



Tennessee Valley Authority, 1101 Market Street, LP 5A, Chattanooga, Tennessee 37402-2801

June 26, 2008

10 CFR 52.80

Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

In the Matter of)
Tennessee Valley Authority)

Docket Numbers 52-014 and 52-015

NUCLEAR REGULATORY COMMISSION (NRC) – BELLEFONTE NUCLEAR
PLANT (BLN) – RESPONSE TO NRC INFORMATION NEEDS REGARDING
ALTERNATIVE SITE FACILITIES AND INFRASTRUCTURE

Reference: Letter from Ashok Bhatnagar (TVA) to Mr. R. William Borchardt (NRC),
“Application for Combined License for BLN Units 3 and 4,” dated
October 30, 2007

The purpose of this letter is to provide responses to the NRC information needs regarding alternative site ownership status and additional details regarding the status of the existing alternative site industrial parks, facilities and infrastructure. The information needs addressed by this letter were identified by NRC reviewers during the Environmental Report (ER) site audit conducted at the Tennessee Valley Authority (TVA) Bellefonte Nuclear Plant, Units 3 and 4 (BLN) site during the week of March 31 through April 4, 2008.

By the referenced letter, TVA submitted an application for a combined license for two AP1000 advanced passive pressurized-water reactors at the BLN site. Included in the NRC’s review of a combined license application (COLA) is an environmental site audit during which the NRC staff tours the proposed plant site and environs and reviews the applicable documents that support the information provided in the ER. At the April 4, 2008 exit meeting for the BLN site audit, the NRC staff provided a list of information that was determined to be necessary to complete the review of the ER.

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NRD

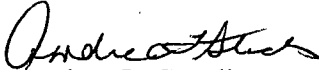
June 26, 2008

The enclosure to this letter provides TVA's responses to the NRC Information Need Alt-19, Subparts 1, 2, and 4. Attachment A to the enclosure is a white paper that provides the additional details that are addressed in the BLN response. No BLN Combined License Application (COLA) changes are required as a result of the TVA response in this letter.

If there are any questions regarding this application, please contact Phillip Ray at 1101 Market Street, LP 5A, Chattanooga, Tennessee 37402-2801, by telephone at (423) 751-7030, or via email at pmray@tva.gov.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on this 26th day of June, 2008.



Andrea L. Sterdis

Manager, New Nuclear Licensing and Industry Affairs
Nuclear Generation Development & Construction

Enclosure:

Response to NRC Environmental Report Information Needs – Alternatives White Paper #1, Alternative Site Descriptions

Attachment:

Descriptions of Existing Facilities and Infrastructure for Alternative Sites to the Selected Bellefonte Site

June 26, 2008

cc: (Enclosures

E. Cummins, Westinghouse
S. P. Frantz, Morgan Lewis
M.W. Gettler, FP&L
R. C. Grumbir, NuStart
P. S. Hastings, NuStart
P. Hinnenkamp, Entergy
M.A. Hood, NRC/HQ
M.C. Kray, NuStart
D. Lindgren, Westinghouse
G.D. Miller, PG&N
M.C. Nolan, Westinghouse
N.T. Simms, Westinghouse
T. Simms, NRC/HQ
G.A. Zinke, NuStart

cc: (w/o Enclosure)

B. Anderson, NRC/HQ
M.M. Comar, NRC/HQ
B. Hughes, NRC/HQ
R. G. Joshi, NRC/HQ
R.H. Kitchen, PGN
M.C. Kray, NuStart
A.M. Monroe, SCE&G
C. R. Pierce, SNC
R. Register, DOE/PM
L. Reyes, NRC/RII
J.M. Sebrosky, NRC/HQ

**RESPONSE TO NRC
ENVIRONMENTAL REPORT
INFORMATION NEEDS**

**ALTERNATIVES
WHITE PAPER #1**

ALTERNATIVE SITE DESCRIPTIONS

TVA Letter Dated: June 26, 2008

Responses to Environmental Report Information Needs - Alternatives

NRC Review of the BLN Environmental Report

NRC Information Needs - BLN ER Site Audit Exit Meeting

NRC Environmental Category: ALTERNATIVES

During the BLN Environmental Report site audit exit meeting on April 4, 2008, the NRC staff identified the following information needs:

Alt-19: During the presentation related to the alternative site selection, please include the following topics:

- 1) Due diligence conducted regarding ownership status of alternative sites and whether or not the land could feasibly be purchased.
- 2) Status of industrial parks that are in use in industrial sites.
- 4) Provide detailed descriptions of alternative sites in their current state, including a description of the existing facilities and infrastructure.

BLN INFORMATION NEED: Alt-19

BLN RESPONSE:

The requested information is provided in the attached TVA white paper titled, "Descriptions of Existing Facilities and Infrastructure for Alternative Sites to the Selected Bellefonte Site."

ASSOCIATED BLN COL APPLICATION REVISIONS:

None.

ATTACHMENT:

Tennessee Valley Authority, Alternatives White Paper No. 1, "Descriptions of Existing Facilities and Infrastructure for Alternative Sites to the Selected Bellefonte Site," dated June 2008.

TVA Letter Dated: June 26, 2008

Responses to Environmental Report Information Needs - Alternatives

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BLN INFORMATION NEED: Alt-19

BLN RESPONSE:

The requested information is provided in the attached TVA white paper titled, "Descriptions of Existing Facilities and Infrastructure for Alternative Sites to the Selected Bellefonte Site."

ASSOCIATED BLN COL APPLICATION REVISIONS:

None.

ATTACHMENT:

Tennessee Valley Authority, Alternatives White Paper No. 1, "Descriptions of Existing Facilities and Infrastructure for Alternative Sites to the Selected Bellefonte Site," dated June 2008.

ATTACHMENT
TENNESSEE VALLEY AUTHORITY
DESCRIPTIONS OF EXISTING FACILITIES AND INFRASTRUCTURE FOR
ALTERNATIVE SITES
JUNE 2008
(25 PAGES INCLUDING THIS COVER SHEET)

Tennessee Valley Authority

**Descriptions of
Existing Facilities and Infrastructure
for Alternative Sites to the
Selected Bellefonte Site**

June 2008

Land Ownership and Acquisition

The Bellefonte and Murphy Hill sites are still owned by TVA. However, most of the land on the Hartsville, Phipps Bend, and Yellow Creek sites has been sold or transferred to other entities. Should TVA determine that it needs the Hartsville, Phipps Bend, or Yellow Creek site for plant construction, it would be necessary to at least acquire the original site and possibly some additional adjoining property. When TVA acquires property for corporate purposes, the preference is to purchase from willing sellers if this can be accomplished at reasonable and acceptable cost. However, when this is not possible, as a federal entity TVA has the option of using eminent domain. This authority is spelled out by the TVA Act, as described below:

The Tennessee Valley Authority (TVA) is a corporate agency and instrumentality of the United States of America created by and existing pursuant to the TVA Act. 16 U.S.C. §§ 831-831ee (2000 & Supp. V 2005). TVA's authority under the TVA Act includes the right to acquire lands and land rights by grant and condemnation for public purposes authorized by the TVA Act, including the acquisition of easements and rights-of-way for the construction, operation and maintenance of electric power transmission lines. All such property interests, whether acquired by purchase or condemnation, are acquired in the name of the United States, with title being vested in the United States, and the properties are entrusted to TVA as agent of the United States to accomplish the purposes of the TVA Act. 16 U.S.C. §§ 831c(h), 831c(i), 831c(j), 831x.

Therefore, property needed for power production and transmission, including the alternative sites considered for the BLN project, could also be reacquired in this manner, if necessary.

A due diligence review was performed by the TVA Realty Services organization regarding property ownership of the Hartsville, Phipps Bend, and Yellow Creek sites. The current status of land ownership for these three sites is discussed in more detail below.

Description of Hartsville Nuclear Plant (HVN) Site

The Hartsville site is in Tennessee, largely in Trousdale County, with a small portion in adjacent Smith County. This location is north of the Cumberland River and south of State Highway 25. The site is approximately 1931 acres, of which 554 acres are now the PowerCom Industrial Center. TVA has retained 1377 acres, which include a transmission right-of-way. Directly to the east of the largest portion of the TVA-owned property, west of Rome Road and south of Dixon Springs Highway (SR-25), and within the Dixon Creek watershed, there are approximately 700 predominantly rural acres under multiple private ownerships.

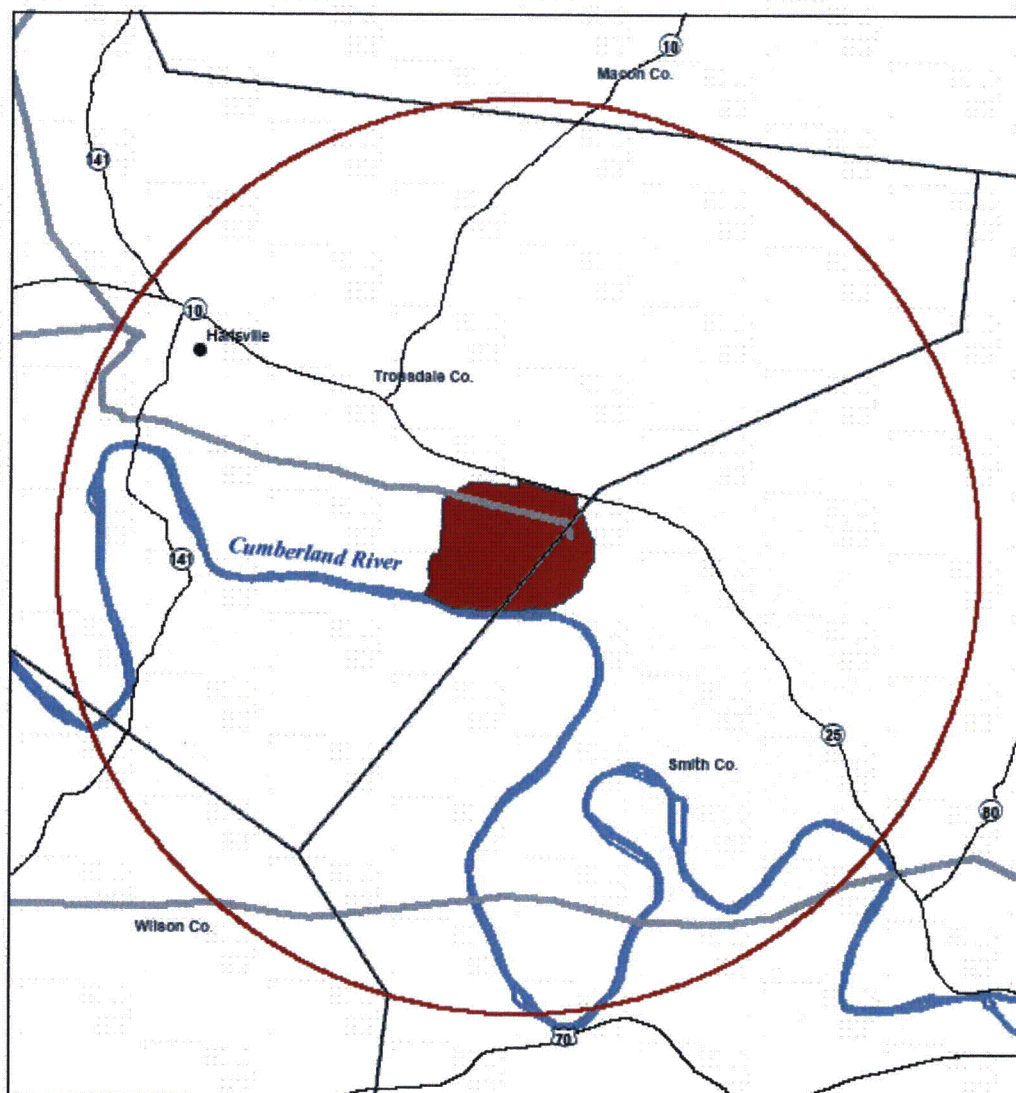
The original plans for the HVN site included construction and operation of four nuclear generating units. TVA currently owns enough of the HVN site to construct and operate two nuclear units. The TVA property, which wraps around most of the PowerCom property, has various structures that could be used for industrial or commercial purposes as well as land with development potential. The electrical service provider for the PowerCom Industrial Center is the Tri-County Electric Membership Cooperative, a TVA distributor. A 69 kV transmission line provides power to the Industrial Center. About 400 acres of the PowerCom property is currently

available for industrial use. Buildings and facilities for industrial or commercial use have been constructed at two locations on the PowerCom site. One of these locations, called Village One, has several buildings, with a total of 242,000 square feet, of which 84,000 square feet is occupied. This location is in the northwest corner of the Industrial Center, near the western edge of the original nuclear site. The other location, Village Two, is located in the southwest corner of the original site. Village Two also has several buildings, with a total of 248,000 square feet. Of this, 96,000 square feet is currently used by TVA for storage purposes and 4,000 square feet is used by the state of Tennessee. The remaining 148,000 square feet is vacant.

Corrections Corporation of America recently began construction of a new prison on the PowerCom Industrial Center site. This 2,040-bed prison is estimated to cost about \$143 million. The company announced that the prison would employ about 350 full-time professional positions. Other developments currently on the site are from the earlier TVA nuclear construction. Given the location of Village One and Village Two, adequate acreage would still be available for nuclear power construction and operation. As discussed above, private land to the east of the site would increase siting flexibility.

Industries Located in the PowerCom Industrial Center

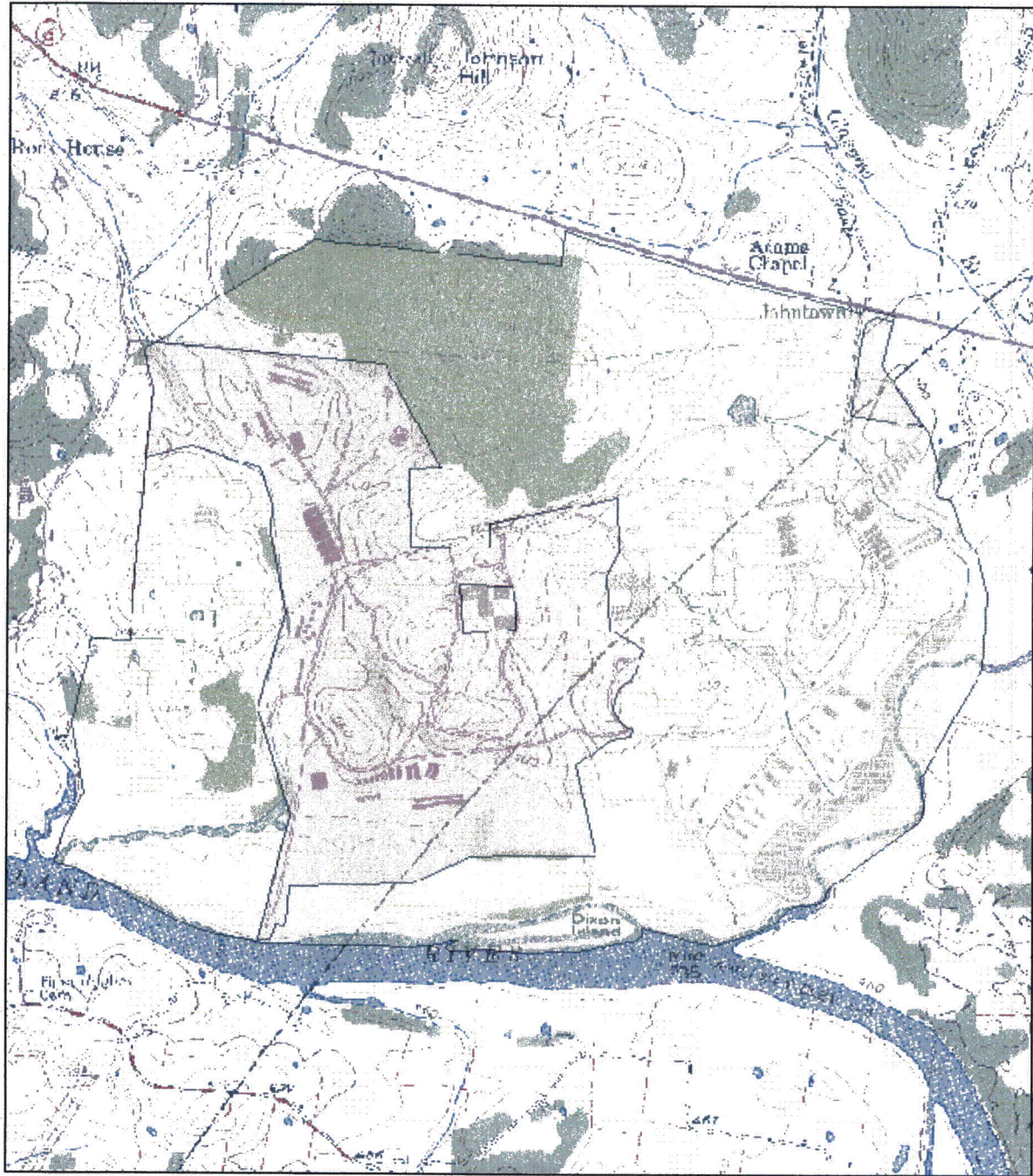
- Southern Bindery
- SOLAS
- EMS
- General Spring
- NCR
- A. P. Hicks Enterprise



Hartsville Site 6-Mile Vicinity

- Transmission ROW
- State Highways
- Hartsville Site Boundary
- Reservoir



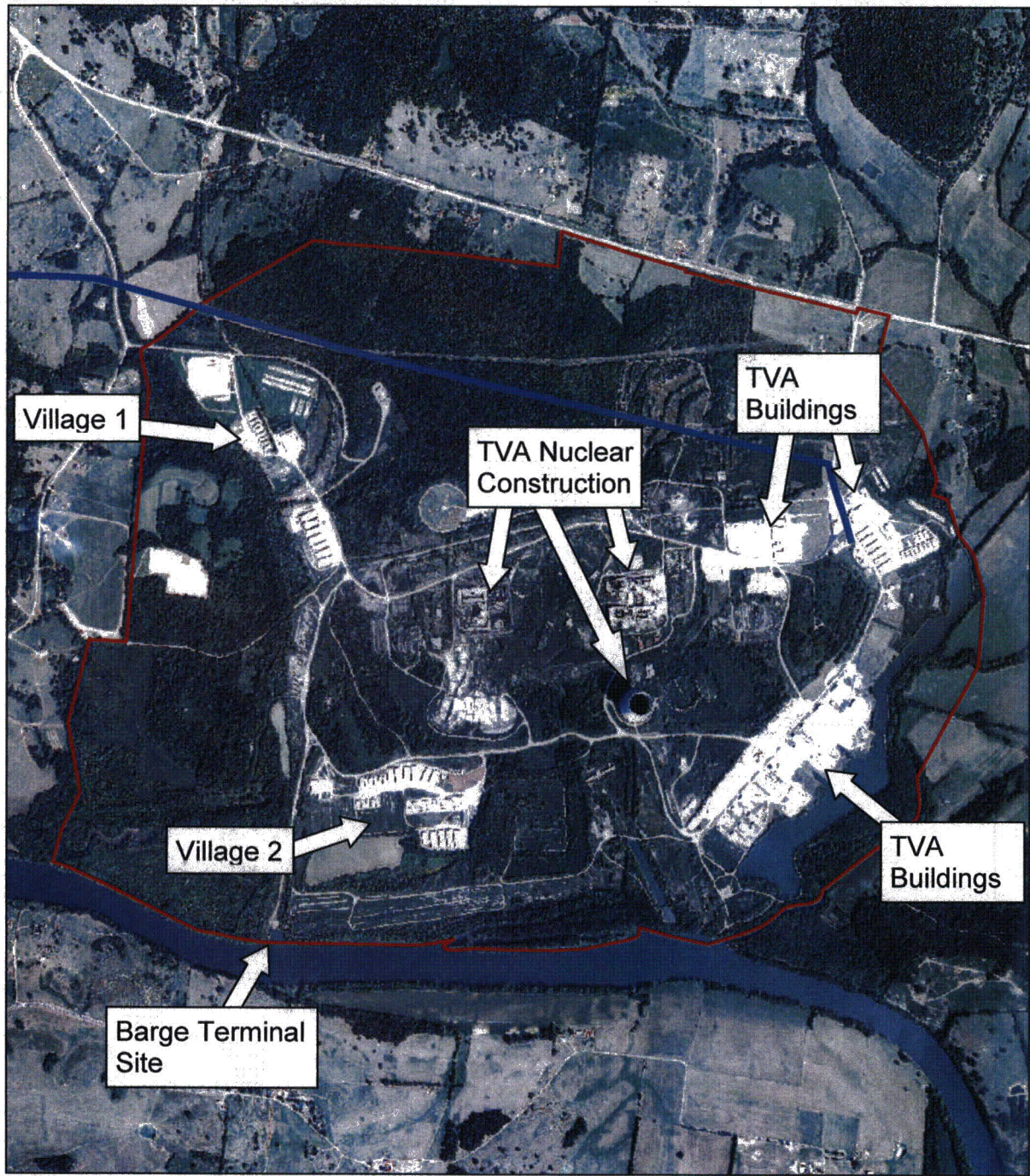


**Hartsville Site
Land Ownership Status**

- Retained (1377 acres)
- Sold (554 acres)

0 1,000 2,000 3,000 4,000
Feet





Hartsville Site

- Transmission ROW
- Site Boundary

0 1,000 2,000 3,000 4,000 Feet





Aerial Photo, Hartsville Nuclear Site



Aerial Photo, Hartsville Nuclear Site



Aerial Photo, Hartsville Nuclear Site

Description of Phipps Bend Nuclear Plant (PBN) Site

The Phipps Bend site in Hawkins County, Tennessee, consisted of approximately 1284 acres, of which TVA has retained 102 acres for transmission facilities. The remainder was sold to the Industrial Development Board of Hawkins County and the Industrial Development Board of the City of Kingsport, and is now the Phipps Bend Industrial Park. Electric service to the Industrial Park is provided by the Holston Electric Cooperative, a TVA distributor. Holston Electric Cooperative has a 161 - 69 kV substation at the site and can serve 69 kV or 13 kV loads from that substation. An undeveloped portion of the Industrial Park of about 300 acres is located adjacent to the retained 102 acres of TVA property. Several lots, concentrated largely in the central portion of the site, have been sold (or in one case leased) to the various industries listed below. In order to construct and operate a two-unit nuclear plant at the PBN site, TVA would need to reacquire portions of the industrial park with some degree of impact to existing industrial uses of the site.

Based on web searches and on discussions with the Industrial Developer for Hawkins County and TVA Economic Development, there are about 14 companies located in the Phipps Bend Industrial Park (see list below). Of these, five are estimated to have employment of 100 or more, while seven have employment of fewer than 50. Total employment is estimated to be around 1,500.

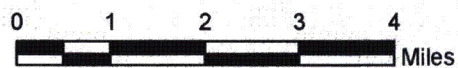
Industries Located in the Phipps Bend Industrial Park

- Alladin Plastics, Inc.
- Box Worx
- Contour Industries, Inc.
- Cooper Standard Automotive
- Dalton Stamp & Die Co.
- First Fiber
- Johnson Propellor
- Lynx Machine & Tool Company
- MIS, Inc.
- Mundet Tennessee, Inc.
- PMT Industries LLC
- TABCO, Inc.
- Techni-Glass
- Ware Manufacturing



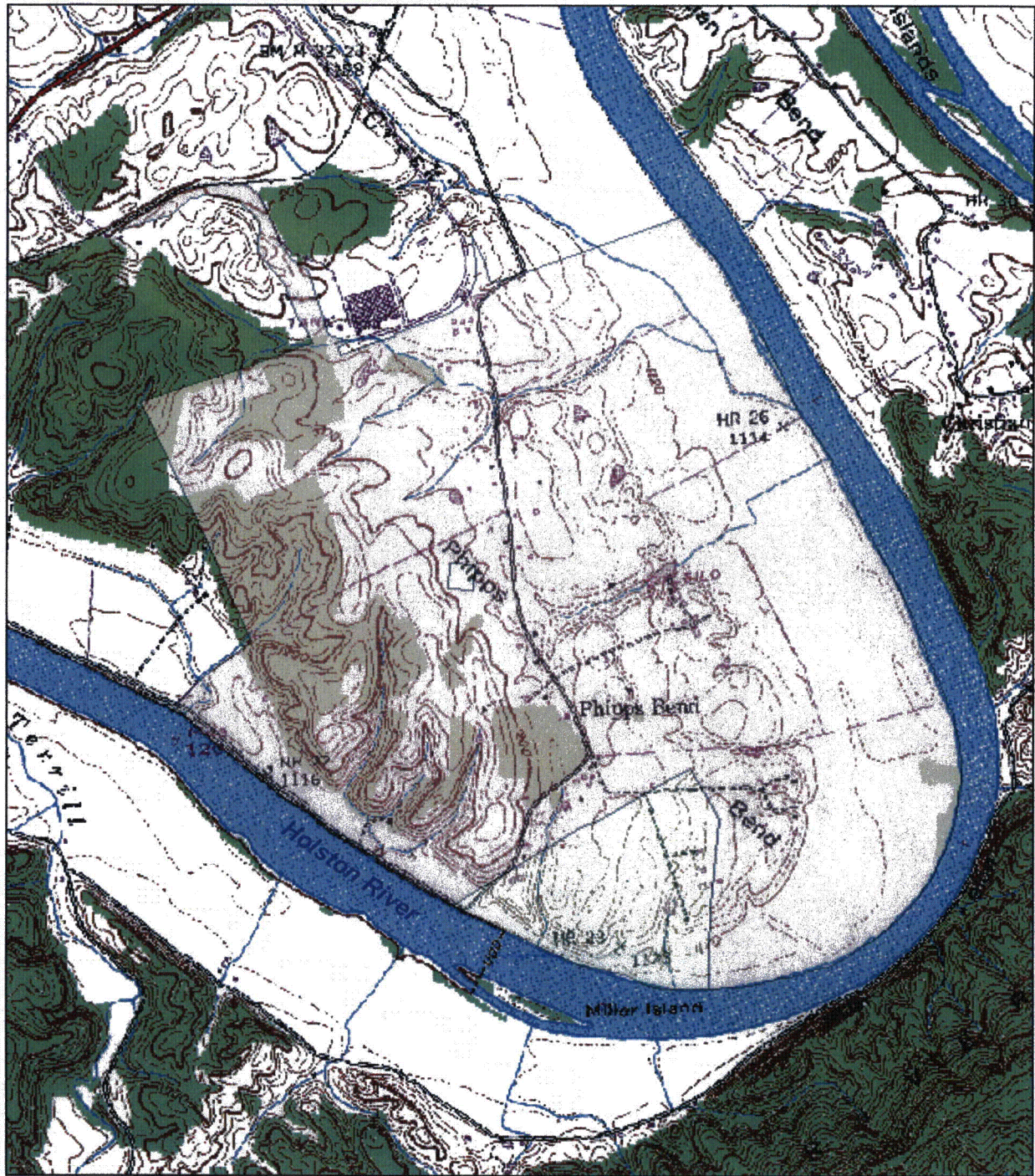
Phipps Bend Site 6-Mile Vicinity

- Transmission ROW
- State Highways
- Phipps Bend Site Boundary
- Reservoir





Oblique Aerial Photo Phipps Bend Industrial Park

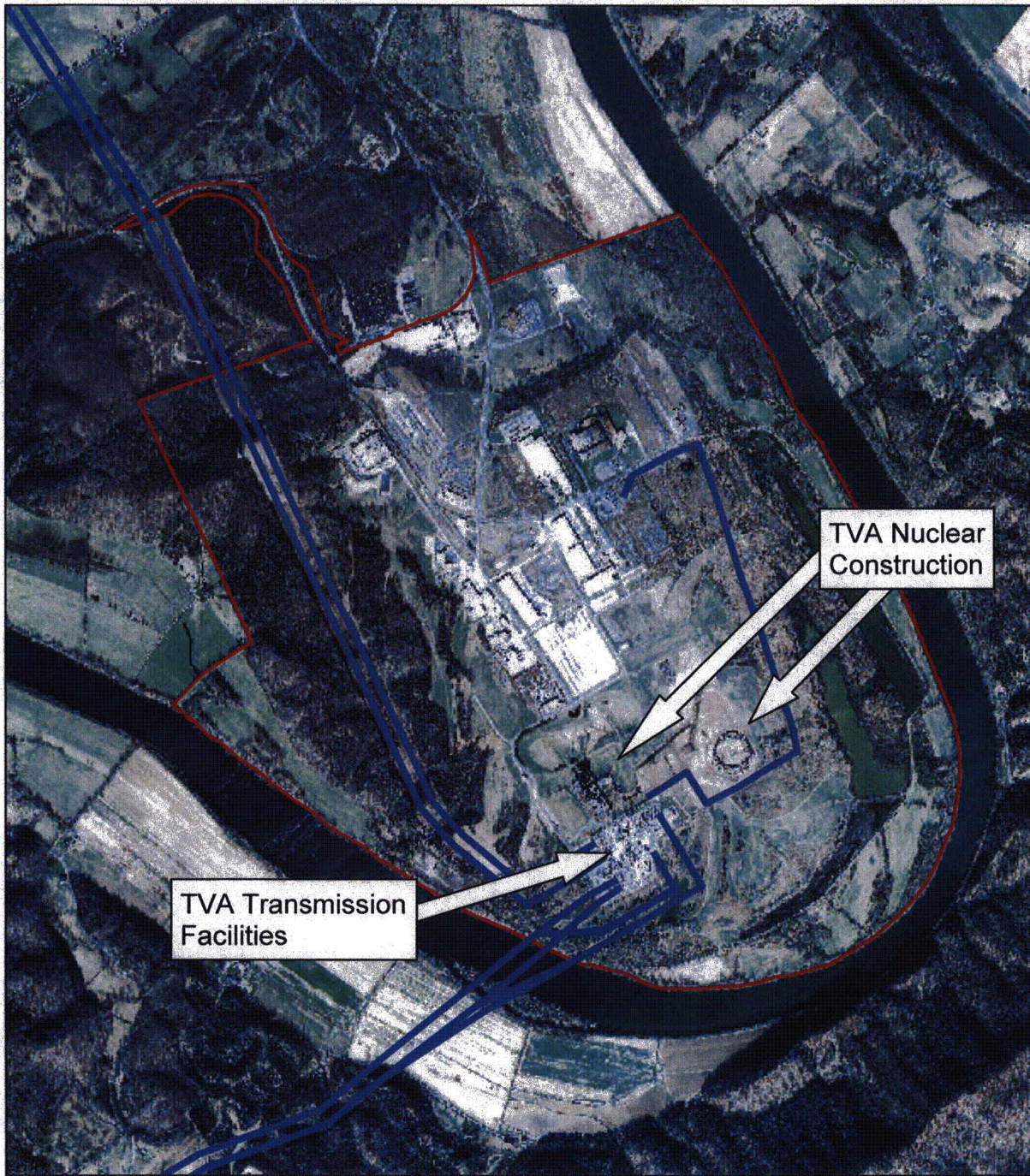


Phipps Bend Site
Land Ownership Status

- Retained (102 acres)
- Sold (1182 acres)

0 1,000 2,000 3,000 4,000
Feet



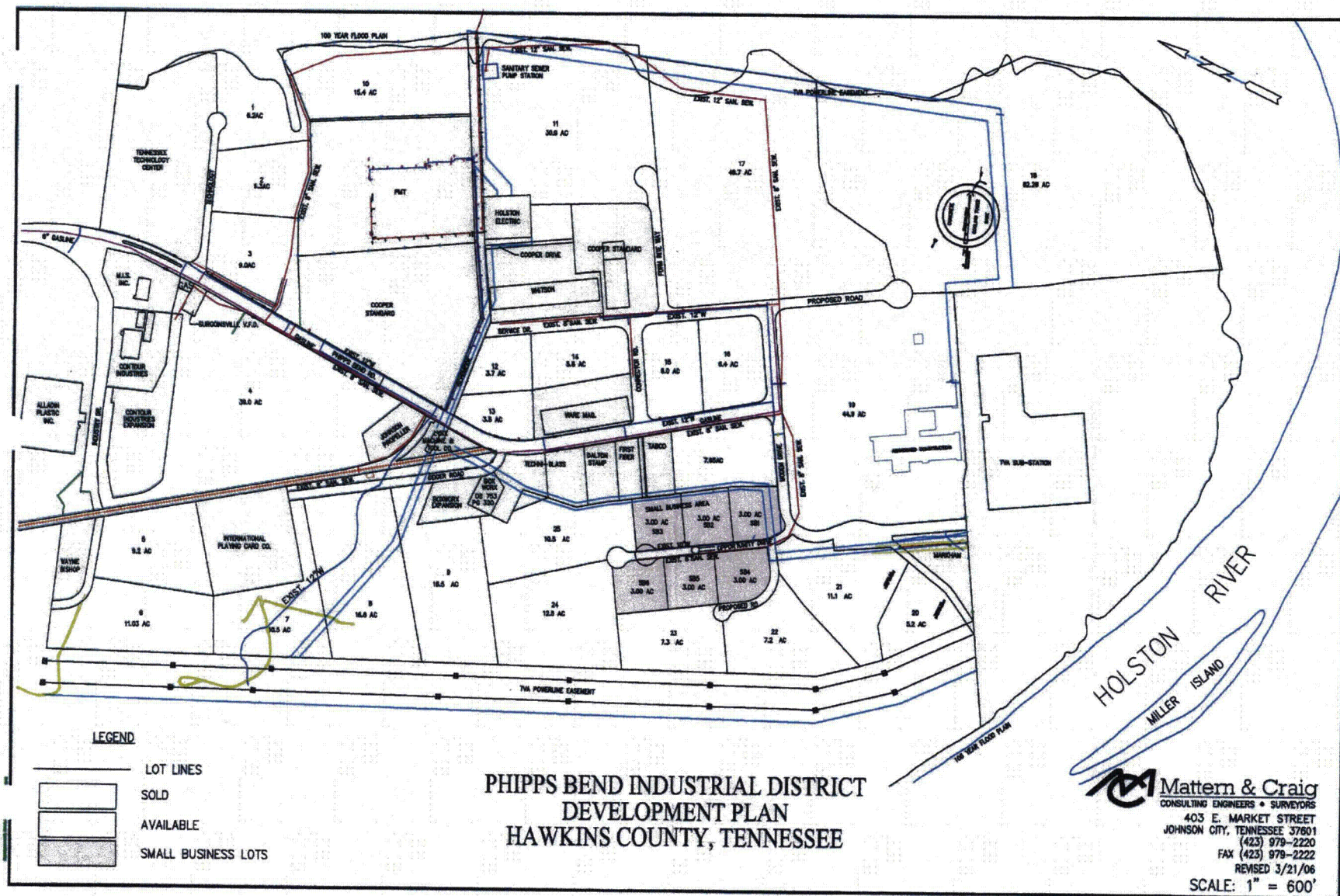


Phipps Bend Site

- Transmission ROW
- Site Boundary

0 1,000 2,000 3,000 4,000 Feet





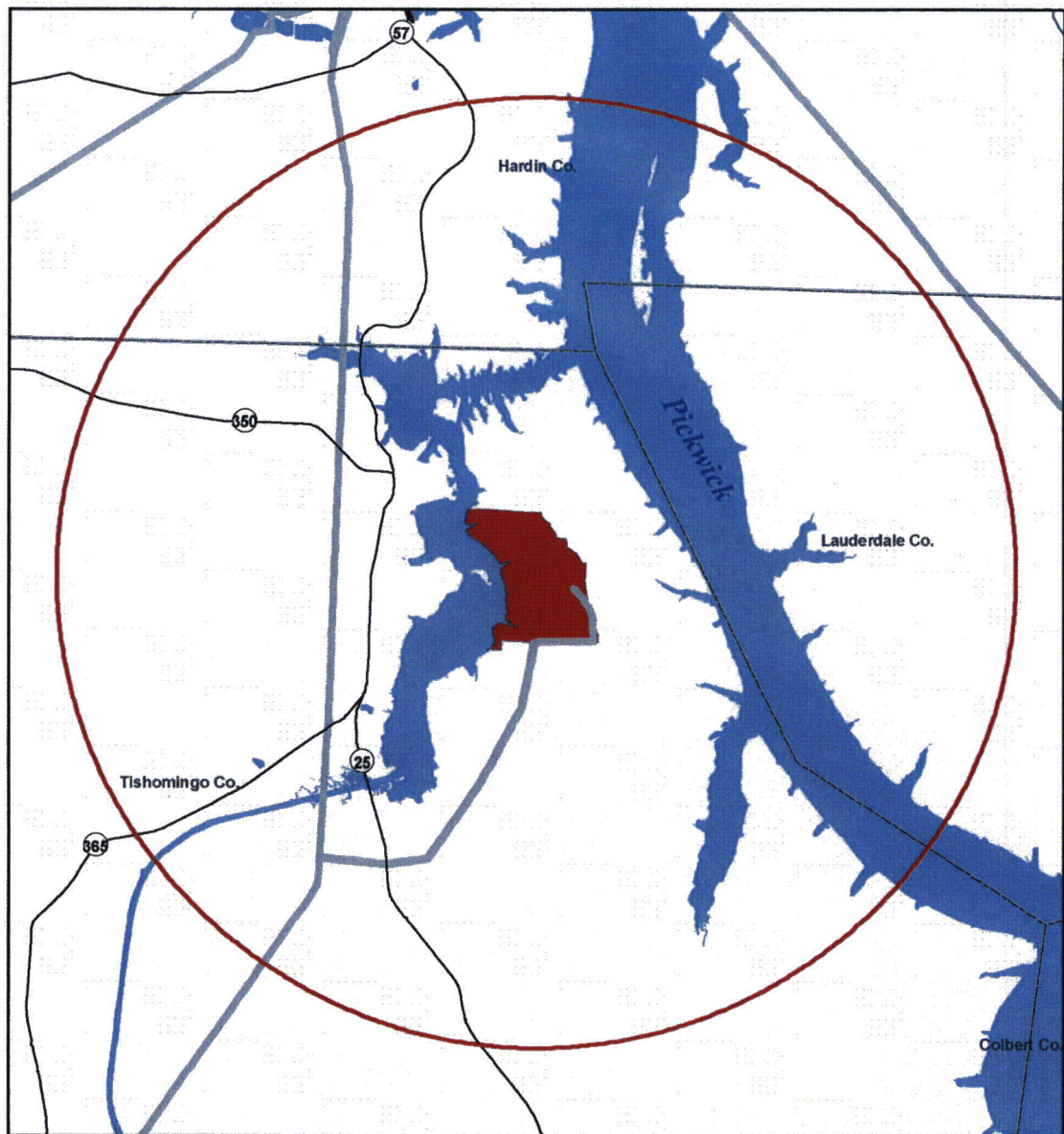
Description of Yellow Creek Nuclear Plant (YCN) Site

The Yellow Creek site in Tishomingo County, Mississippi, consisted of approximately 1149 acres, of which 13 acres has been retained by TVA. The remaining 1136 acres was transferred to the Tishomingo County Board of Supervisors and is now part of the Tri-State Commerce Park. This 3500-acre industrial park, of which the former TVA property is a portion, is contiguous with the former TVA property on two sides; i.e., to the north and east. Electric service to the Park is provided by the Tishomingo County EPA, a TVA distributor, via a 161 kV transmission line. Most of the former TVA land at this site has been developed, with only a few parcels not currently in use. Industries in the portions of the park that were part of the former TVA site include aerospace-related firms, millwork, and fiberglass manufacturing. Current employment is about 300. An announcement of another fiberglass-related manufacturer was made recently, with an expected employment of 120.

Other than the development on the former TVA property, the remainder of the industrial park is basically undeveloped with no current users. There are a number of private inholdings in the portion of the park that is not former TVA land. To construct and operate a two-unit nuclear plant on the site, TVA would need to reacquire at least a portion of the former YCN site, as well as additional industrial park property. Siting of a two-unit nuclear plant at YCN could involve the acquisition of both currently developed and undeveloped portions of the industrial park with some potential disruption of existing industrial uses. Based on examination of topographic and aerial photographic information, the physical and ecological conditions of the undeveloped portions of the industrial park are expected to be similar to the portions of the peninsula evaluated in the earlier TVA Environmental Impact Statement for the YCN site. A combination of developed and undeveloped portions of the industrial park would provide an adequate amount of property to site and operate a two-unit nuclear facility with potentially minor to moderate affects on the existing uses of the industrial park.

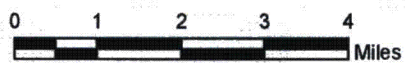
Industries Located in the Tri-State Commerce Park

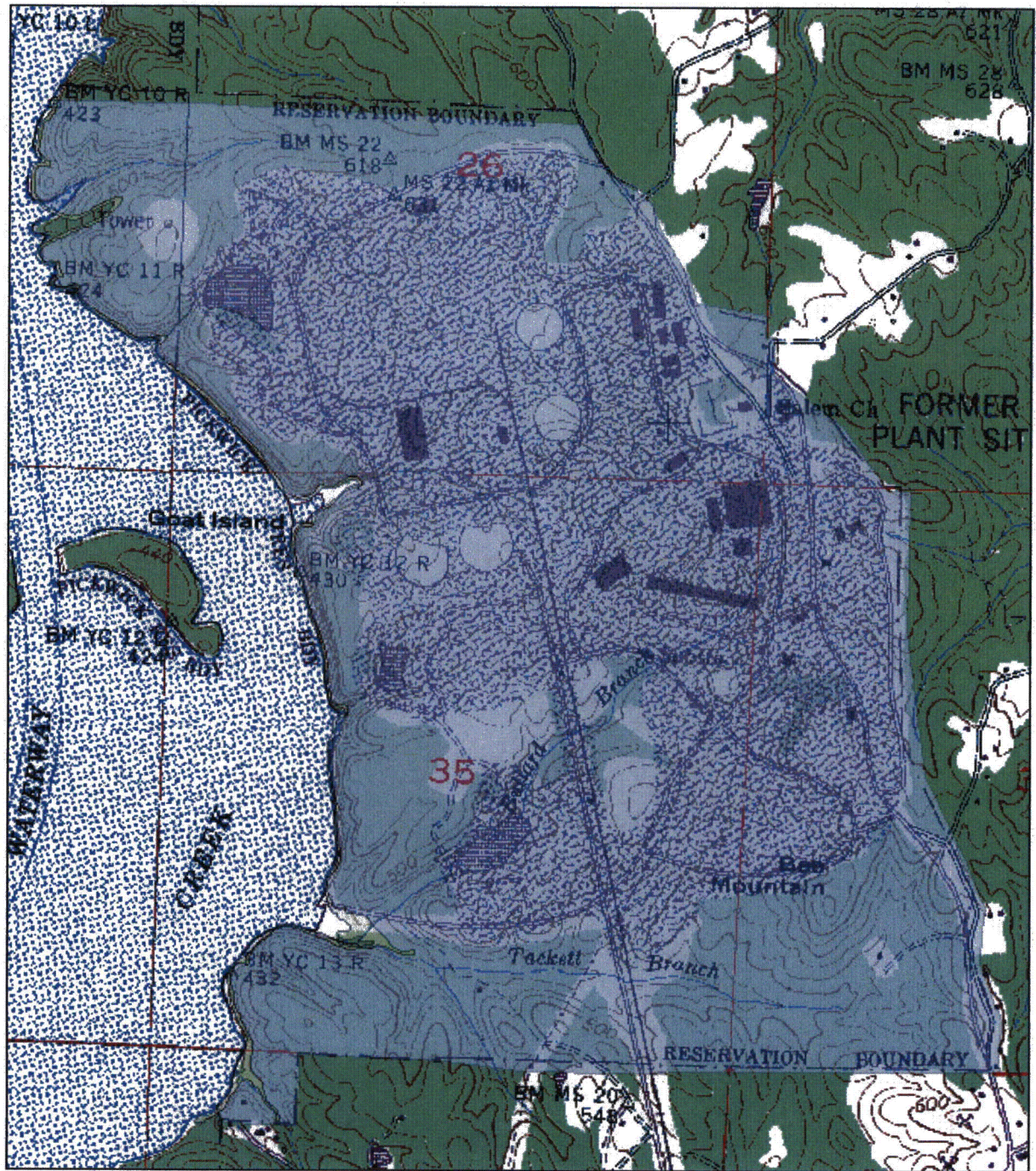
- ATK-Alliantech
- Miltec Missiles & Space Company
- Waterway, Inc.
- Morris Custom Mill Work
- ERSHIGS



Yellow Creek Site 6-Mile Vicinity

- Transmission ROW
- State Highways
- Yellow Creek Site Boundary
- Reservoir



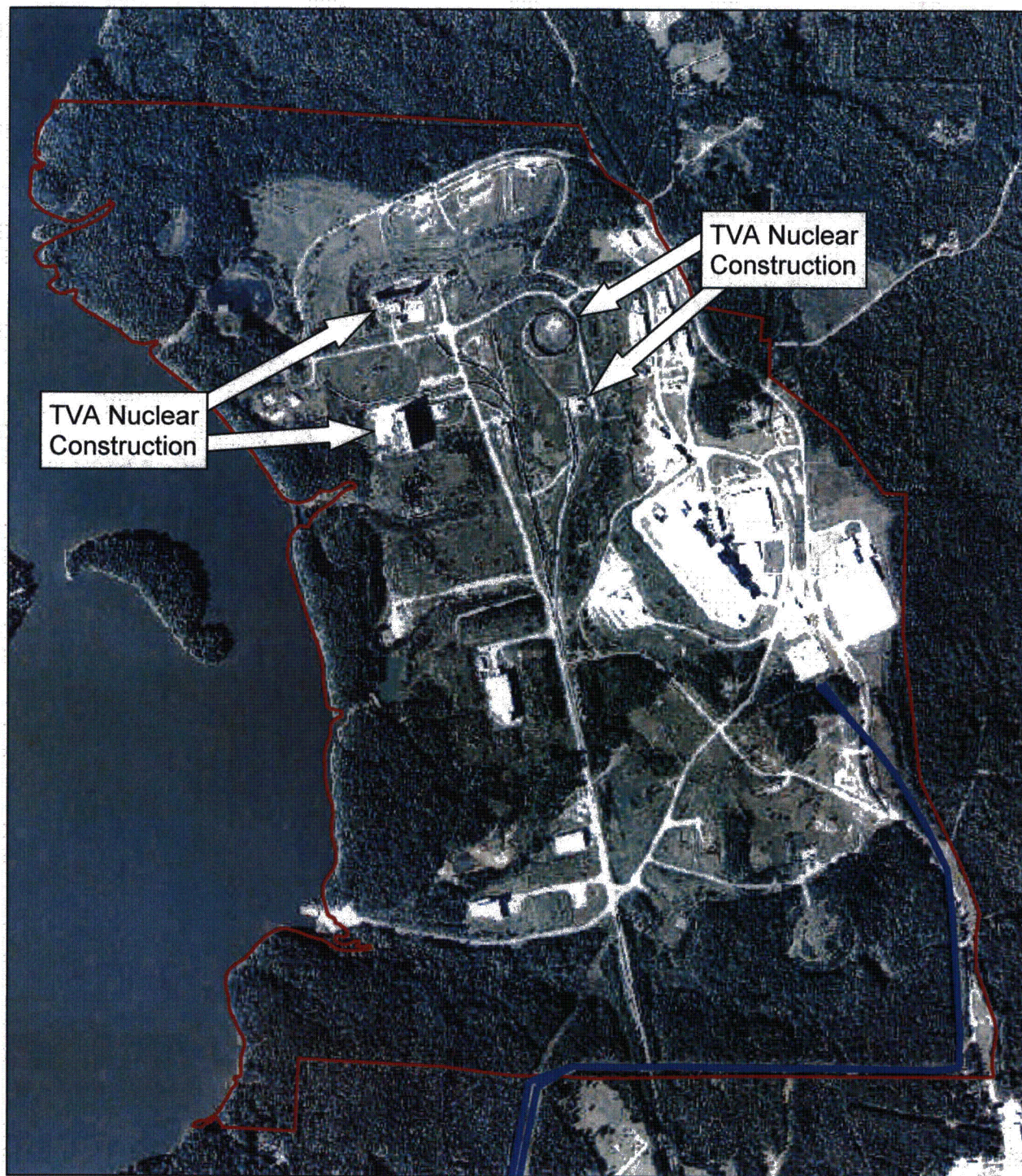


Yellow Creek Site
Land Ownership Status

- Retained (13 acres)
- Transfer (1136)

0 1,000 2,000 3,000 4,000
Feet



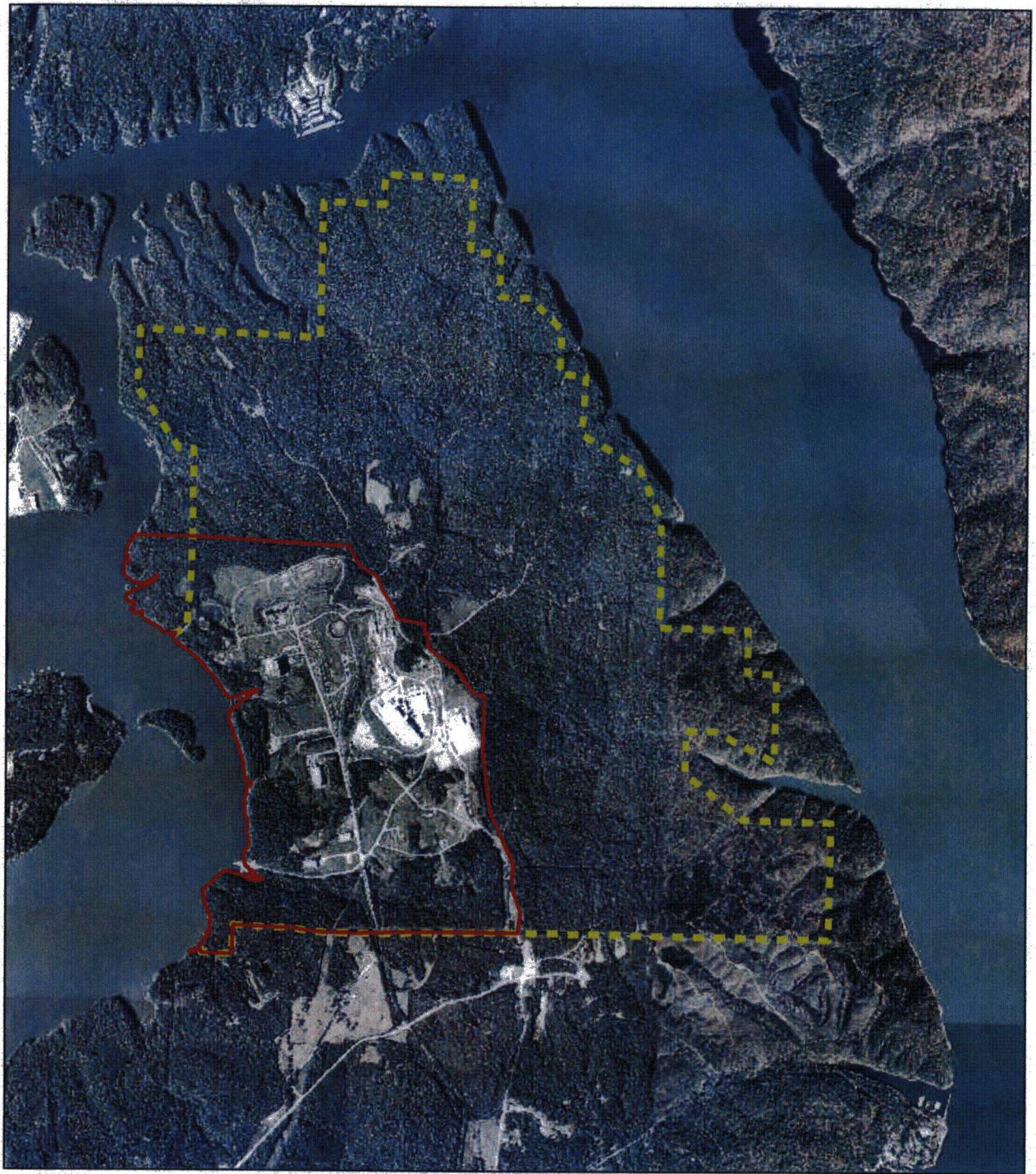


Yellow Creek Site

— Transmission ROW
— Site Boundary

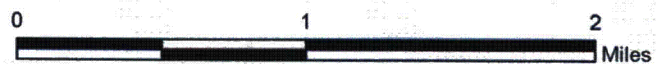
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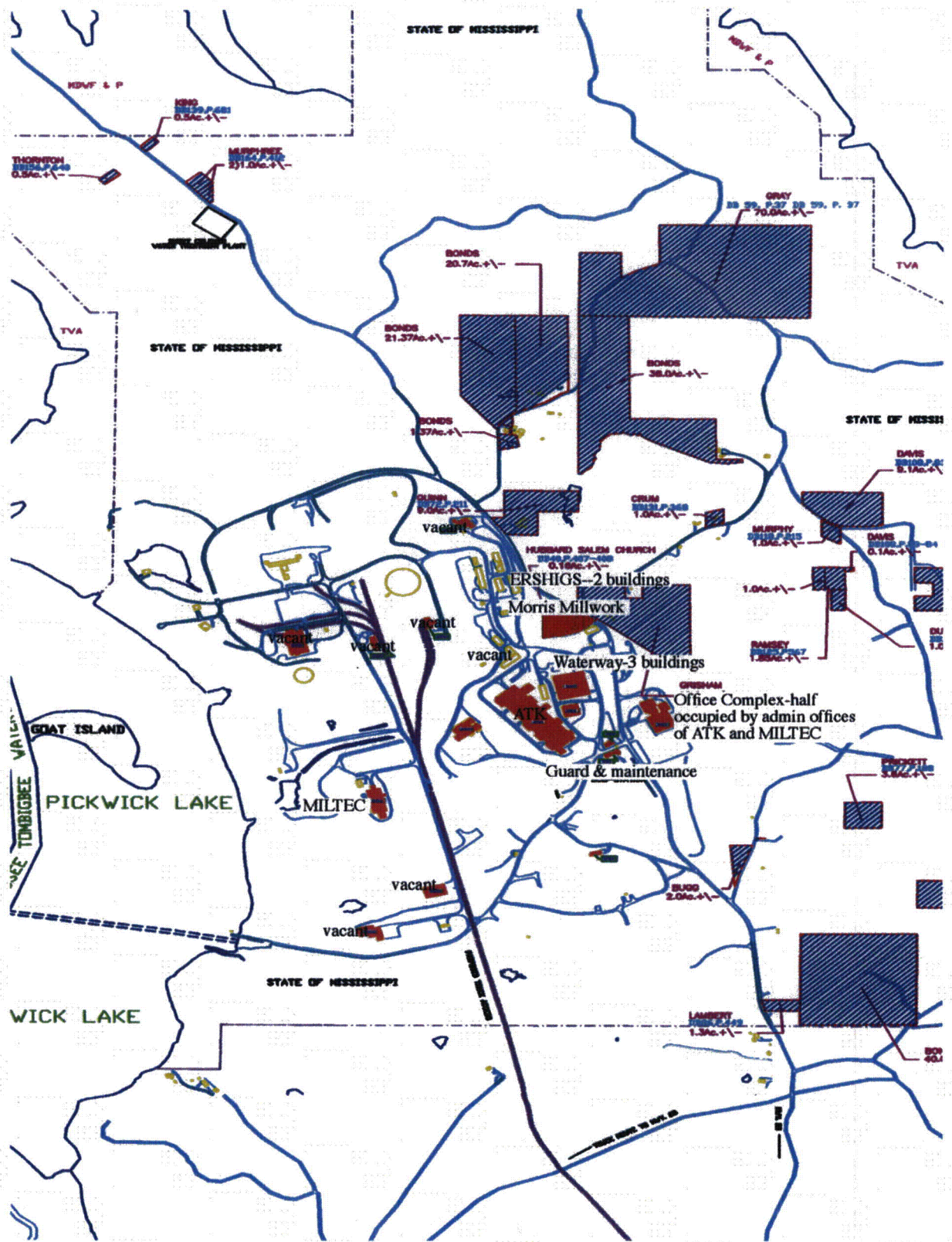




Tri-State Commerce Park including
former TVA Yellow Creek Nuclear Site

-  Yellow Creek Site Boundary
 Tri-State Commerce Park Boundary

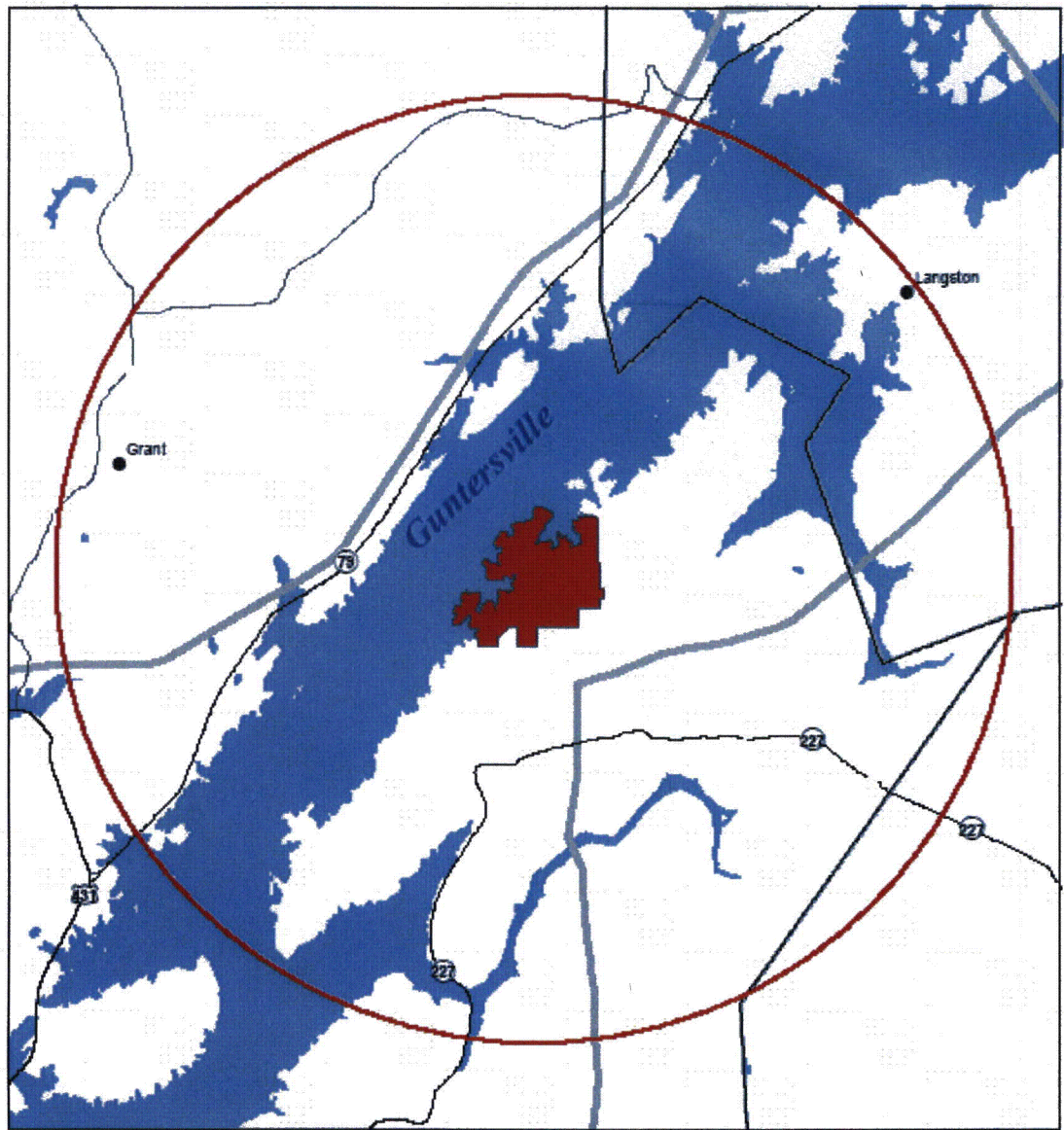








Tri-State Commerce Park Site Map with Occupancy Status and Occupant Names

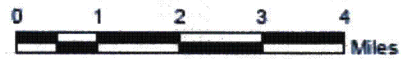
Description of Murphy Hill (MH) Site

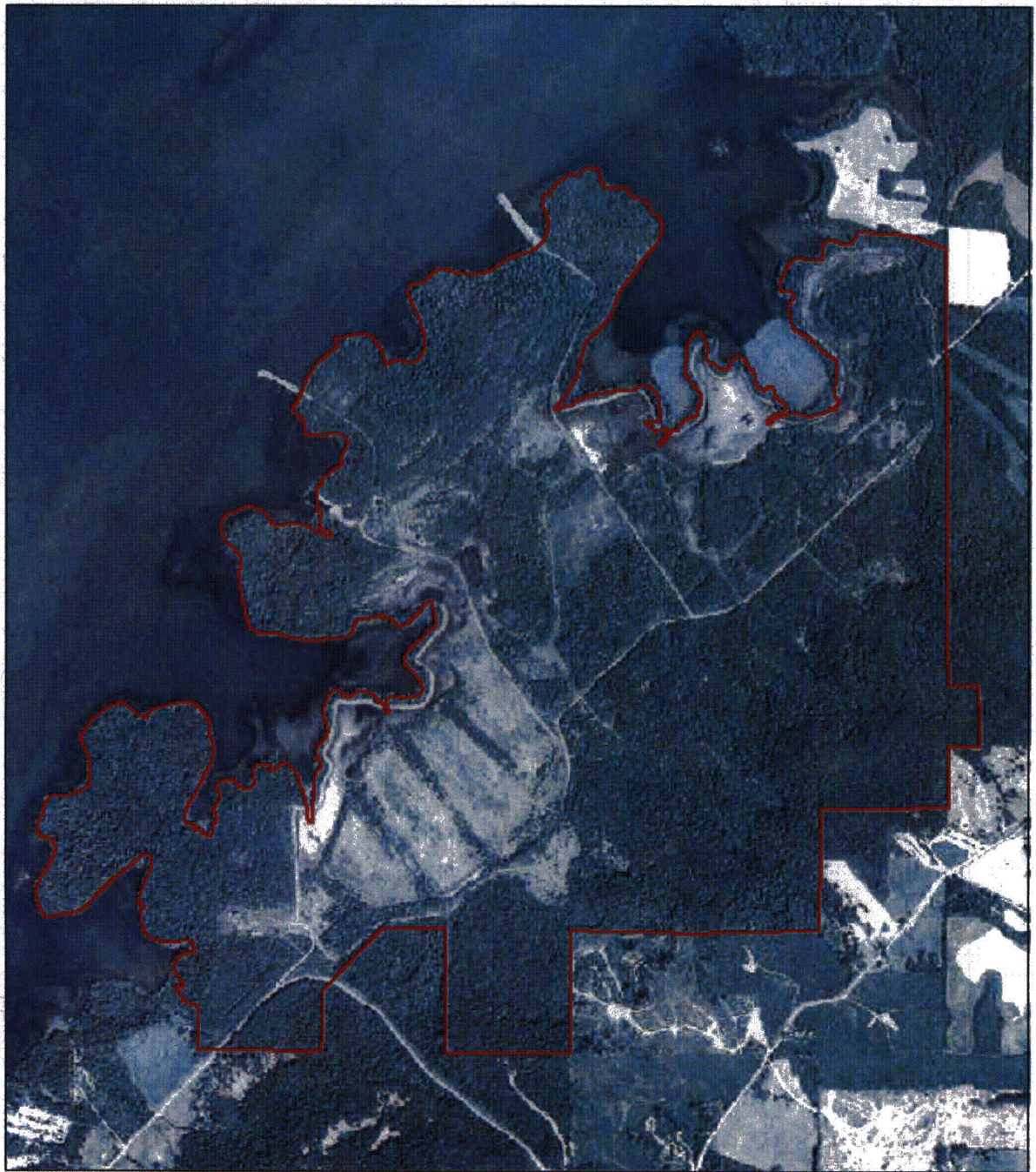
The Murphy Hill site consists of approximately 1,200 acres located in northeast Marshall County, Alabama, on the southern bank of Guntersville Reservoir at Tennessee River mile 370. Most of the site is forested with the remainder a combination of pastureland or cultivated fields. No development has occurred on this site to date and it is currently designated by TVA for natural resource conservation purposes. This classification focuses on the enhancement of natural resources for human use and appreciation (i.e., informal recreation). There are two small towns located within the 6-mile radius of the site. To the west-northwest, Grant supports a population of 665 and Langston to the northeast houses 254 people. The Alabama Department of Transportation is re-evaluating a segment of a planned interstate highway, the Memphis to Atlanta Corridor, that would cross through the southern part of the MH site, between river miles 368 and 369. This potential highway expansion is currently under consideration; no firm plans have been made to move forward on this project.



Murphy Hill Site 6-Mile Vicinity

-  Transmission ROW
-  State Highways
-  Murphy Hill Site Boundary
-  Reservoir





Murphy Hill Site

 Site Boundary

0 1,000 2,000 3,000 4,000 Feet

