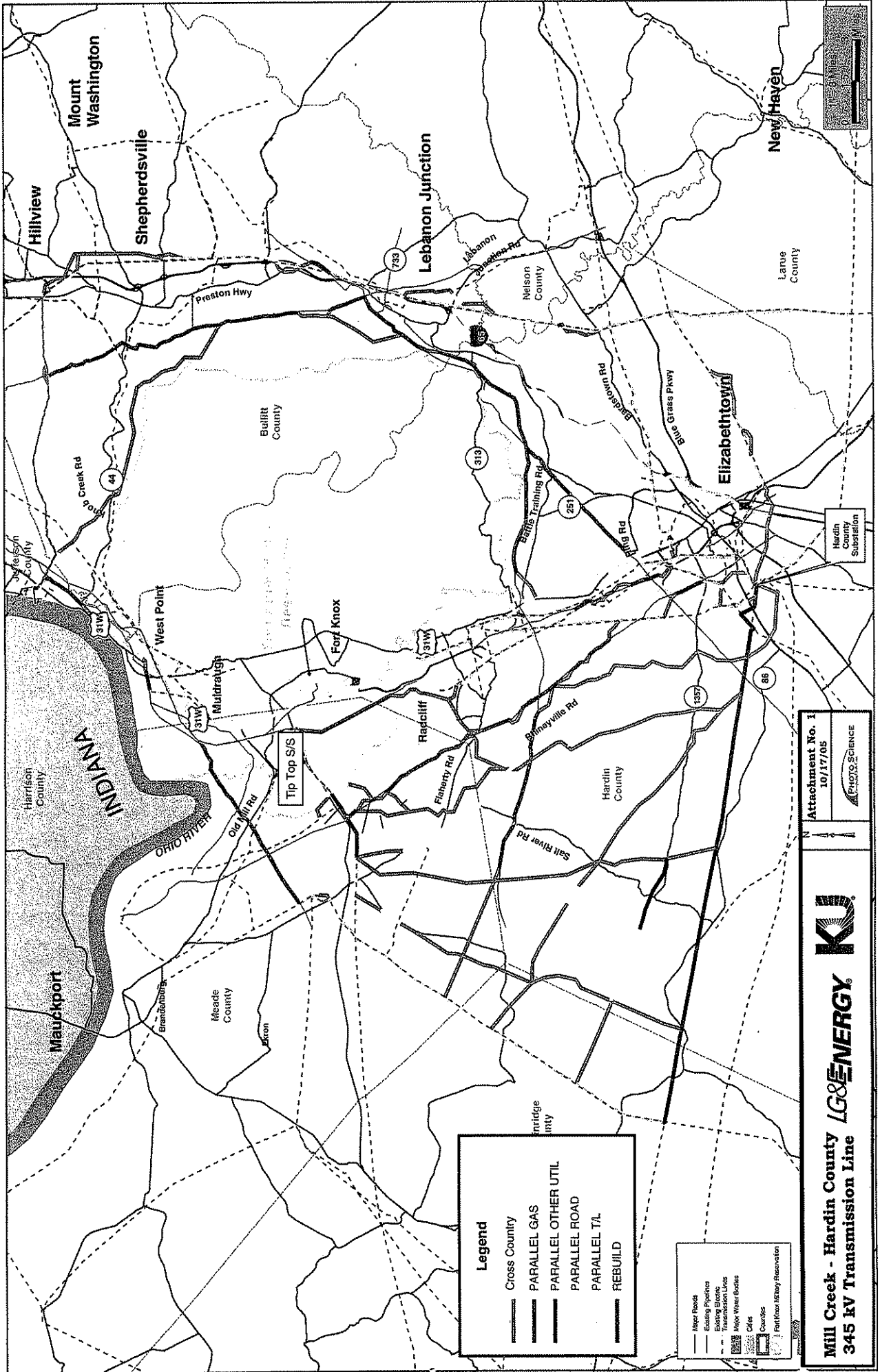
**Response to First Data Request of
Intervenors Dennis and Cathy Cunningham;
CDH Preserve, LLC; Harrison and Hardin
Dated March 6, 2006**

Question No. 23

Witness: Brandon Grillon / Clay Doherty

- Q-23. Please identify all existing rights-of-way and utility lines within the proposed macro-corridor. As to each of the proposed transmission line segments, identify which rights-of-way and transmission lines are proposed to be used for the project. Identify which rights-of-way and transmission lines are not proposed to be used for the project and explain why not.
- A-23. The rights of way and transmission lines that are collocated on the proposed routes are indicated on Application Exhibit 2 in each case. The following existing rights of way and transmission lines in the study area will not be used for the reasons set forth below.
1. The 69 KV BREC tap in the northwest corner of the study area. Collocating with this short radial tap did not make any progress toward the goal of reaching Hardin County Substation since it runs east west and our goal was a north south route in this section of the study area.
 2. Various lines running through the urban center of Elizabethtown. The urban area in Elizabethtown did not give any feasible opportunities for collocation.
 3. A short section of Rogersville to Hardin County 138 KV line running out of the west side of Elizabethtown. This is in close proximity to the airport and a section of this line actually goes underground for a few spans.
 4. Various line sections in and around Radcliff and Vine Grove. Collocation was considered on these lines where possible but the urban development of this area did not provide feasible opportunities in some sections of the lines.

5. The 34 KV lines at the northern section of Fort Knox by West Point. These lines were radial feeds into the Fort Knox Military Reservation and provided no outlet for exit from the Reservation if a line was constructed along the corridor.
6. A 34 KV line that runs along the north boundary of Fort Knox along HWY 44. This line goes through some residential development and a better collocation opportunity is located to the north of HWY 44 on an existing 138 KV line.
7. A series of 69 KV lines that run through Shepherdsville. These lines are located within the town of Shepherdsville and better collocation opportunities were available in the area when following the existing 161 KV line in the area.
8. The gas pipelines on the south side of 31W outside of Mill Creek Plant. A section of the gas pipeline is paralleled just outside of Mill Creek Plant but the 138 KV line in the same vicinity gave better collocation opportunity.



Attachment No. 1
 10/17/95
 ENVIRO-SCIENCE



Mill Creek - Hardin County LG&ENERGY
 345 kV Transmission Line

Legend

- Cross Country
- PARALLEL GAS
- PARALLEL OTHER UTIL
- PARALLEL ROAD
- PARALLEL T/L
- REBUILD

- Major Roads
- Existing Pavement
- Existing Blotch
- Transmission Lines
- Major Water Bodies
- Cuts
- Counties
- Four-lane Utility Reservation