SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 100001474 Date Listed: 8/14/2017

Property Name: Watts Bar Hydroelectric Project (TVA Hydroelectric System, 1933-1979 MPS)

County: Rhea and Miegs State: TN

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.

Signature of the Keeper For

8-14-2017
Date of Action

Amended Items in Nomination:

Section 8: Area(s) of Significance

CONSERVATION, INDUSTRY, and SOCIAL HISTORY are hereby deleted as areas of significance. None of these areas are well-supported in the nomination.

The TVA FPO and the Tennessee State Historic Preservation Office was notified of this amendment.

FUnited States Department of the Interior
National Park Service

MP-1474

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form.* If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property

Historic name: Watts Bar Hydroelectric Project

Other names/site number: Watts Bar Dam

Name of related multiple property listing: Historic Resources of the Tennessee Valley Authority Hydroelectric Project, 1933-1979

2. Location

Street & Number: 6868 Watts Bar Highway

City or town: Spring City State: Tennessee County: Rhea and Meigs

Not For Publication: N/A Vicinity: N/A Zip: 37381

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this X nomination ___ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property X meets ___ does not meet the National Register Criteria. I recommend that this property be considered significant at the following level(s) of significance:

[ ] national [X] statewide [X] local

Applicable National Register Criteria: [X] A [ ] B [X] C [ ] D

Patricia Bernard Eggell 11-9-16

Signature of certifying official/Title: **Date**

Dir. Prog. Mgt., Tribal Relations & History & Federal Preservation Officer

State or Federal agency/bureau or Tribal Government

In my opinion, the property ✓ meets ___ does not meet the National Register criteria.

Signature of Commenting Official: Claudette Fox **Date** 11-28-16

Deputy State Historic Preservation Officer,
Tennessee Historical Commission

Title: **State of Federal agency/bureau or Tribal Government**

Watts Bar Hydroelectric Project | Rhea and Meigs Counties, Tennessee

Name of Property | County and State

4. National Park Service Certification

I hereby certify that this property is:

- ✓ entered in the National Register
- ___ determined eligible for the National Register
- ___ determined not eligible for the National Register
- ___ removed from the National Register
- ___ other (explain:) ___

For 8.14.2017

Signature of the Keeper | Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply.)

Private	☐
Public – Local	☐
Public – State	☐
Public – Federal	X

Category of Property

(Check only **one** box.)

Building(s)	☐
District	X
Site	☐
Structure	☐
Object	☐

Number of Resources within Property

(Do not include previously listed resources in the count)

Contributing	Noncontributing	
9	9	buildings
2	0	sites
5	2	structures
0	0	objects
16	11	Total

Number of contributing resources previously listed in the National Register 0

Watts Bar Hydroelectric Project	Rhea and Meigs Counties, Tennessee
Name of Property	County and State

6. Function or Use

Historic Functions (Enter categories from instructions)	**Current Functions** (Enter categories from instructions)
INDUSTRY/PROCESSING/EXTRACTION/ *Energy Facility*	INDUSTRY/PROCESSING/EXTRACTION/ *Energy Facility*
RECREATION AND CULTURE/*Outdoor Recreation*	RECREATION AND CULTURE/*Outdoor Recreation*
TRANSPORTATION/*Water-related*	TRANSPORTATION/*Water-related*
TRANSPORTATION/*Road-related*	TRANSPORTATION/*Road-related*

7. Description

Architectural Classification

MODERN MOVEMENT: Streamlined Moderne

OTHER: Hydroelectric Dam

Materials:
Principal exterior materials of the property: CONCRETE; STEEL; GLASS; ROCK; EARTH; PORCELAIN; TILE: Terrazzo, Ceramic.

Narrative Description

The Watts Bar Hydroelectric Project was constructed by the Tennessee Valley Authority between 1939 and 1942. It is located at mile 530 on the Tennessee River in Rhea and Meigs Counties in Tennessee, halfway between Knoxville and Chattanooga. The Watts Bar Hydroelectric Project is located seventy-two miles downstream of the Fort Loudoun Hydroelectric Project and fifty-nine miles upstream of the Chickamauga Hydroelectric Project. The closest town to the project is Spring City, Tennessee, (2010 pop. 1,981), approximately ten miles to the southeast. The project takes its name from Watts Island, a sand bar formerly located at the site of the dam. The Watts Bar Hydroelectric Project impounds the seventy-two-mile long Watts Bar Reservoir (also called Watts Bar Lake), which has 722 miles of shoreline, 39,090 surface acres, a storage capacity of 1,175,000 acre-feet, and a flood-storage capacity of 379,000 acre-feet. The reservoir has shoreline in Rhea, Meigs, Roane, and Loudon Counties. Construction of the Watts Bar Dam began in 1939 and was completed in 1941, contributing to national defense in power production for World War II.

INVENTORY

The Watts Bar Hydroelectric Project consists of the dam, powerhouse with five generating units, a visitor/control building, switchyard, and navigation lock, which are interconnected and integral to one another (*see Photo 1*). Associated with the hydroelectric project is a public recreation area with a picnic area, fishing ramp, and boat ramp. Constructed for the purpose of generating power and for river navigation, the Watts Bar Hydroelectric Project contains one navigational lock. In the immediate vicinity of the switchyard is an original oil purification building. The navigation locks also are serviced by several control buildings. The project site has numerous additions of maintenance outbuildings and recreational structures.

1. Watts Bar Dam, 1941 (Contributing Structure)

The 112-foot high Watts Bar Dam has an overall crest length of 2,960 feet across the channel and adjacent bottoms. The Watts Bar Dam is a reinforced concrete gravity-type, non-overflow and spillway dam constructed of concrete and steel.[1] The spillway dam has twenty openings controlled by radial gates measuring forty feet in width by thirty-two feet in height. The dam has a short non-overflow section, which is located between the lock on the left (east) bank and the dam spillway (*see Photo 2*). The ninety-four-foot high Watts Bar Dam has an overall crest length of 1,076 feet across the channel and adjacent bottoms between the powerhouse and the navigational lock on the left (east) bank. The spillway is 930 feet long with an ogee-type overfall section with a crest at an elevation of 713 feet above sea level and twenty radial gates rising above the crest to an operating deck at an elevation of 752 feet above sea level. The gates are divided by six-and-one-half-foot thick piers (*see Photo 3*). The gates are operated by two traveling hoists on this deck. The non-overflow section between the spillway and the lock is 116 feet in length.[2]

The spillway is designed to discharge a maximum flood of 585,000 cubic feet of water per second. The spillway bays act as orifices under ordinary conditions and as submerged weirs when tailwater is above the crest elevation. The energy of falling water is dissipated at the base of the overfall and a concrete apron slab was installed to protect the foundation rock from erosion.[3] The dam has an earth embankment 1,204 feet in length which extends from the lockôs land wall to the ridge that forms the east abutment. The embankment was built with impervious rolled earth fill.

2. Powerhouse, 1942 (Contributing Building)

The facilityôs powerhouse and intake are located west of the damôs spillway on the right (west) bank of the river. The powerhouse retains much of its original design and detailing. The exterior wall surface consists of smooth concrete panels. The superstructure is reinforced concrete and steel. The substructure is connected to the intake, forming a monolith against the water load. In the substructure, the downstream face of the intake is the upstream wall of the generator room. The intake contains the water passages to the five turbines in the powerhouse in five blocks, each seventy-three feet long by thirty-six feet wide at the base. The intake is a combination, gravity, buttress-type structure, connected to the powerhouse. Its frame is heavily reinforced with

[1] Commonly, dam design includes a section that permits the overflow of water from the reservoir (the spillway) and other sections that do not allow the passage of water (non-overflow). Together, these sections contribute to the total length of the dam structure that impounds the reservoir. A gravity type dam is one constructed of concrete or stone and uses the sheer weight of the structure to resist the horizontal pressure of the water pushing against it. Gravity dams are designed in sections that are independently stable.
[2] Tennessee Valley Authority, *The Watts Bar Project: A Comprehensive Report on the Planning, Design, Construction, and Initial Operations of the Watts Bar Project, Technical Report No. 9*, (Washington D.C.: Government Printing Office, 1949), 10, 69.
[3] Ibid., 72.

steel rods to bear the water load. Each intake opening is protected on the upstream side by trashracks. The Watts Bar intake design eliminated emergency closure gates present in other TVA intake examples, substituting steel stop log sections in the trashrack guides at the face of the intake. The Watts Bar intake has service gate slots, handled by a fifty-ton gantry crane that travels on the intake deck. A 10-ton boom hoist mounted on the gantry crane handles the stop logs and trashracks.[4]

The north elevation of the powerhouse is integrated with the wall of the dam. The powerhouse is a semi-outdoor type with a gantry crane operating on the flat roof of the buildingôs generator room.[5] The 225-ton gantry crane travels the length of the generator room and service bay and handles powerhouse equipment and shipments brought by water, rail, or highway (*see Photo 4*). [6] The roof of the generator room is downstream of and below the deck level of the dam.

At the right (west) bank of the river is the powerhouseôs service bay. Its ground floor is the same level as the deck of the dam. The length of the service bay is perpendicular to the length of the dam. The main entrance to the powerhouse is located at the south end of the east elevation of the service bay. The entrance has a single-light glass and steel door (*see Photo 5*). To the north of the entrance there is a window bank of structural glass blocks (*see Photo 6*). The south elevation of the service bay has a twenty-light fixed aluminum window (*see Photo 7*).

The powerhouse is entered through the east elevation of the service bay. This interior level is the fourth floor, which consists of a small foyer with a descending stairwell at the west wall. There is a solid steel door with a narrow vertical louvered vent leading into the screen house within the north wing of the service bay. This section of the service bay corresponds with the east elevation wall of with structural glass blocks. The screen house, which was not accessible, serves as the water intake for the steam plant downstream from the dam.[7] The service bayôs interior has stairwells and corridors with glazed tile walls and terrazzo floors (*see Photo 8*).

The second floor of the service bay has a fan room, an enclosed visitor room overlooking the generator room, and restrooms. The visitor overlook has glazed tile walls, terrazzo floor, and a wall of fixed, steel-frame windows for viewing of the generator room (*see Photo 9*). The restrooms have blue glazed tile walls, terrazzo floors, added dropped ceilings and marble stalls.

The generator room has ceramic tile floors and walls. The powerhouse has five, 30,000-kilowatt generators. The generators operate at 94.7 revolutions per minute and are driven by Kaplan adjustable-blade, propeller-type turbines with a rating of 42,000 horsepower at fifty-two-foot head. Each is enclosed and air-cooled with water-cooled heat exchangers within their housings (*see Photo 10*).[8] The generators are designed to operate more efficiently at fifty-seven-foot head, but are guaranteed to provide 30,000 horsepower under a minimum head of forty feet. Baldwin Southwark Division was awarded the contract for the first three turbines on April 8, 1940

[4] Ibid., 86-88.
[5] TVA powerhouses varied in type. Indoor powerhouses have their generators completely enclosed within the building. This differs from semi-outdoor type powerhouses, where the generators project through the roof of the building and are shielded from the elements by metal sheathing and are serviced by a gantry crane on the exterior of the powerhouse. Four of TVAôs hydroelectric powerhouses (Fort Loudoun, Hiwassee, Watts Bar, and Wheeler) are of the outdoor type.
[6] Ibid., 10, 97, 102.
[7] Ibid., 50.
[8] Ibid., 124.

and also for the fourth and fifth turbines on August 15, 1941.The main turbine shaft is thirty-two inches in diameter and twenty-five feet in length (*see Photo 11*).[9]

The electrical bay is on the downstream side of the powerhouse, across the full length of the structure. The roof over the generator room and electrical bay has precast concrete slabs supported on beams and girders. The design of the girders transmits to the intake structure any forces that might result from deflections of the downstream wall. The powerhouse and control building, located on the bluff to the west, are connected via a short horizontal tunnel from the service bay in the powerhouse that intersects a vertical shaft from the control building, accommodating the main generator leads and control cables.

3. Visitor/Control Building, 1942 (Contributing Building)

The control building is located on the hillside on the right (west) bank of the river overlooking the dam and powerhouse (*see Photo 2*). A large vertical and horizontal shaft containing cables and other electrical equipment connects the control building with the powerhouse. The control building is a two-story building with a one-story rear wing and a full basement. The exterior walls are divided into rectangular panels of rough-sawed Indiana limestone. On the façade (north), the entrance consists of four, single-light glass and metal doors with a flat aluminum canopy. The name ñWATTS BARò is in aluminum lettering above the entrance. Windows are original three-part aluminum design with lower, hopper panels. The second floor on the main façade has three porthole style windows. The aluminum canopy extends to the east elevation to protect a projecting, semi-circular observation deck. This elevation (east) has a bank of fixed windows (*see Photo 13*). The west elevation has paired, original single-light and steel doors and one single-light and steel door (*see Photo 14*). The south elevation lacks fenestration except for a louvered metal vent. *(see Photo 15*)

The interior of the control building was originally designed with an ornate visitorôs lobby, offices and the main control room. A fire in September of 2002 resulted in extensive smoke damage throughout the building. As a result, all of the furniture, furnishings and control room equipment in the building were removed and the original marble walls, terrazzo floors and other features were encapsulated beneath elastomeric materials. The visitorôs lobby retains its original semi-circular concrete bench and there is also an original circular reception desk adjacent to the stairs leading to the interior observation platform (*see Photos 16 and 17*). The lobby was designed with a large glass window for the viewing of the control room behind it. Offices have original concrete ceilings and concrete floors (*see Photo 18*).

4. Switchyard, 1942 (Contributing Structure)

The 154-kilovolt switchyard is located on the hillside on the right (west) bank and is just to the west of the control building (*see Photo 19*). The switchyard is located within a chain-link fence and has a gravel surface. The switchyard contains the main transformers and switching structures. It was designed for fifteen bays with space for two future additions. The 154-kilovolt transformer and line circuits are controlled by three-pole, solenoid or pneumatic operated oil circuit breakers rated at 161 kilovolt, 1,200-ampere, 3,500,000-kilovolt-ampere interrupting capacity. Insulators are of porcelain.[10] A concrete tunnel spreader room connects the switchyard to the control building. Some of the electrical equipment has been replaced since the switchyard was built but the overall appearance of the structure closely resembles its original design.

[9] Ibid., 120-22.
[10] Ibid., 238.

5. Control Equipment Building, ca. 2002 (Non-Contributing Building)
To the south of the switchyard and control building is this one-story, steel paneled building. It was built following the 2002 fire to contain the control equipment for the powerhouse. It has a flat metal roof, concrete foundation, and a single-light steel door with a small shed canopy on its west elevation (*see Photo 20*).

6. Oil Purification Building, 1942 (Contributing Building)
The Oil Purification Building is a one-story, concrete building located at the switchyard to house oil tanks and other equipment. It has a flat, concrete and asphalt roof, exterior walls of concrete panels, two original steel doors and four single-light awning-style horizontal windows on the main (east) façade. Three similar windows are located on the north and south elevations. The oil purification building is equipped with an automatic carbon dioxide fire-extinguishing system consisting of a bank of five, fifty-pound cylinders that may be discharged simultaneously into the building, which has an air volume of 3,900 cubic feet (*see Photo 21*).[11]

7. Navigational Locks, 1942 (Contributing Structure)
The Watts Barôs navigational lock is located at the left (east) bank of the river. The locks were designed by the U.S. Army Corps of Engineers (USACE) and TVA. The Nashville office of USACE prepared all the design drawings except for the architectural and structural features of the lock operation building. With the Corpsô approval, TVA selected the location of the lock and approach channels following laboratory model tests and prepared specifications for materials and equipment. The lock has a chamber sixty feet wide and 360 feet long (*see Photo 22*). It has a maximum lift of seventy feet. The centerline of the lock chamber intersects the damôs axis forty-eight feet downstream of the upper gate pintels at a perpendicular angle.[12]

The upper lock gates are of a conventional mitering type. Each leaf measures thirty-five feet wide by twenty-nine feet high (*see Photo 23*). Each leaf of the lower gates measures thirty-seven feet wide by eighty-seven feet high and is built up of horizontal curved girders forming arch ribs that span between the miter post and quoin posts. Segmental valves along culverts of the lock walls are controlled for filling and emptying the lock chamber. Each gate leaf and valve is operated individually by machinery recessed within the lock walls There are four sets of operating machinery for the lock gates, each consisting of an adjustable gate strut, a crank arm, a horizontal gear and pinion, two speed reducers, and a brake and limit switches. The operating machinery for the valves is similar.[13]

8. Lock Operation Building, 1942 (Contributing Building)
Located on the land wall of the lock at the axis of the dam, the original lock operation building has a flat roof of asphalt, a full basement, and an exterior of rough-sawn Indiana limestone. The building houses a garage, equipment operation room and offices, and public facilities. The ground floor has an observation deck on its roof with a second-story observation rooms flanking a breezeway. The façade (west) has banks of original aluminum, three-part, horizontal windows on the first floor and in the bay windows on the second-floor observation rooms (*see Photo 24*). The façade has a recessed central entrance bay with single-light glass and metal doors in the inner side walls. There is a continuous, flat, aluminum canopy across the first floor of the façade. The building was designed with an open breezeway on the rear (east) elevation to access the central observation deck (*see Photo* 25). This section forms a rear T with the one-story façade section. The rear

[11] Ibid., 138.
[12] Ibid., 52-53.
[13] Ibid, 60-62.

elevation of the one-story section has three single-light, horizontal windows at the south end and a porthole window at the north end. The north elevation of the one-story section has aluminum lettering that spells WATTS BAR and one set of aluminum, three-part, horizontal windows (*see Photo 26*). The south elevation is the same as the north elevation and also has a basement level with a one-bay over-head-tracking garage door. The interior has original terrazzo floor, tile walls, ca. 1990 added dropped ceilings, and aluminum doors with narrow, central louvered vents. There is an interior stairwell to the upper level (*see Photos 27 and 28*).

9. Lock Control Building 1, 1942 (Contributing Building)
On top of the lock at the south entrance there is a control station building containing equipment for the gates and valve operations.[14] It is a small, one-story building with a flat metal roof. The building has a brick skirt wall, fixed, aluminum windows, and a metal door with a single-light glass and a single-metal panel. Beside the door is a two-light, sliding-track window (*see Photo 29*).

10. Lock Control Building 2, 1942 (Contributing Building)
On top of the lock at the north entrance there is a control station building. It is a small, one-story building with a flat metal roof. The building has a brick skirt wall, fixed, aluminum windows, and a metal door with a single-light glass and a single-metal panel. Beside the door is a two-light, sliding-track window.

Lock Maintenance Buildings – 2 resources

There are two maintenance buildings associated with the lock which were built in recent decades:

11. Lock Maintenance Buildings, 2008 (Non-Contributing Building)
This is a 2008, one-story building of split faced concrete block and a flat metal roof. Its three garage bays have metal overhead-track doors. Above the bays, the upper walls have concrete panels. The main (south) façade has four bays, three with garage doors, and one with a pedestrian entrance, which has a solid metal door surrounded by fixed aluminum windows (*Photo 30*).

12. Lock Maintenance Buildings, 2008 (Non-Contributing Building)
This is a 2008, one-story building with metal siding and a gable-front roof of metal. The façade (west) has a large overhead-track metal door. On the north elevation there is a single-light metal pedestrian door (*see Photo 31*).

13. Warehouse, ca. 1995 (Non-Contributing Building)
This building, located south of the powerhouse, is one-story, has a low-pitched gable roof of standing-seam metal, and has an exterior of metal siding. The south elevation has a large garage bay door (*see Photo 32*).

Maintenance Base – 6 resources

The maintenance area is located to the west of the dam and switchyard:

[14] Ibid., 64.

14. Office Building, ca. 1960 (Contributing Building)
The office building was built ca. 1960 and is a one-story, concrete block building with a flat metal roof. On the west elevation is a canted bay with fixed aluminum windows. The main (south) façade has two sets of paired pedestrian doors of steel and glass and two garage bays with metal overhead track doors. The north elevation has structural glass block windows and two-over-two aluminum sash windows. The interior has dropped ceilings, concrete floors and concrete block walls (*see Photo 33*).

15. Hazardous Storage Building, ca. 1960 (Contributing Building)
A ca. 1960, one-story concrete block structure to house hazardous materials. This structure has a flat roof and chain link doors.

16. Flammable Storage Building, ca. 1980 (Non-Contributing Building)
A ca. 1980 flammable material storage building is a concrete block building with a flat roof and a solid steel door adjacent to an open-air structure with steel framework and a butterfly roof of metal.

17. Equipment Shed, ca. 2000 (Non-Contributing Building)
A ca. 2000 equipment shed which is an open-air, steel-frame structure with five bays attached to a concrete block bay with an overhead-tracking door. The roof is metal.

18. Chemical Storage Building, ca. 1985 (Non-Contributing Building)
A ca. 1985 chemical storage building with a corrugated metal exterior, gable metal roof and attached wood carport.

19. Equipment Shed, ca. 1980 (Non-Contributing Structure)
A ca. 1980 open-air equipment shed with steel frame posts and a butterfly roof attached to a wood-frame open-air structure with a low-pitched gable roof.

20. Recreational Area, ca. 1955 (Contributing Site)
The Watts Bar Hydroelectric Project site was originally designed with picnic and recreation areas on the east and west banks of the river. These recreational facilities were not completed until after World War II and buildings and structures date from the 1950s to the present. The grounds consist of sidewalks, original concrete picnic tables (*see Photo 34*), toilet facilities, beach area, (*see Photo 35*) and boat ramps (*see Photo 36*).

21. Bathhouse, ca. 1955 Contributing Building)
The campground and picnic area contains a ca. 1955 bath house which is a standardized design built by TVA throughout their facilities. This is a one-story, concrete block building with a saltbox roof of corrugated metal. The main façade has a recessed integral entrance with projecting wing walls. The side elevations have asymmetrical fixed windows.

22. Bathhouse, ca. 2000 (Non-Contributing Building)
The campground area also has a ca. 2000 version of the standardized plan bath house. This is a concrete block one-story building with and exterior of faux stucco and a saltbox roof of standing seam metal. The façade has a recessed integral entrance with projecting wing walls. Side elevations have asymmetrical fixed windows.

23. Picnic Pavilion, ca. 2000 (Non-Contributing Building)
Picnic Pavilion, ca. 2000 ï Open-air structure with five bays divided by square, wood support posts and a gable roof of standing-seam metal. The foundation is poured concrete.

24. Overlook and Picnic Area, 1942 (Contributing Site)
To the north of the control building and on the other side of State Route 68 is a landscaped overlook and picnic area. This site consists of a low concrete wall with a steel handrail, a viewing platform with a wayside exhibit and an original concrete picnic table. The overlook and parking lot connects with the control building via a steel pedestrian bridge built above State Route 68 ca. 1965.

25. Water Tank 1, 1942 (Contributing Structure)
On the hillside to the west of the switchyard is a steel water tank which supplied water to the facility. This cylindrical water tank is constructed of bands of steel riveted into three stacked levels. The original pump piping remains intact (*see Photo 37*).

26. Water Tank 2, ca. 1990 (Non-Contributing Structure)
Also located on the hillside west of the switchyard is a ca. 1990 cylindrical water tank constructed of rectangular steel panels stacked in nine levels. A metal ladder spans the height from ground to roof.

27. State Route 68 Bridge, ca. 1965 (Contributing Structure)
State Route 68 originally crossed the Tennessee River via the Pinhook Ferry which was located approximately two miles downstream from the Watts Bar Dam. A bridge to carry SR 68 across the top of the dam was completed ca. 1965. It is named for Aubrey J. 'Red' Wagner who was TVA's longest serving chairman, from 1962-1978. The two-lane bridge is 2,359.9 feet long and its design is a girder and floorbeam system. The bridgeôs steel piers are anchored into the top of the Watts Bar Dam *(see Photo 38*).

Watts Bar Hydroelectric Project | Rhea and Meigs Counties, Tennessee
Name of Property | County and State

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- [X] A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- [ ] B Property is associated with the lives of persons significant in our past.
- [X] C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- [ ] D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations N/A
(Mark "x" in all the boxes that apply.)
Property is:

- [ ] A Owned by a religious institution or used for religious purposes.
- [ ] B removed from its original location.
- [ ] C a birthplace or grave.
- [ ] D a cemetery.
- [ ] E a reconstructed building, object, or structure.
- [ ] F a commemorative property.
- [ ] G less than 50 years old or achieving significance within the past 50 years.

Areas of Significance
(Enter categories from instructions.)
ARCHITECTURE
CONSERVATION
ENGINEERING
INDUSTRY
RECREATION
SOCIAL HISTORY
TRANSPORTATION

Period of Significance
1939-1965

Significant Dates
1939-1942

Significant Person
(Complete only if Criterion B is marked above.)
N/A

Cultural Affiliation
N/A

Architect/Builder
Architect: Tennessee Valley Authority; U.S. Army Corps of Engineers; Roland Wank; Rudolph Mock; Mario Bianculli
Builder: Tennessee Valley Authority

Statement of Significance Summary Paragraph

The Watts Bar Hydroelectric Project meets National Register Criteria A and C for its historical and architectural and engineering significance on the local and state levels as an integral part of the Tennessee Valley Authority Hydroelectric Project. Its period of significance is from 1939, when the project commenced, to 1965, in keeping with the fifty-year guideline. The Watts Bar Hydroelectric Project is significant for its overall design, the expansion of energy for World War II manufacturing, the improvement of the quality of life through transmission of electricity, control of seasonal flooding, and creation of public recreational facilities. The Watts Bar Hydroelectric Project was one of twenty-five dams constructed by the Tennessee Valley Authority (TVA) for the purpose of generating electrical power from, improving navigation of, and controlling seasonal flooding of the river system of the region. Located halfway between Knoxville and Chattanooga, the Watts Bar project was original to TVAôs unified plan submitted to Congress in 1936. TVA assumed authority over late-nineteenth-century improvements at the site by the Corps of Engineers. It is significant at the local, state, and national level. For architecture, it is significant for its Streamlined Moderne style, embodying the TVAôs mission of progress in its economy of adornment, as well as the industry of the machine age. The progressive ideology extended into conservation, another area of significance; TVAôs Watts Bar Hydroelectric Project not only harnessed the energy of the river, but involved reforestation of the land and introduction of progressive farming methods. The projectôs significance in engineering is reflected in TVAôs overall plan for an integrated system of river management through site-specific designs tested on scaled models. The significance of the Watts Bar project in industry is seen through the increase of household electricity use and in war-related manufacturing. It is also significant in the area of military for its role in the war effort. The Watts Bar project is significant in recreation because of the extensive outdoor opportunities it fostered. Watts Bar was significant in social history for its role in employment, housing, and improvement of quality of life. Lastly, it is significant in transportation for contributing to the 652-mile navigable waterway on the Tennessee River, contributing to increased commercial traffic and industry in the region. The Watts Bar Hydroelectric Project meets the registration requirements set forth in the Multiple Property Documentation Form, ñHistorical Resources of the Tennessee Valley Authority Hydroelectric Project, 1933-1979.ò

Narrative Statement of Significance

One of the main objectives of the Watts Bar project was navigation improvement on the Tennessee River. Development of transportation along the Tennessee River had received Congressional study since 1828. At that time, the United States Army Corps of Engineers (Corps) was charged with construction and mapping along the rivers in the United States, including building lighthouses, jetties, and piers. Between 1872 and 1874, the Corps first attempted to improve the river at the site of Watt Island with the construction of a rock dike and two wing dikes. These improvements created a channel on the right (west) bank. Dredging between 1911 and 1913 deepened the channel. The Corpsô report in March of 1930 recommended a low-lift navigation dam at the Watts Bar site, and in 1932, the agency conducted core-drilling for a low dam at the site.[15]

The Tennessee Valley Authority (TVA) was created under President Rooseveltôs New Deal program as part of his ñFirst One Hundred Days.ò Roosevelt envisioned ña corporation clothed with the power of government but possessed the flexibility and initiative of a private enterprise.ò To this end, Congress passed the TVA Act on

[15] Tennessee Valley Authority, *The Watts Bar Project: A Comprehensive Report on the Planning, Design, Construction, and Initial Operations of the Watts Bar Project, Technical Report No. 9*, (Washington D.C.: Government Printing Office, 1949), 7.

May 18, 1933.[16] The multi-purpose legislation sought to improve navigation and flood control of the Tennessee River, spur agricultural and industrial development in the Tennessee Valley, and provide for national defense via government facilities in the proximity of Muscle Shoals, Alabama (Sec. 1). The act authorized the TVA Corporation to acquire real estate for the construction of dams, reservoirs, power houses, transmission lines, or navigations projects at any point along the Tennessee River and its tributaries (Sec. 4i).[17]

The creation of TVA shifted responsibility over Tennessee River improvements from the Corps, though the two agencies consulted on survey and design. In 1935, TVA reviewed the Corpsô findings on the Tennessee River at both Watts Island and at White Creek, thirteen miles upstream, and concurred with the conclusion that Watts Island was the better site for development of a multi-purpose high dam. The TVA conducted its own core-drilling at the project in 1935, completing the work in May of 1936. Overlapping this work was the submittal of TVAôs unified plan to Congress in March of 1936. The plan called for the development of nine main-river facilities, including one at the renamed Watts Bar site.[18]

Work commenced on the Watts Bar project on July 1, 1939. The Watts Bar Reservoir began filling on January 1, 1942, and the lock opened for navigation on February 16, 1942. The first power unit went into commercial operation on February 11, 1942; the second, on April 6, 1942, and third, on July 23, 1942. The Watts Bar Hydroelectric Project supplied electrical power during World War II to the aluminum plant at Alcoa and the Manhattan Project plants at Oak Ridge. The fourth and fifth units were added and place in operation on March 12 and April 24, 1944, respectively.[19]

Total land costs for the project amounted to $5,955,332, which included acquisition by fee and by certificate in condemnation proceedings when eminent domain was employed when landowners refused sale. Direct construction costs, such as labor, materials, equipment, transportation, totaled $23,705,167. Indirect construction costs, including accounting, timekeeping, office supplies, and police service, came to $1,410,180. Design and engineering expenditures, which included salaries and expenses of executive engineers, technicians, and inspectors, amounted to $1,872,328. These amounts plus other categorized costs brought the total project to $35,231,729.[20]

After World War II the planned recreational facilities were finally completed and included a campground, picnic area and boat launch ramp along the east shore of the reservoir and east of the dam. A maintenance area was also built to provide upkeep and regular maintenance for the facility and grounds.

Since its construction the powerhouse has not been significantly altered and retains its original exterior and interior design and detailing. Of particular note are numerous original features, including glazed tile walls, terrazzo floors, original clock and light fixtures, structural glass blocks, stairwells, and interior and exterior sign lettering. The dam was altered ca. 1965 when State Route 68 was built over the dam on a bridge that connected to the top of the dam via steel posts. The Streamlined Moderne style control building retains its original exterior

[16] ñHistory of the Tennessee Valley Authority,ò at TVA website http://www.policyalmanac.org/economic/archive/ tva_history.shtml accessed April 16, 2015.
[17] Tennessee Valley Authority Act of 1933, at TVA website http://www.policyalmanac.org/economic/archive/tva_history.shtml, accessed April 16, 2015.
[18] Tennessee Valley Authority, *The Watts Bar Project,* 7-8.
[19] Ibid., 11.
[20] Ibid., 407.

design including its elliptical design viewing area and platform facing the dam and powerhouse. The interior detailing such as terrazzo floors and marble walls are also extant but are awaiting restoration following a fire in 2002.

SIGNIFICANCE IN ARCHITECTURE

TVAôs hydroelectric projects were designed to embody its mission for social progress. The goals and achievements of these projects - power production, navigation, flood control, malaria prevention, reforestation, and erosion control ï reached across the Valley region penetrating Americaôs social and economic strata. Architect Roland Wank impressed upon a receptive board of directors that government projects were beholden to their real stockholders, the American taxpayers, and should be open for public viewing. Further, Wank stated that the design of powerhouses should both welcome the public and convey strength in purpose. Thus, TVA powerhouses were designed as massive monoliths with visitor reception areas.[21] A prominently displayed message in every TVA powerhouse would emphasize the project as ñBuilt for the People of the United States of America.ò

The pre-World War II TVA projects exemplify the Streamlined Moderne style, a late version of the Art Deco style popular during this period. Streamlined Moderne was an expression of progress, a particularly important underpinning of the New Deal agenda. Stylistic elements that manifested this ideology include the use of geometric shapes, basic and pure in form, sleek and shiny materials evoking machinery and movement, and restrained décor suggesting an economical design ethic. Streamlined Moderne architecture often emphasized curved forms and horizontal lines, sometime including nautical motifs.

The Watts Bar Hydroelectric Project reflects the ñmodernismò that the TVA architects and engineers strived for in the 1930s and early 1940s. The dam, powerhouse, control building and lock operation building were built with Streamlined Moderne characteristics on both their exterior and interior. The style became popular during this period as an expression of progress, a particularly important underpinning of the New Deal agenda. The powerhouse has sleek surfaces of marble, terrazzo, glazed tile, and aluminum handrails throughout. Original interior doors of metal have narrow rectangular, louvered insets. The generating units themselves convey the Streamlined Moderne style, with their smooth-finish metal housing and perfectly cylindrical form.

The Watts Bar visitor building and control building were designed as one structure and featured a streamlined primary façade with an elliptical wall and deck for viewing the dam below. Of particular note is the curve of the east elevation of the control building. The smooth concrete surface, aluminum canopy and wall of windows exemplify the Streamlined Moderne style and is one of the most notable examples of this style designed by the TVA architects at their facilities.

The dam itself embodies progress, in its engineering and its design. Its massive scale represents the immensity of the project, spatially and philosophically. The architectural design of the dam employs smooth surfaces of concrete, and its steel elements such as spillway gates, emphasize geometric forms and horizontal lines. The

[21] North Callahan, *TVA ï Bridge Over Troubled Waters: A History of the Tennessee Valley Authority*, (Cranbury, NJ: A. S. Barnes and Co., Inc., 1980), 33; and Erwin C. Hargrove, *Pioneers of Myth: The Leadership of the Tennessee Valley Authority, 1933-1990*, (Princeton, NJ: Princeton University Press, 1994), 30-33.

support structure consists of concrete piers with triangular bases. Their repetitious spacing imparts a sense of movement as the eye travels the length of the vast structure.

The landscape architecture of Watts Bar is also notable through the design of the overlook and parking area north of the control building. When it was completed, visitors to the dam could park and then walk to an overlook which had curved concrete walls and a sleek aluminum handrail. The approach to the powerhouse and locks were also landscaped and provided scenic views of the facility.

SIGNIFICANCE IN CONSERVATION

The far-reaching impacts of the TVAôs hydroelectric projects achieved regional and national proportions. TVAôs programs are credited with promoting growth, development, and stability of the region. By the 1930s, it was clear that much of the nationôs farmland had not been properly managed. A report from the USDA noted that 75-100% of topsoil had eroded from some 11 million acres due to flooding and agricultural use. TVAôs goal was improvement of quality of life through progressive management of natural resources. The flood control afforded by TVAôs series of dams along the river brought stability to the lives of thousands of families. Farmers were then able to consistently apply modern farming methods aimed at soil improvement, thus improving crops. TVA worked with the Civilian Conservation Corps (CCC) in planting fifty million trees across the TVA region by 1939, further assisting in soil conservation.[22]

At Watts Bar, the reservoir purchase boundary included some 10,200 acres of above-pool forest lands. This area served TVAôs multi-use concept, with timber and forest products harvested only in amounts of sustainable yield. Other tracts have scenic value or recreational purposes, where cutting is selective and limited. As of January 1, 1948, these lands were harvested for a total of 1,126,765 board feet of timber. TVA worked with the CCC and U.S. Forest Service to reforest 450 acres of land in the Watts Bar reservation. The TVA also implemented a fire-control plan in the reservoir and on 10,000 acres of adjacent private land.[23]

Some 21,400 acres above maximum reservoir operating level were also available for crop and pasture production. After soil analysis by the Tennessee Agricultural Experiment Station, these lands were made available to farmers to integrate with farming on private tracts. The Tennessee Agricultural Extensions Service worked with farmers through grass-roots organization in Roane, Meigs, and Rhea Counties. Some 200 licenses were issued for the use of 2,440 acres in 1942. By 1949, there was an increase to 275 licenses over 5,000 acres of public land. After 1942, there was a shift in trends from row crops to hay production, based on TVA policy of supplying lime and phosphate.[24]

SIGNIFICANCE IN ENGINEERING

The Watts Bar Hydroelectric Project is an integral part of the overall engineering design of the TVA system. Watts Bar Damôs releases connect to the upper end of the Chickamauga Reservoir downstream and provide power to the Chickamauga Hydroelectric Project. Above Watts Bar Dam, the Watts Bar Reservoir extends

[22] West, 212-214.
[23] Tennessee Valley Authority, *The Watts Bar Report*, 394.
[24] Ibid., 395-96

upstream to the tailwaters of Melton Hill Dam on the Clinch River and Fort Loudoun Dam on the Tennessee River. The releases of these last two dams provide power to the Watts Bar Hydroelectric Project.

All of the larger TVA hydroelectric projects, such as Watts Bar, were designed from investigative tests conducted on small-scale models. The U.S Army Corps of Engineers performed lock tests at Iowa City on a model used for tests on locks at Pickwick landing, Chickamauga, and Guntersville. The model for Watts Bar was adapted to a 1:20 scale and studied filling and emptying characteristics. The TVA expanded on these preliminary tests, studying the effects of three different culvert sizes at headwater elevation 745 and tailwater elevation 675. The TVA also tested four different arrangements of ports. Following the Corpsô specifications of a filling time between ten and twelve minutes, TVA tested hawser stresses (the forces on mooring ropes or cables) at various fill rates. Laws of physics dictate that a shorter fill time creates greater stresses, while hawser stresses should be minimized. The most satisfactory results were obtained with six-foot by eight-foot culverts with twelve ports at variable spacing, producing a maximum hawser stress of four tons.

The TVA made hydraulic model studies for navigation below the dam based on spillway designs. Tests were conducted on a 1:150 scale model and included a long dike below the lock to protect the lower lock approach from waves caused by the spillway. The model tests simulated site topography for a distance of 2,000 feet above the dam and 10,000 feet below the dam. The model was molded with fine sand, and confetti was floated on the water surface to demonstrate direction and velocity of currents. Manipulating the angle of the dam across the river in relation to the lock and river channel, tests were made simulating total river discharges of 36,000, 100,000, and 200,000 cubic feet per second. These tests demonstrated improved navigation as the angle of the dam approached near to perpendicular with the river, especially at higher discharges. A dike along the left bank was needed at the high discharge to prevent crosscurrents in the lock approach.[25]

The U.S. Army Corps of Engineers had performed some hydrographic and topographic survey operations during the 1920s, prior to TVAôs creation. These studies resulted in the completion of a strip topographic map of the reservoir area at a scale of one inch: 1,250 feet, with five- and ten-foot contour intervals. TVA used these maps extensively for preliminary planning and studies. Prior to and during construction of the Watts Bar project, TVAôs site engineering activities included traverse and level control survey, aerial photography of 750 square miles, property survey for boundary and land acquisition covering 140,166 acres, horizontal grid layout and vertical control at the dam site for construction layout, drainage survey, pre-dredge survey for navigation channel, and surveying and mapping for boat and airplane sites for malaria control, as well as for proposed boat harbors.[26]

The Watts Bar Hydroelectric Project was designed to work in tandem with the other projects in the Tennessee River watershed. The engineering was responsible for minimizing floods on the river as well as supplying reliable water levels for the reservoir for recreation. Soon after its completion, the dam assisted in reducing the crest of a major flood in Chattanooga during December of 1942 and January of 1943. Along with the Chickamauga and Fort Loudoun projects, Watts Bar helped to control flooding in Chattanooga and other cities downstream in the years following its completion.

[25] Ibid., 483-84, 488-491.
[26] Ibid., 326-27.

SIGNIFICANCE IN INDUSTRY

The completion of the Watts Bar Hydroelectric Project contributed to the industrialization of the Tennessee Valley region. When the project was made operational in 1942, much of its power went to support the atomic plants at Oak Ridge and the aluminum plants at Alcoa. After the war TVAôs power was increasingly made available to industries seeking to locate in the region. During the early post-war years, the TVA supplied electricity at a rate of 1.35 cents per kilowatt-hour, which was less than half the national average of 2.78 cents per kilowatt-hour.[27] By 1946, the TVAôs power plants had a capacity of 2.5 million kilowatts of power and brought electricity to 668,000 households in the Tennessee Valley.[28]

Cheap electricity lured new industry to the region, influencing diversification of economy in the heretofore agriculturally-based economy of the Tennessee Valley. The workforce employed in manufacturing grew from 222,000 jobs to 382,000 from 1929 to 1950. The pay rate for a manufacturing job in the region increased by 442 percent compared with the national average gain of 282 percent.[29]

In recent decades TVA has continued to recruit industry with attractive affordable power. Economic development is a critical component of TVA's mission. In 2013, TVA Economic development helped attract or retain almost 52,000 jobs and generate nearly $5.0 billion in capital investment across the TVA region.[30] The Watts Bar Hydroelectric Project contributes electrical power to industries throughout the region, with a net dependable capacity (average daily power produced minus the power used by the dame itself) of 182 megawatts.[31]

SIGNIFICANCE IN RECREATION

Between the time of TVA creation and the beginning of construction at Watts Bar, the concept of non-urban recreational development has taken hold in municipalities across the Tennessee Valley. The natural scenic landscape was an outstanding canvas for planning of outdoor recreational opportunities. The location of Watts Bar, crossed by major highways connecting the Midwest to Florida and the Great Smoky Mountains, afforded high tourism potential.

TVA assisted in planning by providing office studies and field investigations, determining probable suitability of shoreline locations for fishing, boating, public parks, water sports, camps, and accessibility. Making recommendations to local municipalities, the TVA worked in cooperation with the Tennessee Department of Conservation and the Tennessee State Planning Commission. The latter agency worked on the local level to encourage the formation of local planning commissions to oversee land use and recreation opportunities. Local participation at Watts Bar reached higher levels than in previous project areas, resulting in planning from within the communities, rather than from the federal level.[32]

[27] Patricia Bernard Ezzell, ñTennessee Valley Authority in Alabama (TVA),ò at Encyclopedia of Alabama website http://www.encyclopediaofalabama.org/article/h-2380, accessed April 22, 2015.
[28] Carroll Van West, *Tennessee's New Deal Landscape*, (Knoxville: University of Tennessee Press, 2001), 11.
[29] Ezzell, ñTennessee Valley Authority in Alabama (TVA).
[30] ñEconomic Development,ò at TVA webpage http://www.tva.com/econdev/index.htm accessed May 5, 2015.
[31] Tennessee Valley Authority, ñWatts Bar Reservoir,ò at TVA webpage http://www.tva.gov/sites/wattsbarres.htm accessed July 29, 2015.
[32] Tennessee Valley Authority, *The Watts Bar Report*, 397.

Spring City (population 1,569 in 1940) and Rhea County established a joint planning commission in March of 1941 to control growth and take advantage of recreational development. With assistance from TVA, the commission selected a site for development of a marina near the city. A nine-hole golf course was suggested adjacent to the marina site, spurring both a golf-enthusiasts group and a city park commission by September of 1941.[33]

Roane County established a 300-acre public park on the shore of the Caney Creek embayment of Watts Barr Reservoir. This location was convenient to U.S. Highways 27 and 70. Plans provided for picnic grounds, playing fields, walking trails, campgrounds, a bathing beach, and bath houses. The project represented a cooperative effort of three towns (Kingston, Harriman, and Rockwood), as separate facilities were not practical for the individual populations. Separately, the Harriman City Planning Commission excavated a harbor for commercial navigation, with space for recreational watercraft. Kingston also planned a boat-landing dock on the dike built by TVA to protect the city from inundation. Rockwood planned a small community park on the waterfront, and the city of Loudon planned a marina and public picnic grounds. All of these developments exemplified local-level planning, with coordinated assistance from state and federal agencies.[34]

In keeping with its other hydroelectric projects, the TVA also planned recreational opportunities at Watts Bar. Visitors were welcome to park at the landscaped overlook and tour the control building. They could also fish along the river bank on the west side of the river or have a picnic and camp at the picnic grounds and campground on the east side of the river. A swimming beach and boat ramp were also available for visitors. In the decades following World War II, recreation assumed greater prominence in TVA planning as its economic benefits for the region became more apparent.

In 1950, TVA sold original Watts Bar workersô cabins to by Pete and Sally Smith. The coupled renovated the site with co-operator Katie Marshall, developing a very popular resort featuring boating, fishing, tennis courts, a restaurant and swimming pool. The resort enjoyed visitation from across the nation. The Watts Bar Resort has its own post office, with the address Watts Bar Dam, Tennessee. Smith sold out after many successful years, and David and Edward Probst, brother from Illinois, and their wives assumed ownership and operation of the resort. The Watts Bar Resort remained in operation for nearly fifty years, though today none of the original TVA or added buildings is extant.[35]

SIGNIFICANCE IN SOCIAL HISTORY

During the 1930s, the TVAôs hydroelectric project in the Tennessee Valley included improving the land and the lives of its people, devastated by the Depression. The land was over-worked, de-forested, and unproductive. In the process of the Douglas project, the TVA helped create new employment opportunities and provided technical assistance to area residents within the affected area. From a social point of view, the agency developed a protocol regarding the families displaced by its hydroelectric projects, gaining experience from Norris, Wheeler, and Pickwick Landing projects.

[33] Ibid., 343.
[34] Ibid., 398-400.
[35] Pat Guffey, ñRemembering Watts Bar,ò *The Herald News* webpage http://www.rheaheraldnews.com/lifestyles/article_fa6e8898-02e2-11e4-93f8-0019bb2963f4.html accessed online August 26, 2015.

Labor personnel for the Watts Bar project construction drew from qualified applicants based on merit. Applicants were listed in a register resulting from a 1936 Workmenôs Examination and were drawn from a sixty-mile radius of the project. Workers were provided with training experience that would be applied on the Watts Bar job and in the greater workplace post-project, including mathematics, pipe-fitting, electricity, welding, and blueprint-reading. Labor turnover was high at Watts Bar, due to enlistment in armed services or for employment in war industries. During the peak of construction in 1941, three work shifts were in operation. Over 11,000,000 man hours of work completed the project. Dam construction averaged 1,443 employees between October of 1939 and October of 1942.[36]

Housing for Watts Bar workforce was largely provided by nearby towns. At the project site, housing included forty single-family dwellings (thirty for white families, ten for black families) and eight dormitories (five for white, two for black, and one for women workers). The latter group of buildings had a total capacity of 432 before conversion of the African-American dorm to a community building. Acceleration of the project construction required the enlargement of the remaining seven dormitories, increasing total capacity to 656. A cafeteria accommodated 192 patrons at one seating. There was also a sixteen-bed hospital.[37]

The Watts Bar project required the purchase of 110,145 acres of land, displacing 832 families in Rhea, Meigs, Roane and Loudon Counties. The TVA established a family readjustment program similar to that at its Norris, Wheeler, and Pickwick Landing projects. Through this program, the TVA worked in cooperation with local, state, and federal agencies. The Tennessee Agricultural Extension Service assisted in the relocation of farm families and instruction in new farming methods. The Tennessee Department of Public Welfare gave assistance to eligible families and helped find them new homes. The State Department of Education worked with TVA to consolidate schools for improved facilities. The State Planning Commission worked with civic groups and town officials in Lenoir City, Harriman, Spring City, and Kingston. Tennessee State Employment Services assisted with job placement of affected residents, while the Watts Bar Project itself provided employment to some 200 local workers at peak construction. As a result of the TVA employment, seven percent of the families in the reservoir changed from tenant to landowner status.[38]

Another social aspect of the TVAôs hydroelectric project involved the removal and relocation of graves located within the reservoir area. Forty cemeteries with more than 1,800 graves were located and investigated in the reservoir area acquired by TVA. Of these, 591 graves from seventeen cemeteries were re-located, while 511 graves were allowed to remain in place. Records of all investigations, grave identifications, removals, and re-interments were placed on permanent file with TVA. The total cost of surveying, mapping, identification, contracting, and removal and relocation amounted to $19,000.[39]

Several municipalities established land use plans or planning commissions as a result of the Watts Bar project. The Spring City Planning Commission received assistance from TVA in a project for marina development and negotiations for a lease of the property to the city. The Planning Commission also worked with Rhea County Board of Education to relocate schools, resulting in new schools for both black and white students. The

[36] Ibid., 9, 231, 233, 234, 246.
[37] Ibid., 127-33.
[38] Ibid., 339-41.
[39] Ibid., 378

commission also worked with local firms to expand housing opportunities for affected reservoir families re-locating into the city and advocated for potential commercial terminal facilities on the waterfront.[40]

The city of Kingston (population 880 in 1940), the seat of Roane County, also established a planning commission. Its main concern was the construction of a protective dike for the city. A public meeting was held for presentation of plans and explanation of loss of tax revenue to the city, displacement of families, and possible shoreline development. TVA recommended the relocation of U.S. Highway 70 atop the dike, securing this agreement with the Tennessee State Highway Department. The Kingston Planning Commission requested study plans from TVA for recreational development along the waterfront, including a marina on land leased to the city. The City of Harriman (population 5,620 in 1940) also created a planning commission in 1940. It prepared a base map and completed a land-use survey. TVA developed plans for a boat harbor for the city. Similar recommendations and plans were presented to the city of Loudon (population 3,017 in 1940).[41]

The Valley region adjacent to Watts Bar also benefitted from TVAôs rural electrification program. Working in conjunction with the Rural Electrification Administration (REA), TVA power came to hundreds of farmsteads throughout this section of the Valley. This led to advances in agricultural practices, reduction in household labor and better health standards. Rural consumers purchased washing machines, electric ranges and electric heaters for the home and electric milking machines, feeders and other products for farm use. The electrification of the Tennessee Valley had a profound effect on the regionôs quality of life and the power provided by Watts Bar was a contributing factor to this trend.

SIGNIFICANCE IN TRANSPORTATION

In 1933, prior to the installation of navigational locks at hydroelectric projects, freight traffic on the Tennessee River was 35-million ton-miles (tons of freight times the distance traveled).[42] The Watts Bar Reservoir was opened to navigation in February of 1942. The distance to Fort Loudoun Dam under construction upstream was 72.4 miles; Two channel cut-offs in the reservoir reduce the sailing line distance, saving ten miles. The upper reaches of the pool were dredged to provide a six-and-one-half foot deep commercially usable channel to Lenoir City and Fort Loudoun by January of 1944. By August of 1945, channel dredging completed a nine-foot navigation channel across Watts Bar Reservoir. The completion of Watts Bar also created a slack water navigational channel almost twenty miles up the Clinch River and twelve miles up the Emory River to Harriman.

The reservoirôs earliest use was for the transportation of construction equipment and materials upstream to the Fort Loudoun project. More than one million tons of sand and gravel were transported up the Clinch River in four- and eight-barge tows to the Clinton Engineer Worksô dock for construction of the atomic energy plant in Oak Ridge. The first shipment of grain ever to traverse the entire waterway arrived at Knoxville on February 14, 1944. By 1947, Knoxville was the port of destination for more than half the petroleum products moving on the

[40] Ibid., 343.
[41] Ibid., 343-44.
[42] Tennessee Valley Authority, *The Nickajack Project: A Comprehensive Report on the Planning, Design, Construction, Initial Operations, and Costs*, *Technical Report No. 16*, (Washington, D.C.: U.S. Government Printing Office, 1972), 5.

river. Downstream cargo included coal from Harriman and furnaces from Alcoa to the upper Mississippi[43] Today, the Watts Bar lock handles more than a million tons of cargo per year.[44]

When the Watts Bar project was initiated, there were three bridges across the Tennessee River in the vicinity: the Decatur-Kingston Highway Bridge at Kingston, and; the Southern Railway Bridge and Loudon County Memorial Highway Bridge, both at Loudon. Several ferries provided crossings at other points along the river. The growth and development of the region led to the re-routing of Tennessee State Route 68 across the top of the dam in the mid-1960s. This enhanced automobile connections between Spring City and U.S. Highway 27 on the west to Interstate 75 and U.S. Highway 11 on the east.

SUMMARY

The Watts Bar Hydroelectric Project was one of twenty-five projects constructed by the Tennessee Valley Authority (TVA) for the purpose of generating electrical power from, improving navigation of, and controlling seasonal flooding of the river system of the region. The project brought construction jobs and later electricity to the rural area. During planning and construction, TVA provided technical assistance in municipal land use planning, road relocation and improvement, and shoreline development. The Watts Bar Hydroelectric Project brought new opportunities to and spurred economic development in the surrounding counties. The Watts Bar facility is an important component in the vast TVA system of flood control and power generating, as well as contributing to management of river navigation.

The Watts Bar Hydroelectric Project retains much of its integrity from its original design of the early 1940s and later improvements in following decades. The dam, control building, lock operation building and powerhouse have not been significantly altered, and display their original Streamlined Moderne designs. The project continues to be an integral part of the TVA system. The Watts Bar Hydroelectric Project meets the registration requirements set forth in the Multiple Property Documentation Form, ñHistorical Resources of the Tennessee Valley Authority Hydroelectric Project, 1933-1979ò and this MPDF contains additional contextual information concerning TVA and its hydroelectric system.

[43] Tennessee Valley Authority, *The Watts Bar Report*, 384, 386.
[44] Tennessee Valley Authority, ñWatts Bar Reservoir,ò webpage.

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Watts Bar Hydroelectric Project — Rhea and Meigs Counties, Tennessee

Name of Property — County and State

Previous documentation on file (NPS):		Primary location of additional data:	
	preliminary determination of individual listing (36 CFR 67 has been requested)	**X**	State Historic Preservation Office
	previously listed in the National Register		Other State agency
	previously determined eligible by the National Register	**X**	Federal agency
	designated a National Historic Landmark		Local government
	recorded by Historic American Buildings Survey #		University
	recorded by Historic American Engineering Record #		Other
	recorded by Historic American Landscape Survey #	Name of repository: Tennessee Valley Authority Knoxville, TN	
Historic Resources Survey Number (if assigned):			

Watts Bar Hydroelectric Project | Rhea and Meigs Counties, Tennessee
Name of Property | County and State

10. Geographical Data

Acreage of Property å 859 acres **USGS Quadrangle** Decatur 118 SE

Latitude/Longitude Coordinates

A. Latitude: 35.631311 Longitude: -84.792469

B. Latitude: 35.630735 Longitude: -84.769822

C. Latitude: 35.602466 Longitude: -84.792671

D. Latitude: 35.602042 Longitude: -84.769225

Verbal Boundary Description

The boundary for the Watts Hydroelectric Project is depicted as a dashed line on the accompanying USGS Topographical Quadrangle map and TVA site plan map. The National Register boundary is consistent with the overall Watts Bar reservation boundary on the east. This north-south line meets with Highway 304 and follows this highway in a southerly direction until it joins with a service road to a boat launch on the east bank of the Tennessee River. The National Register boundary follows this service road as it curves to the southwest, then the boundary turns south, then west across the river to include the launch site. The boundary meets the west bank of the Tennessee River to the north of the Watts Bar Nuclear Plant facilities and runs west to the plantôs service road, then turns due north to Highway 68. The boundary follows the highway to the northeast until it reaches a service road on the north, which is followed a short distance heading due north, then the boundary turns to the northeast and crosses the Watts Bar Lake until it reaches the east bank. There, the boundary turns north along the shoreline, then east, then south to encompass the picnic area. Then the boundary runs to the northeast along Route 451 a short distance until it meets the original Watts Bar reservation boundary at the starting point.

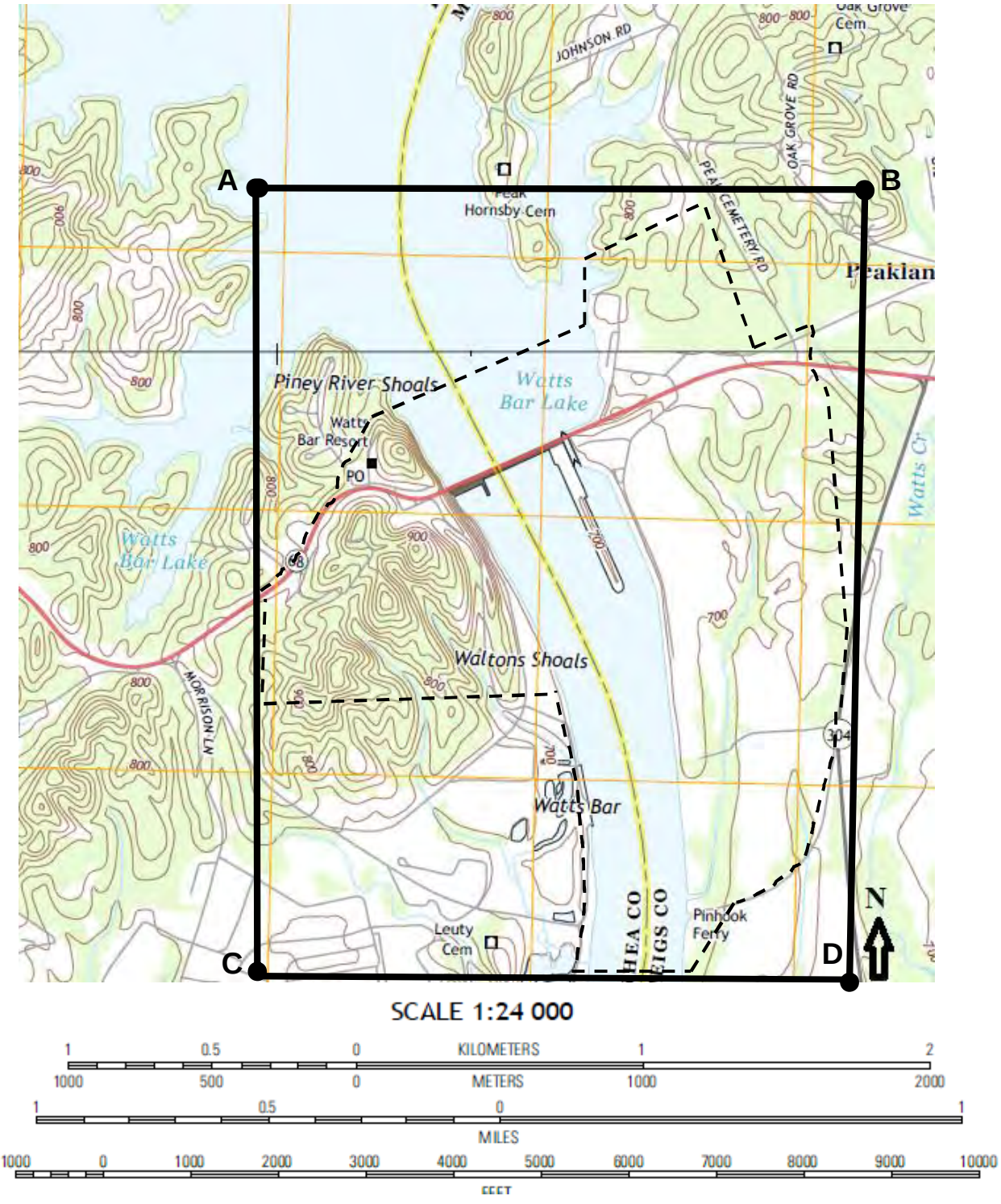
Boundary Justification

The boundary includes all facilities necessary for the operation of the hydroelectric project and/or associated with the mission of TVA of power generation, navigation, and public recreation. The boundary omits other TVA lands not directly associated with hydroelectric production.

Watts Bar Hydroelectric Project | Rhea and Meigs Counties, Tennessee

Name of Property | County and State

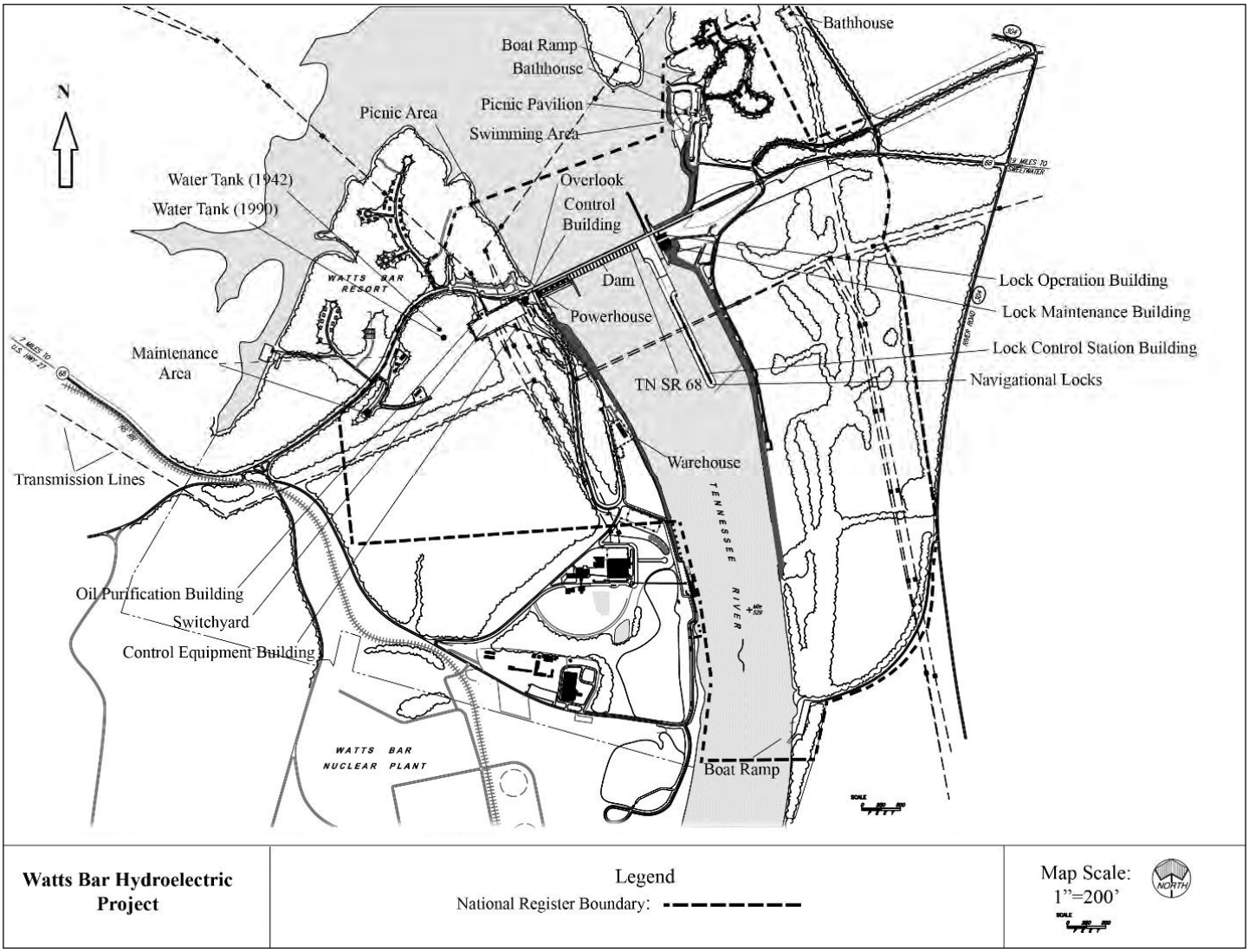
Decatur USGS Topographical Quadrangle depicting the National Register Boundary for Watts Bar Hydroelectric Project



Watts Bar Hydroelectric Project | Rhea and Meigs Counties, Tennessee

Name of Property | County and State

Site Plan and National Register Boundary for Watts Bar Hydroelectric Project



Watts Bar Hydroelectric Project	Legend National Register Boundary: ----------	Map Scale: 1"=200'

Watts Bar Hydroelectric Project	Rhea and Meigs Counties, Tennessee
Name of Property	County and State

11. Form Prepared By

Name	Andra Kowalczyk Martens; Phil Thomason				
Organization	Thomason and Associates				
Street & Number	P.O. Box 121225	Date	October 21, 2016		
City or Town	Nashville	Telephone	615-385-4960		
E-mail	Thomason@bellsouth.net	State	TN	Zip Code	37212

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to map.
- **Photographs (**refer to Tennessee Historical Commission National Register *Photo Policy* for submittal of digital images and prints**)**
- **Additional items:** (additional supporting documentation including historic photographs, historic maps, etc. should be included on a Continuation Sheet following the photographic log and sketch maps)

PHOTOGRAPHS

Photo Log

Name of Property: Watts Bar Hydroelectric Project
City or Vicinity: Spring City
County: Rhea and Meigs State: Tennessee
Photographer: Thomason and Associates
Date Photographed: June 18, 2015

Photo 1 of 38 General view of Watts Bar Hydroelectric Project, view to west.

Photo 2 of 38 Spillway gates and dam, view to northeast.

Photo 3 of 38 Spillway gates, view to northeast.

Photo 4 of 38 Powerhouse roof with caps of generator units and gantry crane, view to west.

Photo 5 of 38 Entrance into service bay of powerhouse.

Photo 6 of 38 East elevation of the service bay, from deck of dam.

Photo 7 of 38 Powerhouse, southeast elevation, view to north.

Photo 8 of 38 Powerhouse interior, typical corridor.

Photo 9 of 38 Powerhouse interior, visitor overlook room above generators.

Photo 10 of 38 Powerhouse interior, generator room floor.

Photo 11 of 38 Powerhouse interior, turbine #2 wheel pit access.

Photo 12 of 38 Control building, east elevation, view to west.

Photo 13 of 38 Control building, north elevation, view to south.

Photo 14 of 38 Control building, west elevation, view to east.

Photo 15 of 38 Control building, south elevation, view to north.

Photo 16 of 38 Control building interior, visitor lobby looking towards site.

Photo 17 of 38 Control building interior, visitor lobby looking inward.

Photo 18 of 38 Control building interior, office in basement.

Photo 19 of 38 Switchyard, view to southwest.

Photo 20 of 38 Switchyard new building, view to west.

Photo 21 of 38 Oil purification building in switchyard, view to southwest.

Photo 22 of 38 Lock interior, view to southeast.

Photo 23 of 38 Lock, north entrance interior gate, view to north.

Photo 24 of 38 Lock operation building, west elevation, view to east.

Photo 25 of 38 Lock operation building, east elevation, view to west.

Photo 26 of 38 Lock operation building, north elevation, view to south.

Photo 27 of 38 Lock operation building, interior, office with terrazzo floor and horizontal windows.

Photo 28 of 38, Lock operation building interior, port hole window, stairwell, and glazed tile walls.

Photo 29 of 38 Lock south end control building, view to south.

Photo 30 of 38 Lock new maintenance building, view to north.

Photo 31 of 38 Lock metal maintenance building, view to east.

Photo 32 of 38 Storage building south of powerhouse, view to south.

Photo 33 of 38 Maintenance, main building, southwest elevation, view to north.

Photo 34 of 38 Picnic area, northeast of dam, view to southwest.

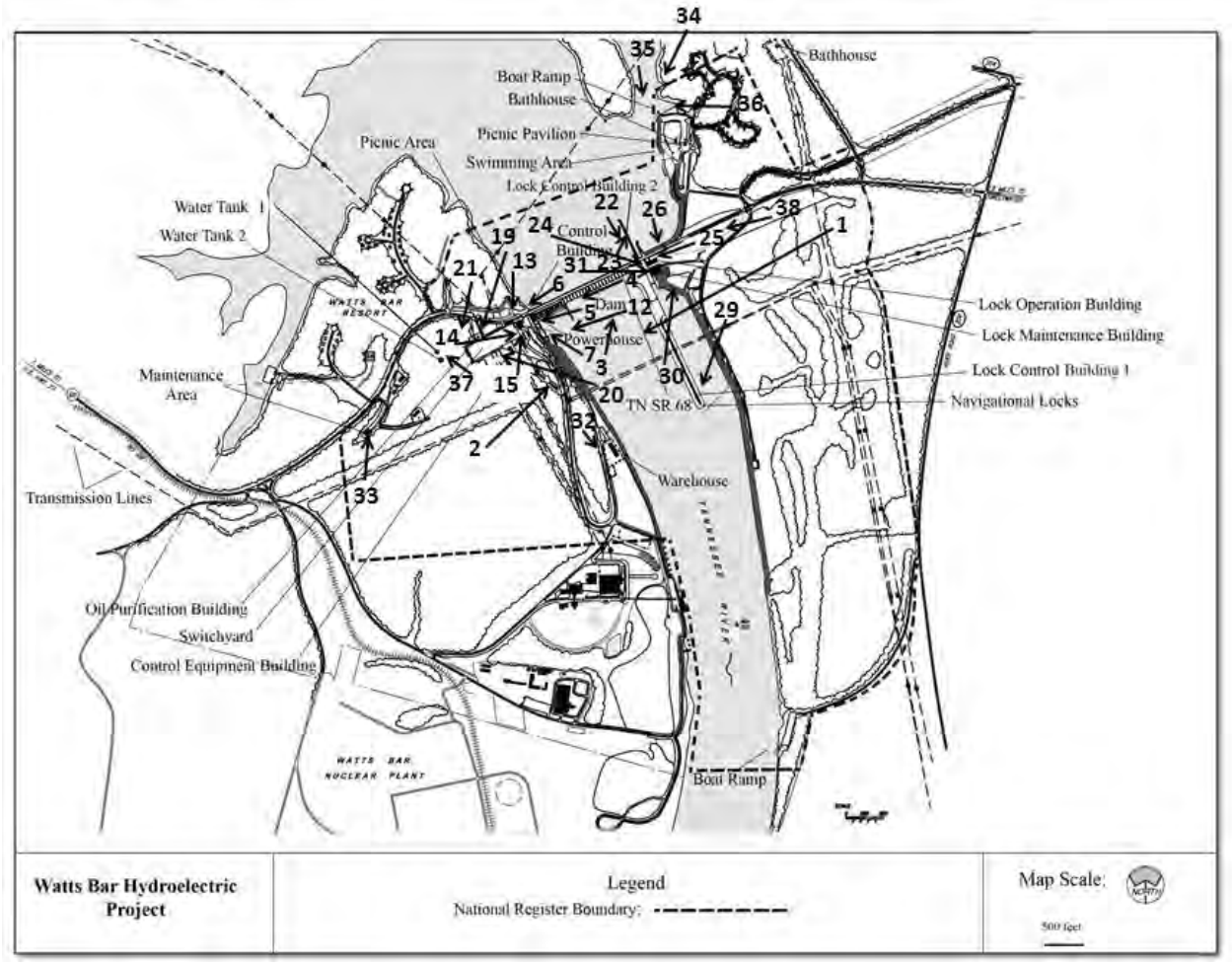
Photo 35 of 38 Beach area, view to south.

Photo 36 of 38 Boat ramp, view to west.

Photo 37 of 38 Old TVA water tank, view to northwest.

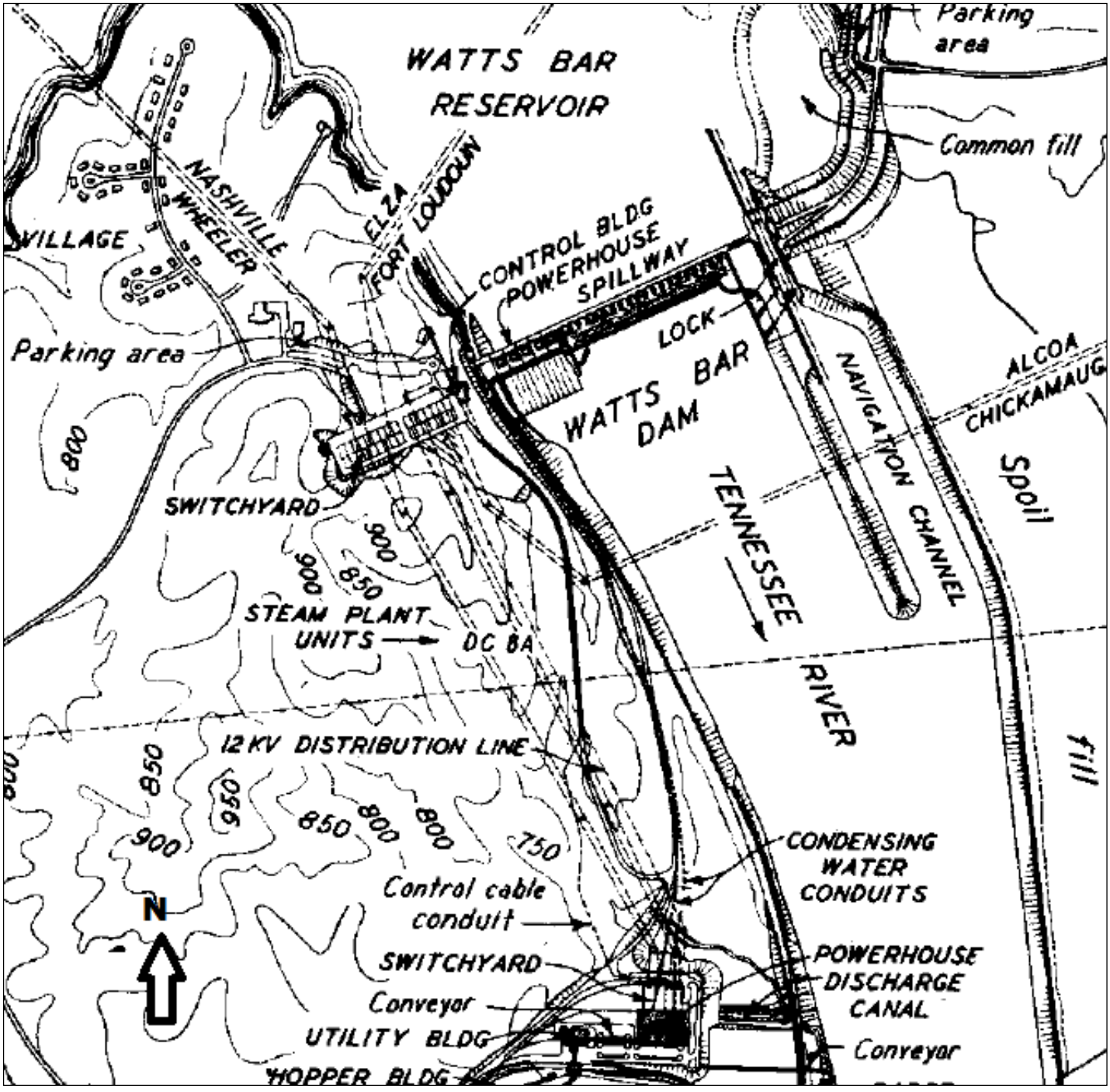
Watts Bar Hydroelectric Project	Rhea and Meigs Counties, Tennessee
Name of Property	County and State

Photo 38 of 38 Highway bridge above dam, view to west.



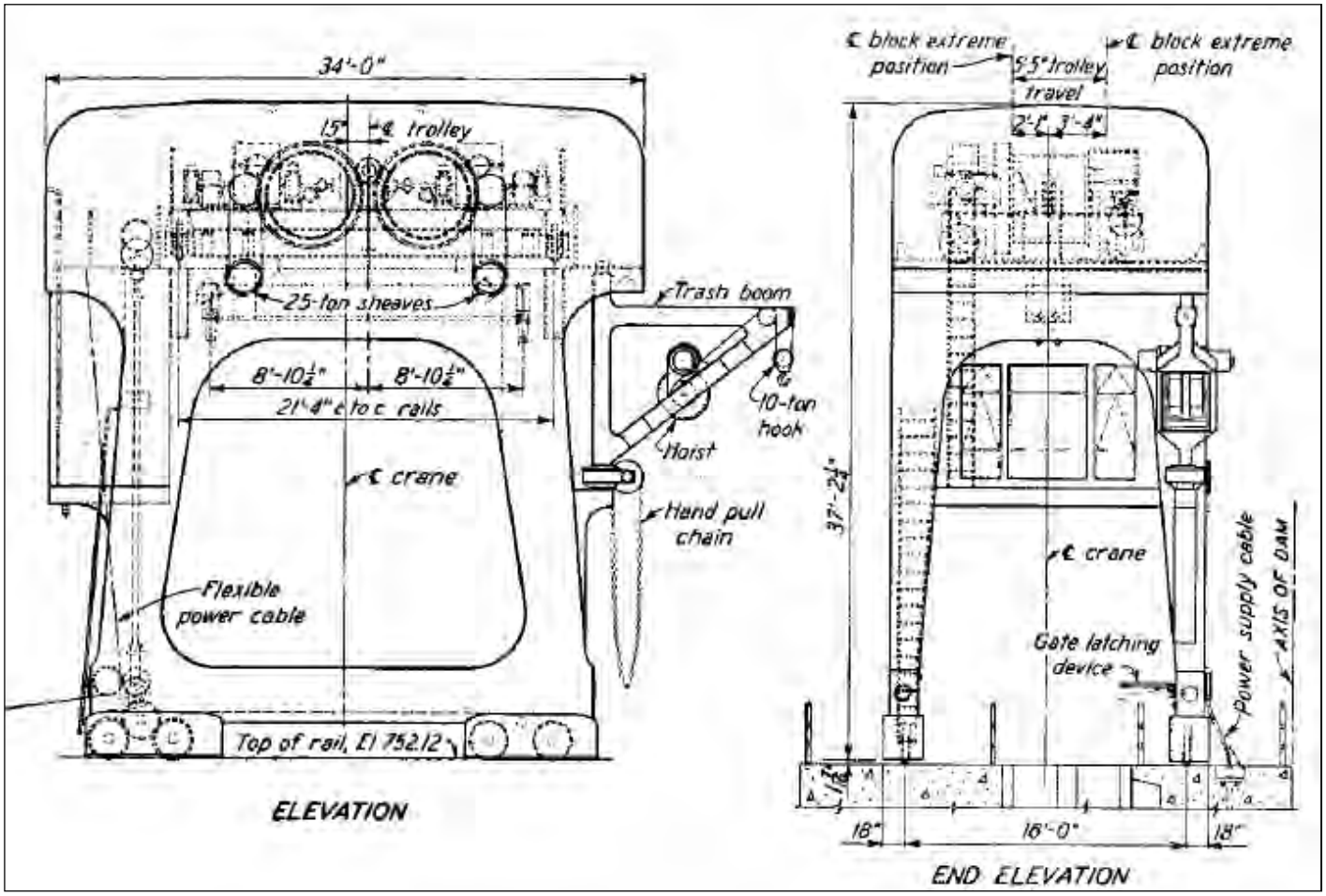
Watts Bar Hydroelectric Project Photo Key Map
(See 11 x 17" Photo Key Map)

Site Plan

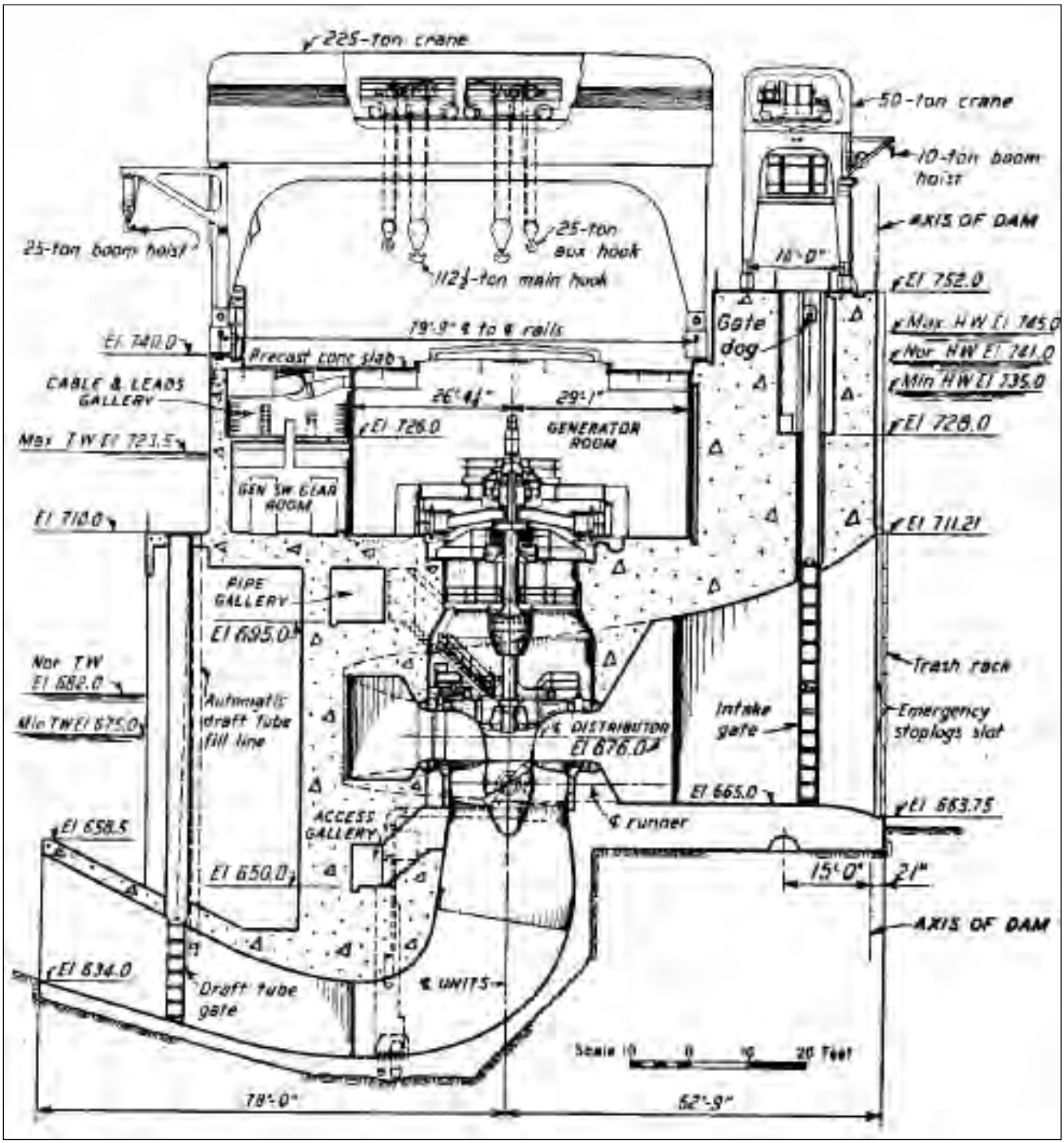


TVA General Site Plan of Watts Bat Hydroelectric Project

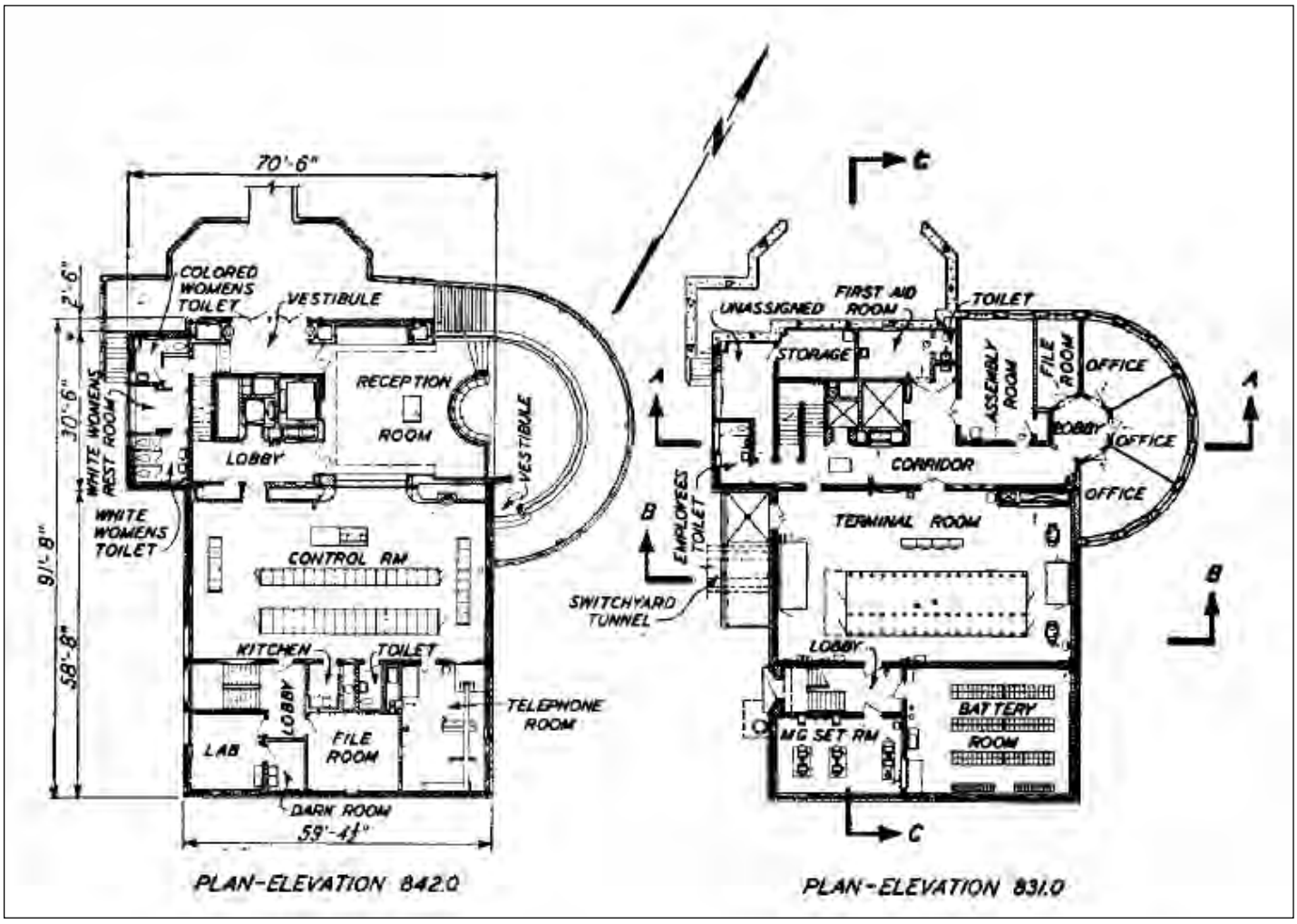
Schematics



Intake Gantry Crane



Section on Center Line of Generating Unit



Control Building

Property Owner:

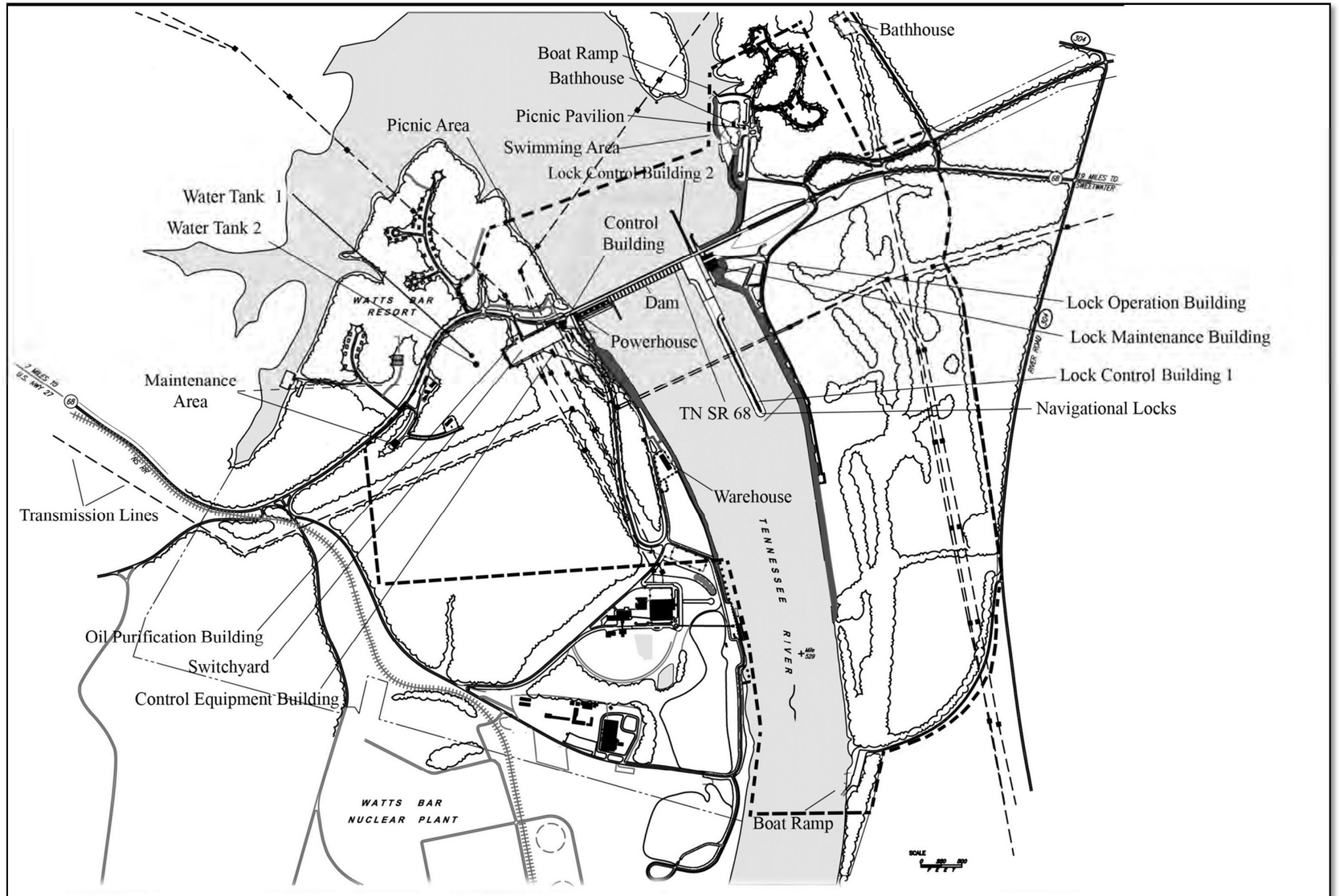
(This information will not be submitted to the National Park Service, but will remain on file at the Tennessee Historical Commission)

Name Tennessee Valley Authority ï Pat Ezzell

Street & Number 400 West Summit Hill Drive 460WT7D-K Telephone 865-632-6461

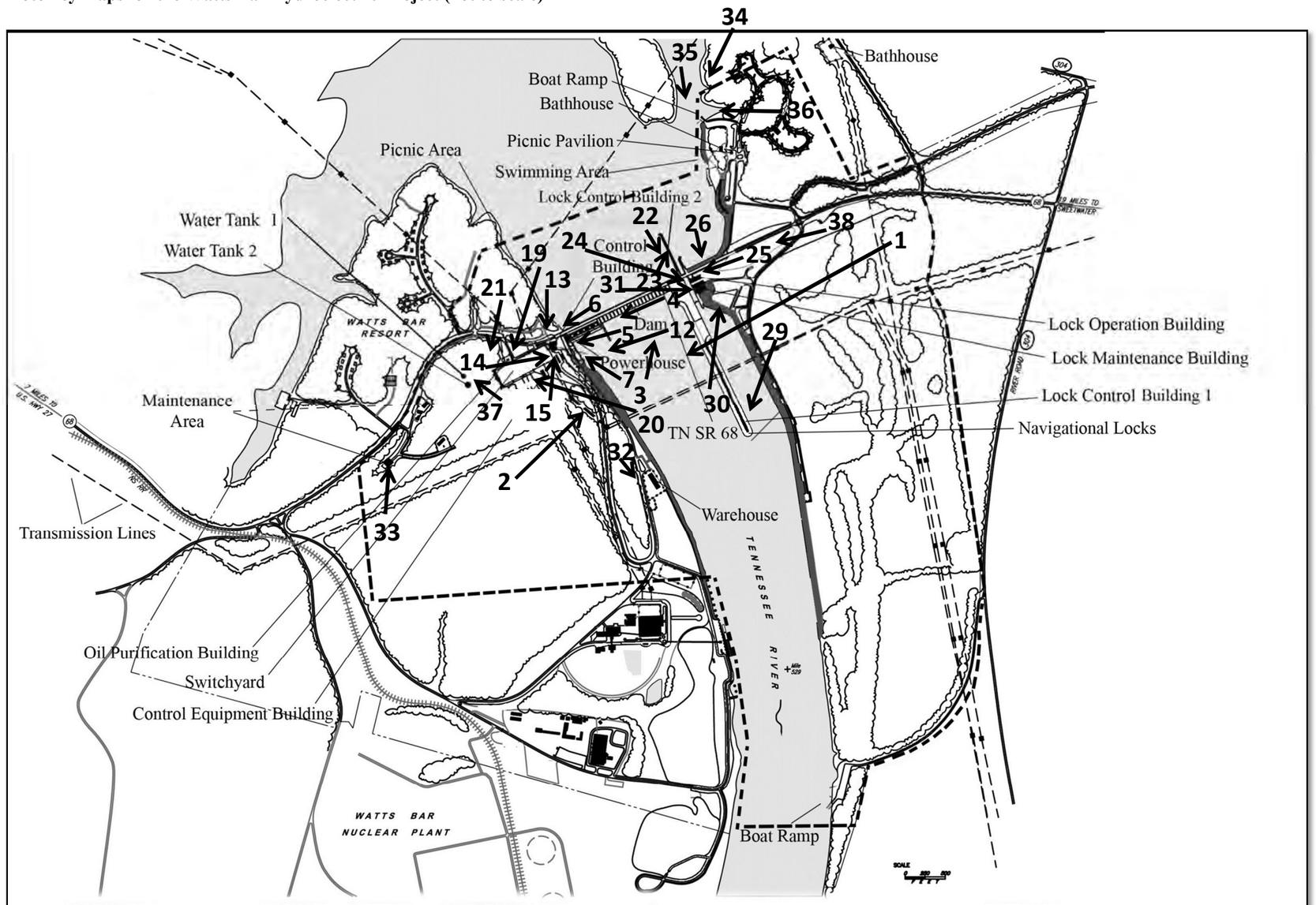
City or Town Knoxville State/Zip TN 37902

Site plan and National Register boundary for the Watts Bar Hydroelectric Project



Watts Bar Hydroelectric Project	Legend National Register Boundary: ----------	Map Scale: NORTH 500 feet

Photo key maps for the Watts Bar Hydroelectric Project (not to scale)



Watts Bar Hydroelectric Project	Legend National Register Boundary: ----------	Map Scale: 500 feet


WARNING
STOP
ALL PERSONS ENTERING AND EXITING THE PLANT MUST CHECK WITH THE SENIOR OPERATOR BY DIALING 0


WATTS BAR


HIGH VOLTAGE


50


WATTS


FIRE
EXTINGUISHER


WATTS
LOCK
USACE


WATTS BAR

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

Requested Action:	Nomination
Property Name:	Watts Barr Hydroelectric Project
Multiple Name:	Tennessee Valley Authority Hydroelectric System, 1933-1979 MPS
State & County:	TENNESSEE, Rhea

Date Received:	Date of Pending List:	Date of 16th Day:	Date of 45th Day:	Date of Weekly List:
6/30/2017	7/27/2017	8/11/2017	8/14/2017	

Reference number:	MP100001474
Nominator:	State

Reason For Review:

__ Appeal	__ PDIL	__ Text/Data Issue
__ SHPO Request	__ Landscape	__ Photo
__ Waiver	__ National	__ Map/Boundary
__ Resubmission	__ Mobile Resource	__ Period
__ Other	__ TCP	__ Less than 50 years
	__ CLG	

__X__ Accept _____ Return _____ Reject __8/14/2017__ Date

Abstract/Summary Comments:	Meets registration requirements of MPS. Conservation, Industry, and Social History not supported
Recommendation/ Criteria	Accept / A & C

Reviewer Jim Gabbert Discipline Historian

Telephone (202)354-2275 Date _____

DOCUMENTATION: see attached comments : No see attached SLR : **Yes**

If a nomination is returned to the nomination authority, the nomination is no longer under consideration by the National Park Service.

Thomason&Associates
preservation planners

June 21, 2017

Paul Loether
National Register of Historic Places, Keeper
Mail Stop 7228
1849 C Street NW
Washington, D. C. 20240

Dear Mr. Loether,

The Tennessee Valley Authority (TVA) contracted with Thomason and Associates, Preservation Planners to complete nominations to the National Register of Historic Places (NRHP) for twenty-five of its hydroelectric projects. Three nominations - for the Norris, Guntersville, and Wheeler Hydroelectric Projects - were previously submitted, resulting in listing in the NRHP in 2016. The TVA proposes the nomination of the remaining twenty-two hydroelectric projects. The enclosed disks contain the true and correct copies of the nominations of:

Georgia: the Nottely Hydroelectric Project;
Kentucky: the Kentucky Hydroelectric Project;
North Carolina: the Apalachia, Chatuge, Fontana, and Hiwassee Hydroelectric Projects; and
Tennessee: the Boone, Cherokee, Chickamauga, Douglas, Fort Loudoun, Fort Patrick Henry, Melton Hill, Nickajack, Normandy, Ocoee No. 3, Pickwick Landing, South Holston, Tellico, Tims Ford, Watts Bar, and Watauga Hydroelectric Projects.

The overall context for these nominations, the MPDF "Historic Resources of the Tennessee Valley Authority Hydroelectric System, 1933-1979" was approved by your office on March 12, 2016. The enclosed nominations have been reviewed by TVA as well as the respective State Review Boards and enclosed are the twenty-two physical signed copies of the signature pages of each nomination. All local governments have been notified of the intent to list these hydroelectric projects in the National Register.

We are pleased to submit these nominations to you which recognize the diverse history and contributions made by the Tennessee Valley Authority to our nation.

Please contact me if any additional information is needed.

Sincerely,

Philip Thomason
Principal

cc. Pat Ezell, Senior Program Manager, TVA

Enc/

p.o. box 121225 nashville, tn 37212 615.385.4960 www.thomasonandassociates.com

Tennessee Valley Authority, 400 West Summit Hill Drive, Knoxville, TN 37902

August 9, 2017

Mr. Paul Loether
National Register of Historic Places, Keeper
Mail Stop 7228
1849 C Street NW
Washington, D. C. 20240

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Please contact me if any additional information is needed.

Sincerely,

Pat Bernard Ezzell

Patricia Bernard Ezzell
Federal Preservation Officer
Communications

Enclosures