

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Name of Property _____

County and State _____

Section number _____ Page _____

Name of multiple property listing (if applicable) _____

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 100001462

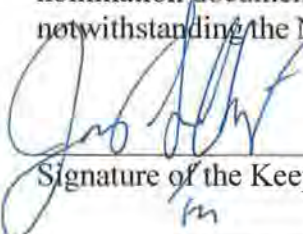
Date Listed: 8/11/2017

Property Name: Fontana Hydroelectric Project (Historic Resources of the TVA Hydroelectric Project)

County: Graham

State: NC

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

8-11-2017

Date of Action

Amended Items in Nomination:

Section 8:

This SLR seeks to clarify the level of significance. The Hiwassee Hydroelectric Project is significant in ENGINEERING and INDUSTRY at the NATIONAL level. All other areas of significance are at the local and state levels. The period of significance for industry at the national level ends in 1946, as war production ramped down at the ALCOA plant.

MILITARY is hereby deleted as an area of significance. The fact that the industry this project supplied electricity to produced a product that was used for military purposes does not comport with military significance.

The TVA FPO and North Carolina SHPO were notified of this amendment.

DISTRIBUTION:

National Register property file

Nominating Authority (without nomination attachment)

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

MP-1462

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: Fontana Hydroelectric Project

Other names/site number: Fontana Dam

Name of related multiple property listing:



(Enter "N/A" if property is not part of a multiple property listing)

Historic Resources of the Tennessee Valley Authority Hydroelectric Project, 1933-1979

2. Location

Street & number: 1011 Fontana Dam Road

City or town: Fontana Dam State: NC County: Graham

Not For Publication: ☐ Vicinity: ☐

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:

X national statewide local

Applicable National Register Criteria:

X A B C D

Leticia B. Eggold / Sr. Pres. Mgr. - FPO 6-19-17

Signature of certifying official/Title:

Date

Tennessee Valley Authority

State or Federal agency/bureau or Tribal Government

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

Kevin Cherry

4/13/2016

Signature of commenting official:

Date

State Historic Preservation Officer North Carolina Department of Natural and Cultural Resources

Title :

State or Federal agency/bureau
or Tribal Government

Fontana Hydroelectric Project

Name of Property

Graham and Swain, NC

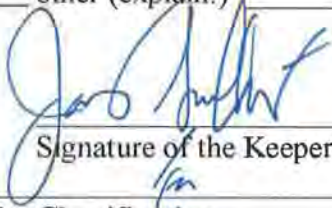
County and State

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:)


Signature of the Keeper

8-11-2017

Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply.)

- Private: ☐
Public – Local ☐
Public – State ☒
Public – Federal ☒

Category of Property

(Check only **one** box.)

- Building(s) ☐
District ☒
Site ☐
Structure ☐
Object ☐

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Number of Resources within Property

(Do not include previously listed resources in the count)

Contributing	Noncontributing	
<u>4</u>	<u>2</u>	buildings
<u>2</u>	<u>0</u>	sites
<u>4</u>	<u>3</u>	structures
<u>0</u>	<u>0</u>	objects
<u>10</u>	<u>5</u>	Total

Number of contributing resources previously listed in the National Register N/A

6. Function or Use

Historic Functions

(Enter categories from instructions.)

INDUSTRY/PROCESSING/EXTRACTION/ *Energy Facility*
RECREATION AND CULTURE/ *Outdoor Recreation*

Current Functions

(Enter categories from instructions.)

INDUSTRY/PROCESSING/EXTRACTION/ *Energy Facility*
RECREATION AND CULTURE/ *Outdoor Recreation*

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7. Description

Architectural Classification

(Enter categories from instructions.)

MODERN MOVEMENT/Streamlined Moderne

OTHER/Hydroelectric Dam

Materials: (enter categories from instructions.)

Principal exterior materials of the property: Concrete, Steel, Rock, Earth, Glass

Narrative Description

(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with a **summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Narrative Description

The Fontana Hydroelectric Project was constructed from 1942-1944 by the Tennessee Valley Authority (TVA). It is located at mile sixty-one on the Little Tennessee River in Graham and Swain Counties in North Carolina near the Tennessee border. The closest town to the Fontana project is Bryson City (2010 pop. 1,424), approximately thirty miles to the east. Fontana takes its name from an early industry, the Fontana Copper Company, and the associated settlement that served it. The project is sixty-five miles south of Knoxville, Tennessee, and borders the Great Smoky Mountains National Park. The Fontana Hydroelectric Project was designed in accordance with local topography and geology that characterizes the region, as it is sited within the natural river gorge. The Fontana Dam's maximum height of 480 feet above its rock foundation made it the tallest dam east of the Rockies and the fourth tallest in the world at the time of its completion. It impounds the 10,670-acre Fontana Reservoir (also called Fontana Lake), which has a total volume of 1,444,300 acre feet.¹ Fontana Reservoir lies within two North Carolina counties, Graham and Swain. The Little Tennessee River has a drainage area of 2,627 square miles; of that, 1,571 square miles are located above Fontana Dam. The Little Tennessee River extends approximately 80 miles above the dam into mountainous forests. Almost the entire watershed lies within the Great Smoky Mountains National Park and includes some of the highest mountains in the eastern United States.² This watershed and the immense rainfall of the region

¹ Tennessee Valley Authority, *The Fontana Project: A Comprehensive Report on the Planning, Design, Construction, and Initial Operations of the Fontana Project*, Technical Report No. 12, (Washington, D.C.: Government Publishing Office, 1950), 21.

² Ibid., 1.

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coupled with deep, narrow gorges of the terrain made the Fontana site especially attractive, in that a dam could retain a massive amount of water in a large reservoir. Such a reservoir enhanced the 400-foot of head immediately downstream at the existing Cheoah and Calderwood dams, developed by the Aluminum Company of America (ALCOA). The Fontana site offered the only location within the Little River Valley where a 400-foot high dam was feasible.³ The 526-acre nominated area includes structures and buildings, a portion of the Fontana Reservoir, and roads that access both the hydroelectric facilities and recreational points of visitation. Fontana Dam Road enters from the south to access visitor parking east of the dam before continuing to the dam. Lakeview Drive West enters the property from the north and accesses the dam from the west. Fontana Road enters from the south and crosses the Hiwassee River below the dam. Spur roads above and below the bridge across the river at this point flank the river on each bank. The spur road on the north bank ends at the dam; the spur road on the south bank ends at a campground and picnic area south of the dam.

INVENTORY

The principal components of the Fontana Hydroelectric Project include the main dam and spillway, the powerhouse, and the switchyard (*see Photos 1-4*). Constructed for the purpose of generating power, the Fontana Hydroelectric Project contains two generating units. In the immediate vicinity of the switchyard is a concrete storage building. On the east bank of the dam is the visitor building and overlook. The project also includes a campground and picnic areas. The dam, powerhouse, and switchyard, were all completed by 1944. The Appalachian Trail enters the project's eastern boundary, crosses the top of the dam and then leaves the project's western boundary as it enters the Great Smoky Mountains National Park.

1. Fontana Dam, 1944 (Contributing Structure)

The Fontana Hydroelectric Project is a concrete, straight gravity-type structure.⁴ The main dam section is 480 feet high and is 1,775 feet long. Taking in the spillway and abutments, the total dam length is 2,365 feet. The dam is 375 feet thick at its base. Along its eastern extension, the dam's spillway section forms part of the control works. There are four ogee-type overfall sections and six sluices that continue to two concrete-lined discharge tunnels through the left abutment. These tunnels, thirty-four feet in diameter, discharge into the river level 600 feet downstream of the powerhouse below the dam. Water flow is controlled through the spillway by radial and sluice gates. Energy is dissipated as water is directed through bucket-shaped aprons. There is an emergency spillway located 1,000 feet south east of the main spillway. It is a concrete arch dam with a free crest 181 feet in length. Water overtops the structure when the reservoir level rises more than five feet above the maximum controlled waterhead level and discharges via a thirty-foot wide by twenty-seven-foot high tunnel. A low-level outlet control

³ Ibid., 17, 19.

⁴ 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.

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tunnel is located at the west bank and can accommodate auxiliary discharge via a high-pressure discharge valve. This feature includes a fifteen-foot diameter tunnel.⁵

The spillway comprises two pairs of thirty-five-foot wide ogee overfall sections with crest at elevation 1,675. These sections are separated by concrete piers. Each pair is located directly above one of the diversion tunnels to which it is connected through a shaft sloped at forty-five degrees. The upper portion of the shaft is funnel-shaped to assist the flow of water. Where each tunnel joins the river downstream, there is an eighty-two-foot long concrete bucket structure, designed to deflect the emerging high-velocity water upward and towards the center of the river channel. Discharge into the tunnels is controlled by thirty-five-foot-square crest gates of radial type and by three slide gates within three sluice openings measuring five feet, eight inches wide by ten feet high. Each gate consists of a curved steel upstream skin plate with horizontal beams and vertical truss frames. The skin plate continues over the top and down a portion of the downstream side, making a smooth surface for water flow. The sluice gates are operated hydraulically and are protected by trashracks. The concrete piers dividing the gates support a machinery deck for operation of the gates and a roadway bridge (*see Photo 5*). The motor that drives each of the two combined hoists for the crest gates is rated forty-horsepower at 800 full-load revolutions per minute.⁶

2. Powerhouse, 1944 (Contributing Building)

The powerhouse is located at the base of the downstream side of the dam and consists of a control building and attached generator room (*see Photo 6*). The control building section is two stories in height, and the taller generator room is integral on the control building's west elevation. The building is of concrete and steel construction with exterior panels of Indiana limestone. The building has a flat roof of concrete panels. The west elevation of the control building contains the main entrance, which has a concrete surround and ca. 1980 steel and glass door. On the second floor of the west and south elevations of the control building are original three-light fixed aluminum windows.

The south elevation of the powerhouse has seven bays of fixed, single-light aluminum windows, which are arranged in six vertical stacks of four windows each (*see Photo 7*). The window surrounds and mullions are of board-form concrete. The project name FONTANA is spelled out in aluminum lettering on this elevation. The west elevation of the generator room has similar windows and a large equipment access bay with an overhead track door. The north elevation of the powerhouse abuts the dam. On the west elevation there is a recessed, two-story wing, which also adjoins the dam on its north elevation. It has similar fenestration on the second floor (*see Photo 8*).

The east elevation of the generator room has two bays of fixed, single-light aluminum windows arranged in two vertical stacks. The east wing of the powerhouse is recessed from the generator room and was designed to serve as the visitor lobby and reception area. (Because of the constricted space occupied by the powerhouse, the TVA architects designed a separate visitor

⁵ Ibid., 47, 51.

⁶ Ibid., 77-78, 90-91, 93.

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building at the top of the dam, with access to the powerhouse afforded by an inclined railway. This railway connected the visitor building with an entrance into the powerhouse lobby (*see Photo 9*). From the lobby, the visitor entered a balcony overlooking the generator room floor and could view the operation of the generators below. Visitors could also descend a staircase and view the control room through a large plate glass window.

The power facilities at Fontana consist of intake conduits through the non-overflow dam, the powerhouse at the toe of the dam, and the tailrace channel connecting to the upper end of the Cheoah Reservoir. The powerhouse is enclosed and was designed for three generating units. The first of two 67,500-kilowatt-capacity units was placed in operation on January 20, 1945. Each of the two hydraulic turbines is the vertical-shaft Francis type and rated at 91,500 horsepower at 330-foot head and 150 RPM.⁷ The third generating unit was authorized September 6, 1950 and placed in commercial operation on February 4, 1954. Total costs for the installation of the third unit were \$3,465,000, plus \$974,000 for associated improvements to the switchyard.

The length of the dam is divided into blocks, with intake conduits in blocks 21, 22, and 23 in the non-overflow section. Each intake conduit has a tractor-type gate and measures twenty-seven feet, ten inches high by sixteen feet, six inches wide. Each gate was completely fabricated and assembled at its manufacturer, then disassembled into large units for shipment. Upon delivery and installation, these units were welded and bolted as necessary. The basic structural design of the gates allows for stress of 16,000 pounds per square inch, allowing for one-sixteenth of an inch deduction for corrosion of the metal. The same stress allowance was computed for the reinforcing steel of the intake conduits, with 8,000 pounds per square foot allowed by their steel liners.⁸ Each unit substructure consists of a concrete block fifty-six feet wide and seventy-five feet long. Steel penstocks connect the turbines with the intake conduits. This level includes the oil purification room, lube oil storage room, and cable gallery (*see Photo 10*). The basement level contains the tunnel connecting the powerhouse to the switchyard (*see Photo 11*).

The interior of the building has not been significantly altered, and most spaces retain their original design and detailing. The public spaces display marble walls, terrazzo floors, and plaster walls and ceilings. The control room in the control building has a dropped acoustical ceiling and linoleum floor added in 2015. The control room visitor lobby retains its original marble walls and terrazzo floors (*see Photo 12*). Most offices spaces are original, but some have added floor carpeting and dropped acoustical tile ceilings. Staircases have original aluminum handrails, terrazzo treads, and marble walls (*see Photo 13*). Original interior doors are solid metal with a central louver strip, and original water fountains are remain intact within octagonal insets in the marble wall (*see Photo 14*).

The generator room was designed with a tile floor and walls of form-board concrete. The interior of the south wall of the generator room has lettering across a concrete belt course spelling out 1942 ñ BUILT FOR THE PEOPLE OF THE UNITED STATES OF AMERICA -1945 (see *Photo 15*). On the level of the generator room are also the electrical equipment room, machine

⁷ Ibid., 1, 10, 12.

⁸ Ibid., 119-11, 113, 117.

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shop, storage, and kitchen and toilets. The generator room also has a 300-ton-capacity traveling crane equipped with two trolleys, each having a 150-ton main hook and a twenty-five-ton auxiliary hook (*see Photo 16*). The floor above the ground floor has a visitor mezzanine and balcony overlooking the generators. The visitor mezzanine has original terrazzo floors, and the balcony has an aluminum railing. Visitor restrooms on this level are also original and have marble walls, terrazzo floors, and plaster ceilings. The women's restroom has new stalls, while the men's restroom retains original marble stalls; both have original plumbing fixtures (*see Photo 17*). This level also has clerk rooms, a laboratory, air-conditioning equipment room, and an employee's toilet and locker rooms.

Of particular note is the visitor lobby, which was originally accessed by a rail car and incline from the visitor building at the top of the dam. The rail car discharged its passengers through aluminum and glass doors in a stairwell and lobby. The lobby has original marble walls and terrazzo on the stairs and floors. From this lobby area, visitors could access the mezzanine and balcony in the generator room. This use of an incline and rail car system for visitors was unique among TVA's hydroelectric facilities.

3. Switchyard and Transmission lines, 1944 (Contributing Structure)

The switchyard is located adjacent to the powerhouse (*see Photo 18*). It is a 154-kilovolt-ampere structure on the right (west) bank. The switchyard is enclosed within a chain link fence and has a concrete and gravel surface. An access road to the structure runs along the right bank of the river. The fill for the switchyard came from dam spoil and tunnel excavation. The switchyard is based on a four-circuit ring bus arrangement and two main transformer banks and two transmission lines, one to ALCOA and one to Santeetlah power station, and two for expansion of additional transmission lines. The breakers are rated 161 kilovolts, 1,200 amperes, 2,500,000 kilovolt-amperes, five-cycle opening.⁹ A series of original steel transmission lines extend from the west of the switchyard and up the slope of the ridge before leaving the project boundary (*see Photo 19*).

4. Switchyard Storage Building, 1992 (Non-Contributing Building)

At the switchyard is a 1992 one-story building with an exterior of split-faced concrete block and a flat roof. Its main façade has a large, metal, overhead-track door (*see Photo 20*).

5. Visitor Building, 1947 (Contributing Building)

The narrow site for the dam and powerhouse required TVA to build a separate visitor building at the top of the dam with access provided to the powerhouse via an incline railway. This building was completed following World War II in 1947. The visitor building was designed in the Streamlined Moderne style with a public reception room, gift shop, restrooms, and overlook.¹⁰ The building has a flat roof of asphalt, an exterior of Indiana limestone panels, and a concrete foundation (*see Photos 21, 22*). The building retains original aluminum and glass doors. The west wall of the reception wing was designed with a curved wall containing full-height aluminum and glass fixed windows. A steel and concrete staircase leads to the roof of the

⁹ Ibid., 51, 118, 170-71, 448-449.

¹⁰ Ibid., 51, 135, 667.

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reception wing where there is an observation deck with a curved aluminum railing. Attached on the south side of the reception area is a gift shop, which has original aluminum and glass doors and fixed aluminum and glass windows. There is an open breezeway supported by steel posts which divides the visitor reception area and the public restrooms. The interior of the reception room has plaster ceilings, a carpeted concrete floor, and original marble walls and reception desk(see *Photo 23*).¹¹ Restrooms are original with marble walls, terrazzo floors, marble stalls, and original plumbing fixtures.

A unique feature of the visitor building is the incline railway, which connected the building to the powerhouse. From the reception room lobby, visitors descended a staircase to the lower level where they boarded a railcar to visit the powerhouse. The railcar traveled 668 feet on a seventy-one-and-one-half-degree slope along paired steel rails. The original staircase and lobby to access the railcar remains intact, and the lobby has original marble walls and terrazzo floors (see *Photos 24, 25*). The incline car was built in a stepped fashion to accommodate three different seating areas, which were accessed by aluminum and glass doors. The incline was discontinued due to security concerns following the terrorist attacks of 2001. The incline and its railcar remain intact, but are no longer operational.

Maintenance Base – 5 resources:

To the east of the dam is a maintenance yard that includes a workshop and garage, an office building, a pesticide storage building, and two equipment sheds.

6. Workshop-Garage, 1956 (Non-Contributing Building)

The main workshop and garage building was constructed in 1956 and has a ca. 2000 metal shed roof, a concrete block exterior, a metal-covered awning across the facade, solid metal doors, original horizontal three-light hopper wood windows, and three garage bays. This building is a standardized plan used by TVA at other maintenance areas. The interior has original concrete floor and walls. The building was altered ca. 2000 through the addition of a metal shed roof, and it no longer retains integrity of its original design (see *Photo 26*).

7. Public Service Safety Building, 1956 (Contributing Building)

A TVA public safety building constructed 1956 is located at the maintenance yard and is now used for maintenance offices. This building is concrete-block construction and has a flat metal roof, a brick veneer skirt wall on the east elevation, fixed aluminum windows, and an aluminum door at the entrance. The entrance is recessed within an incised corner bay (see *Photo 27*).

8. Pesticide Storage Structure, ca.1956 (Contributing Structure)

The ca. 1956 pesticide storage structure was built of concrete block and has a flat roof. The main façade has an open bay with chain-link gates (see *Photo 28*).

11 Ibid., 183-84.

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9. Shed, ca. 2010 (Non-Contributing Structure)

The yard has a ca. 2010 metal frame shed for equipment storage with a gable roof of metal, open sides on the short elevations, and metal siding on the long elevations.

10. Shed, ca. 1990 (Non-Contributing Structure)

The yard has a ca. 1990 open-air equipment shed with metal siding and a shed roof of metal.

Recreational Area – 4 resources

The Fontana Hydroelectric Project site was originally designed with a picnic and recreation area north and south of the river (*see Photos 29, 30*). These recreational facilities were completed after World War II and additional recreational areas were developed at the top of the dam near the visitor building.

11-14. Campground, ca. 1955 (Contributing Site)

On the south side of the river is a campground with platforms for tents and trailers, picnic tables, and a boat ramp.

12. Bathhouse, ca. 1955 (Contributing Building)

Within the campground is a one-story, concrete-block bath house, which is a standardized plan used by TVA throughout its recreational facilities. The building has an exterior of concrete block, a saltbox roof, steel doors, and an interior with concrete block walls and a tile floor.

13. Picnic Pavilion, ca. 2000 (Non-Contributing Structure)

To the east of the Visitor Building are picnic areas and overlooks, which are located along the access road that leads to the dam. The picnic area has a series of concrete pads and picnic benches added in recent years. There is a ca. 2000, open-air picnic pavilion with a square plan, hip roof of asphalt shingles, and square wood posts.

14. Appalachian Trail, 1955 (Contributing Structure)

Extending through the project boundary along the top of the dam is the Appalachian Trail. When the trail was developed in the mid-twentieth century, the TVA approved its use to extend through its project and cross on the top of the dam. Within the project boundary, the trail follows an earth path as well as sidewalks leading to the dam and along the top of the dam. On the eastern edge of the project is a shelter built in 1982. This shelter is less than fifty years of age and is omitted from the National Register boundary.

15. Hiwassee River Bridge, 1945 (Contributing Structure)

Downstream of the dam is a state-owned continuous-cantilever steel girder bridge, identified as DOE GH0069 and NCDOT 370009.

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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.)

- ☒ 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.
- ☒ 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

(Mark "x" in all the boxes that apply.)

- ☐ 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

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Areas of Significance

(Enter categories from instructions.)

ARCHITECTURE

ENGINEERING

INDUSTRY

MILITARY

RECREATION

Period of Significance

1942-1966

Significant Dates

1942-1944

Significant Person

(Complete only if Criterion B is marked above.)

N/A

Cultural Affiliation

N/A

Architect/Builder

Architect: Tennessee Valley Authority, Wank, Roland; Mock, Rudolph; Bianculli,
Mario.

Builder: Tennessee Valley Authority

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Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

The Fontana Hydroelectric Project meets National Register criteria A and C for its historical and architectural significance and engineering design as an integral part of the Tennessee Valley Authority Hydroelectric Project. The Fontana 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 Fontana Hydroelectric Project was one of twenty-five (25) 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 in western North Carolina near the border of Tennessee, the Fontana project was original to TVA's unified plan submitted to Congress in 1936. A dam site in the Fontana vicinity was first considered a possibility by the Aluminum Company of American (ALCOA) during the early twentieth century. Upon the establishment of TVA in 1933, the main program the Authority was charged with included the construction of nine main-river projects that would create a nine-foot wide navigation channel from the mouth of the Tennessee River to Knoxville, Tennessee, as well as flood control, power generation and creation of social and economic opportunities in the Tennessee River Valley region. Negotiations with ALCOA regarding the Fontana project began in 1935, and Congress authorized construction of the dam on December 17, 1941 as part of TVA's third wartime emergency program. Construction began on January 1, 1942.¹²

The Multiple Property Documentation Form, "Historical Resources of the Tennessee Valley Authority Hydroelectric Project, 1933-1979" identifies the property types of powerhouses, dams, navigational locks and lock control buildings, visitor buildings, recreational buildings, maintenance buildings, and other buildings and structures specifically associated with TVA's missions of hydroelectric power, flood control, navigation, improvement of quality of life, and recreation. These common property types can be found at the majority of the TVA's hydroelectric facilities. This collection of identifiable and consistent property types essential to TVA's multi-faceted mission are associated with important developments in the areas of agriculture, architecture, conservation, engineering, industry, military, recreation, social history, and/or transportation. At Fontana, the specific property types within the proposed boundary convey significance of the project specifically to architecture, engineering, industry, military, and recreation.

The Fontana Hydroelectric Project is significant at the national level. For architecture, it is significant for its Streamlined Moderne style, embodying the TVA's mission of progress in its economy of adornment, as well as the industry of the machine age. The project's significance in

¹² Tennessee Valley Authority, *The Fontana Project: A Comprehensive Report on the Planning, Design, Construction, and Initial Operations of the Fontana Project*, Technical Report no. 12, (Washington, D.C.: Government Printing Office, 1950), 1.

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engineering is reflected in TVA's overall plan for an integrated system of river management through site-specific designs tested on scaled models. The significance of the Fontana project in industry and military is seen through the supplying of electricity to ALCOA for war-related manufacturing. The Fontana project is significant in recreation because of the extensive outdoor opportunities it fostered. The Fontana Hydroelectric Project meets the registration requirements set forth in the Multiple Property Documentation Form, "Historical Resources of the Tennessee Valley Authority Hydroelectric Project, 1933-1979." While the MPDF's period of significance spans to 1979, in order to include all of the TVA's hydroelectric and dam projects on the main river and its tributaries, the period of significance for the individual nomination of the Fontana project stops at fifty years ago, to include the largest number of historic resources that have been added since 1944.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

The Tennessee Valley Authority (TVA) was created under President Roosevelt's New Deal program as part of his "First One Hundred Days." Roosevelt envisioned "a corporation clothed with the power of government but possessed the flexibility and initiative of a private enterprise." To this end, Congress passed the TVA Act on May 18, 1933.¹³ 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).¹⁴

Control of the Little Tennessee River was integral to TVA's unified development of the Tennessee River system. The Aluminum Company of America (ALCOA) in east Tennessee recognized the value of the Little Tennessee's hydroelectric potential as early as 1917, building three power plants on its tributaries, Cheoah, Calderwood, and Santeetlah. ALCOA also considered construction of a hydroelectric project at Fontana, and after TVA was established, the agency began negotiations with the company towards that end. An agreement between the two parties was complicated, in that ALCOA's three downstream dams would be subject to TVA's water release schedule at a Fontana project. The 1941 agreement gave control of the ALCOA plants to TVA in exchange for power allotments to the company.¹⁵

Work commenced on the Fontana project on January 1, 1942. The project continued uninterrupted until completion, and the dam was closed on November 7, 1944. The first power unit went into commercial operation on January 20, 1945; the second on March 24, 1945. Once

¹³ "History of the Tennessee Valley Authority," at website http://www.policyalmanac.org/economic/archive/tva_history.shtml accessed April 16, 2015.

¹⁴ Tennessee Valley Authority Act of 1933, at website http://www.policyalmanac.org/economic/archive/tva_history.shtml, accessed April 16, 2015.

¹⁵ Tennessee Valley Authority, *The Fontana Project*, 1-2.

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placed into operation, the majority of the power generated at Fontana was transmitted to ALCOA's large aluminum plants at Alcoa, Tennessee. On initial installation, the powerhouse's generating capacity with just one unit in operation was 67,500 kilowatts. After the third unit was installed, the facility's capacity was 135,000 kilowatts.¹⁶

The Fontana Hydroelectric Project required the acquisition of 11,800 acres of land, of which 1,650 acres were in the river channel. The area actually acquired for all purposes, however, amounted to 68,000 acres. An area of 42,800 acres between the Little Tennessee River and the Great Smoky Mountains National Park to the north was in private ownership among 240 families. Their tracts were served by North Carolina State Highway No. 288, which was below the flowage contour of the project. It was estimated that rebuilding an equivalent road would cost \$1.2 million. TVA brokered a deal involving the State of North Carolina, Swain County, and the Department of the Interior in which TVA would purchase these tracts, transfer the land to the National Park Service, and partner with the State to pay the county for the outstanding debt on bonds held against the road: when funds became available, the NPS would construct a new road between Fontana Dam and Bryson City to the east. This arrangement cost TVA \$1,075,000 and satisfied all parties. Similar access issues arose for residents on the south side of the river, where there were not fiscally feasible solutions. Instead, TVA opted to buy superfluous tracts above the reservoir line, to avoid costly road construction. Approximately 2,500 of the 4,500 acres purchased were transferred to the U.S. Forest Service.¹⁷

Despite the remote location of the Fontana site, a good number of villages were lost, and residents, displaced. The villages of Fontana, Japan, Forney, Bushnell, Judson, and Almond were inundated, and a total of 1,311 families had to be relocated. In the reservoir area, 2,043 graves were affected. Of this number, almost half remained in situ, whether by choice or unavailability of kin, while 1,047 graves were relocated. Of the original 600 families, approximately one-third were property owners, with the remaining majority, tenants.¹⁸

Total land costs for the project amounted to \$2,904,128, 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 \$50,283,787. Indirect construction costs, including accounting, timekeeping, office supplies, and police service, came to \$6,358,041. Design and engineering expenditures, which included salaries and expenses of executive engineers, technicians, and inspectors, amounted to \$2,748,079. These amounts plus other categorized costs brought the total project to \$70,420,688.¹⁹

After World War II the planned recreational facilities were finally completed and included a visitor building with a railcar to the powerhouse. On the east side of the river below the dam TVA completed a campground and boat ramp. To the east of the Visitor's Building the TVA developed another picnic area and permitted the Appalachian Trail to cross its boundary at the

¹⁶ Ibid., 107, 512.

¹⁷ Ibid., 43-44, 499.

¹⁸ Ibid., 45, 484, 509.

¹⁹ Ibid., 535.

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top of the dam. A maintenance area was also built to provide upkeep and regular maintenance for the facility and grounds.

Since its construction the dam, powerhouse and visitor building have not been significantly altered and retain their original exterior and interior design and detailing. The powerhouse displays its original windows and the interior has original wall and ceiling materials including terrazzo and tile floors, and marble walls. The visitor building is one of TVA's most notable Streamlined Moderne designs and it retains its original plan and materials.

SIGNIFICANCE IN ARCHITECTURE

TVA's 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 - reached across the Valley region penetrating America's 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.²⁰ A prominently displayed message in every TVA powerhouse would emphasize the project as "Built for the People of the United States of America."

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 design of the Fontana dam, powerhouse and visitor's building reflects the "modernism" that the TVA architects and engineers strived for in the 1930s and 1940s. The dam was built utilizing the most advanced methods of its time, and the powerhouse was built with Streamlined Moderne characteristics on both its exterior and interior. 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. These elements express the sleek minimalism of the Streamlined Moderne architectural style.

²⁰ North Callahan, *TVA - 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, *Prisoners of Myth: The Leadership of the Tennessee Valley Authority, 1933-1990*, (Princeton, NJ: Princeton University Press, 1994), 30-33.

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The TVA Report booklet for the Fontana project describes the architectural treatment of the powerhouse in aesthetic terms:

“Unlike the engineering characteristics of this project, the architectural design requirements could not be expressed in such well-defined terms as pounds per square inch or cubic feet per minute. Instead, they had to be expressed in terms of human reactions. It was essential that the architectural design impart to the project a sense of unity and beauty. But more than this, the design had to be a symbol of social and economic progress - a recognition of man’s ability to put the forces of nature to work for this own betterment.

“Because of the size of the dam, the matter of scale was all-important. This was no place for a delicate treatment. Something unusual and bold was indicated. The large block of the generator hall had to be reflected on the exterior. Other important elements had to be preserved in mass formation. Large windows with massive mullions were needed to complete the picture.”²¹

On the exterior, the powerhouse’s block form is modern in its utilitarian simplicity. The south elevation features a huge wall of glass composed of rows and columns of fixed, aluminum-frame windows. The treatment emphasizes the rectangular form in its repetition and breaks the massive wall into smaller units on a human scale. 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.

Completed in 1947, the visitor building is one of TVA’s most notable examples of the Streamlined Moderne style. The building was designed to blend into the bank overlooking the reservoir. Extensive retaining walls were installed into the overlook. The desire for an uninterrupted vista resulted in a design with a large semi-circular glass-wall reception area and a large open loggia extending to the wing containing restrooms facilities. The interior of the reception area was designed with marble walls and a marble-faced reception desk. Visitors could view the dam and powerhouse from the interior of the building or outside observation desks. The Visitor’s Building was also designed with a railcar and incline for transport to the powerhouse.

SIGNIFICANCE IN ENGINEERING

The Fontana Hydroelectric Project is an integral part of the overall engineering design of the TVA system. The dam was built utilizing the most advanced methods of its time. Fontana Dam’s releases connect to the upper end of the Cheoah Reservoir, a pre-TVA project, and provide power Cheoah, Calderwood, and Chilhowee, all downstream. Above Fontana Dam, the Fontana Reservoir extends upstream to the tailwaters of Nantahala and Thorpe dams.

²¹ Ibid., 133, 135.

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Preliminary site investigations commenced immediately after the signing of the Fontana Agreement, reached between TVA and ALCOA on August 14, 1941. Prior to TVA's explorations, ALCOA had taken several core drilling samples in 1930 at the site to afford a general understanding of the rock formations and structure. Due to great variation in the depth of weathering, TVA conducted additional studies. Using four diamond core drills, 213 holes through a total of 23,223 feet had been made in the locations of the dam, the spillway, construction plant, quarry, and mixing plant. These core samples confirmed the suitability of the site and informed engineering and construction plans.²²

Given the height and length of the massive Fontana Dam, coupled with war-time shortage of steel, its design included huge amounts of concrete. The heat dissipated in the natural curing process of concrete would have taken years to conclude, if not for artificial means engineered by TVA. Release of heat was not a problem per se, but shrinkage of the concrete during cooling would have resulted in cracks. To prevent this from happening, TVA engineers designed the dam in monoliths divided by transverse vertical contraction joints fifty feet apart along the dam's axis and by three vertical longitudinal contraction joints at 80- to 100-foot intervals at the structure's base. The latter formed dovetails fitted with pipes for grouting the monoliths together after the concrete was set and fully cooled. Cooling of the individual monoliths was expedited through the installation of one-inch diameter steel coils in the horizontal joints and running cool river water through the coils. Refrigerated forty-degree water was also used. The dam contains some 500 miles of tubing used in these cooling coils.²³

Another feature unique to the Fontana Hydroelectric Project's engineering arose from its massive dimensions and water discharge volume. The velocity of discharge below the dam was so intense the design required a means of restoring tranquil flow where the water meets the river via diversion tunnels. The typical design of a stilling basin would have been too large and expensive a structure, due to shallow tailwater, high discharge velocity, and wide range of discharge, from 2,000 to 25,000 cubic feet per second. The solution was to install at the end of the discharge tunnels bucket-shaped structures to aid in energy dissipation. These features deflect the high-speed jets of water upward and inward towards the center of the river bed. The left bucket (No. 2) directs the jet of water ten to twenty degrees to the right; the right bucket (No. 1) deflects the jet five to ten degrees away from its tunnel axis. Numerous bucket models were laboratory-tested, at a 1:100 scale. These tests led to the installation of eighty-two-foot long, sixty-seventy-foot wide, and seventeen-foot high buckets of concrete construction.²⁴

SIGNIFICANCE IN INDUSTRY

Conferences during 1941 between TVA and ALCOA resulted in the *Fontana Agreement*, exemplifying a successful partnership between a public agency and private business. It is the first example in U.S. history of negotiations resulting in a public agency regulating a private power generating system. In the agreement, ALCOA transferred title to almost 15,000 acres of land to

²² Ibid., 31.

²³ Ibid., 12, 404-406.

²⁴ Ibid., 80-83.

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TVA, which waived claim under Section 10 of the Federal Power Act to ALCOA's Cheoah and Calderwood projects from headwater regulation by the Fontana project. The TVA assumed control of the ALCOA plants, which in turn benefitted TVA downstream operations and agreed to provide the company 11,000 kilowatts of power.²⁵ The opening of TVA's Fontana Hydroelectric Project contributed to Alcoa Inc.'s 600 percent production increase and \$300 million expansion for war-related manufacturing.²⁶ The dam was finished in November 1944, and it turned out an annual 228,000 kilowatts of power by the beginning of 1945. Most of that electricity went to the aluminum factories in Alcoa. Following World War II, the majority of Fontana's power continued to be utilized by ALCOA.

SIGNIFICANCE IN MILITARY

In April of 1941, the Office of Production Management (OPM) asked TVA for recommendations on increasing power supply, simultaneous with the War Department's demand for increase aluminum production. The TVA listed the Fontana project among others and stated that emergency production of aluminum would require the addition of 395,000 kilowatts continuous capacity to existing power systems. The TVA again recommended the Fontana Project, stressing the urgency of negotiations with ALCOA. After a mutually beneficial agreement was reached between TVA and ALCOA, the OPM recommended to the Bureau of the Budget that appropriations be made available for the third emergency program, which included the Fontana Project on the Little Tennessee River, the Douglas Project on the French Broad River, installation of generating units with cumulative capacity of 375,000 kilowatts at existing TVA plants and at Watts Bar steam plant, and the construction of additional transmission facilities. The OPM justified the collective recommendations to meet the power demands of defense industries' expansion of aluminum, ferro-silicon, and chemical production programs.²⁷ On December 17, 1941, the President signed the bill authorizing the beginning of construction of the Fontana Project.²⁸

The Fontana Hydroelectric Project became operational in January of 1945 and its electricity initially went to ALCOA in Alcoa, Tennessee. The aluminum produced at ALCOA was an essential component in the manufacture of bombers, fighter planes and other aircraft during the war. Of the 12 billion kilowatt hours of energy produced among the TVA system during World War II, 66% was devoted to the war effort.²⁹

The contributions of TVA power continued to assist the military after World War II. The enrichment of uranium for atomic weapons continued to be one of the primary purposes of the plants at Oak Ridge. Another major facility, the Paducah Gaseous Diffusion Plant, was completed in 1952 and also supplied enriched uranium for nuclear weapons during the Cold War. The extent of these plants using TVA's power was illustrated in 1956 when the Atomic

²⁵ Ibid., 6-7.

²⁶ City of Alcoa, "Alcoa Inc. Needed Electricity," at webpage <http://www.cityofalcoa-tn.gov/content/view/full/817> accessed April 14, 2016.

²⁷ Tennessee Valley Authority, *The Fontana Project*, 6-7, 9.

²⁸ Ibid., 9-10.

²⁹ Ezzell, "Tennessee Valley Authority in Alabama (TVA)."

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Energy Commission used 56% of all electricity sold by the TVA for its plants at Oak Ridge and Paducah. The expansion in the use of TVA power by the nation's atomic defense plants mirrored the increase in Cold War expenditures with the start of the Korean War in 1950. In fiscal year 1951, TVA supplied only 2.2 billion kwh to Federal defense agencies (mainly AEC at Oak Ridge), representing 13% of TVA sales. Sales in 1956 amounted to 30.5 billion kwh with a 40% increase alone in 1955. In 1956, TVA furnished at least half the power required by all AEC defense plants in America. Since its construction, the Fontana Dam has continued to supply significant quantities of electricity to the plants at Alcoa and Oak Ridge

SIGNIFICANCE IN RECREATION

At the time the Fontana Hydroelectric Project was completed, recreational development was deferred due to the war. Following World War II, the TVA constructed a visitor building near the top of the dam to welcome visitors and also provide access via an incline railway to the powerhouse. Other recreational facilities developed at Fontana included a campground on the east bank of the river and several picnic areas.

The visitor building was completed in 1947. The design for visitation was constrained due to limited space surrounding the powerhouse. This led to a layout with visitors arriving from high above the dam via an inclined railway. This railcar departed from the reception area and arrived at the second floor of the powerhouse. After exiting the rail car, visitors were directed to the balcony overlooking the generators. From the balcony, visitors could view the entire scope and breadth of the project, including generators, overhead crane, and spillway tunnels, switchyard and tailrace through the downstream windows of the powerhouse. From the balcony, visitors were led down to the generator room level to view the control room, then outside the building to the switchyard, then up a back stairway to await the inclined railcar to deliver them back to the top of the abutment.³⁰ The incline and railcar provided a unique experience for visitors for over sixty years. Due to security concerns after the terrorist attacks of September 11, 2001, visitation to the powerhouse was suspended.

SUMMARY

The Fontana Hydroelectric Project is 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 local schools, municipal land use planning, road relocation and improvement, and shoreline development. While some individual families expressed a sense of loss in displacement from their homes, the Fontana Hydroelectric Project brought new opportunities and spurred economic development in the surrounding area. The Fontana project is an important component in the vast TVA system of flood control and power generating, as well as contributing to management of river navigation.

³⁰ Tennessee Valley Authority, *The Fontana Project*, 130, 135-36, 163-64.

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The Fontana Hydroelectric Project retains much of its integrity from its original design in the 1940s and later improvements in following decades. The dam, powerhouse and visitor building have not been significantly altered and display their original Streamlined Moderne design in their exterior and interior detailing. The visitor building also reflects the TVA's commitment to providing public access to its facilities and this building provided a unique experience to visitors through its incline and railcar transportation to the powerhouse. The Fontana Hydroelectric Project meets the registration requirements set forth in the Multiple Property Documentation Form, "Historical Resources of the Tennessee Valley Authority Hydroelectric Project, 1933-1979" and this MPDF contains additional contextual information concerning TVA and its hydroelectric system.

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9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

Callahan, North. *TVA ñ Bridge Over Troubled Waters: A History of the Tennessee Valley Authority*. Cranbury, NJ: A. S. Barnes and Co., Inc., 1980.

City of Alcoa. óAlcoa Inc. Needed Electricity.ô At webpage <http://www.cityofalcoa-tn.gov/content/view/full/817> accessed April 14, 2016.

óEconomic Development.ô At webpage <http://www.tva.com/econdev/index.htm>. Accessed May 5, 2015.

Ezzell, Patricia Bernard. óTennessee Valley Authority in Alabama (TVA).ô At webpage <http://www.encyclopediaofalabama.org/article/h-2380>. Accessed April 22, 2015.

Hargrove, Erwin C. *Prisoners of Myth: The Leadership of the Tennessee Valley Authority, 1933-1990*. Princeton, NJ: Princeton University Press, 1994.

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Tennessee Valley Authority. *Design of TVA Projects Technical Report No. 24, Vol. 1, Civil and Structural Design*. Washington, D.C.: U.S. Government Printing Office, 1952.

_____. *The Fontana Project: A Comprehensive Report on the Planning, Design, Construction, and Initial Operations of the Fontana Project, Technical Report no. 12*. Washington, D.C.: Government Printing Office, 1950.

Van West, Carroll. *Tennessee's New Deal Landscape*. Knoxville: University of Tennessee Press, 2001.

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Previous documentation on file (NPS):

- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____
- ☐ recorded by Historic American Landscape Survey # _____

Primary location of additional data:

- ☐ State Historic Preservation Office
- ☐ Other State agency
- ☒ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other
- Name of repository: Tennessee Valley Authority, Knoxville, Tennessee

Historic Resources Survey Number (if assigned): GH0058, GH0069

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10. Geographical Data

Acreage of Property 526 acres

Use either the UTM system or latitude/longitude coordinates

Latitude/Longitude Coordinates (decimal degrees)

Datum if other than WGS84: _____

(enter coordinates to 6 decimal places)

- | | |
|--------------|------------|
| 1. Latitude: | Longitude: |
| 2. Latitude: | Longitude: |
| 3. Latitude: | Longitude: |
| 4. Latitude: | Longitude: |

Or

UTM References

Datum (indicated on USGS map):

☐ NAD 1927 or ☐ NAD 1983

- | | | |
|-------------|-----------------|-------------------|
| 1. Zone: 17 | Easting: 247012 | Northing: 3925837 |
| 2. Zone: 17 | Easting: 244625 | Northing: 3927451 |
| 3. Zone: 17 | Easting: 242622 | Northing: 3926909 |
| 4. Zone: 17 | Easting: 243152 | Northing: 3925560 |

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Verbal Boundary Description (Describe the boundaries of the property.)

The boundary for the Fontana Hydroelectric Project is depicted as a dashed line on the accompanying US Quad map and TVA site plan map. The boundary includes property to encompass the adjacent recreational facilities as well as the immediate environs of the dam and powerhouse.

Boundary Justification (Explain why the boundaries were selected.)

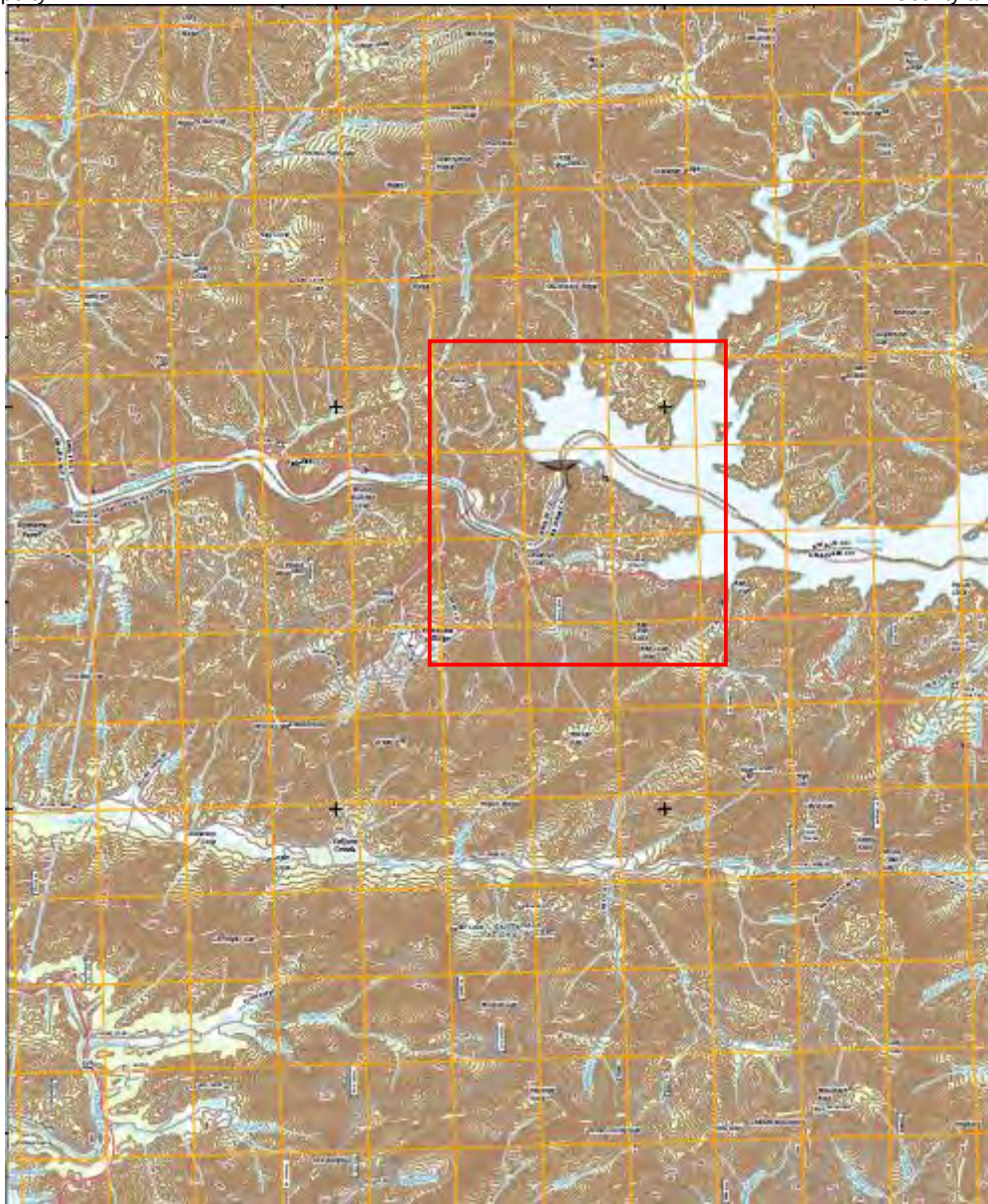
The boundary includes all facilities necessary for the operation of the hydroelectric project and/or associated with the mission of TVA, which includes power generation, navigation, and public recreation. The boundary omits other TVA lands not directly associated with hydroelectric production.

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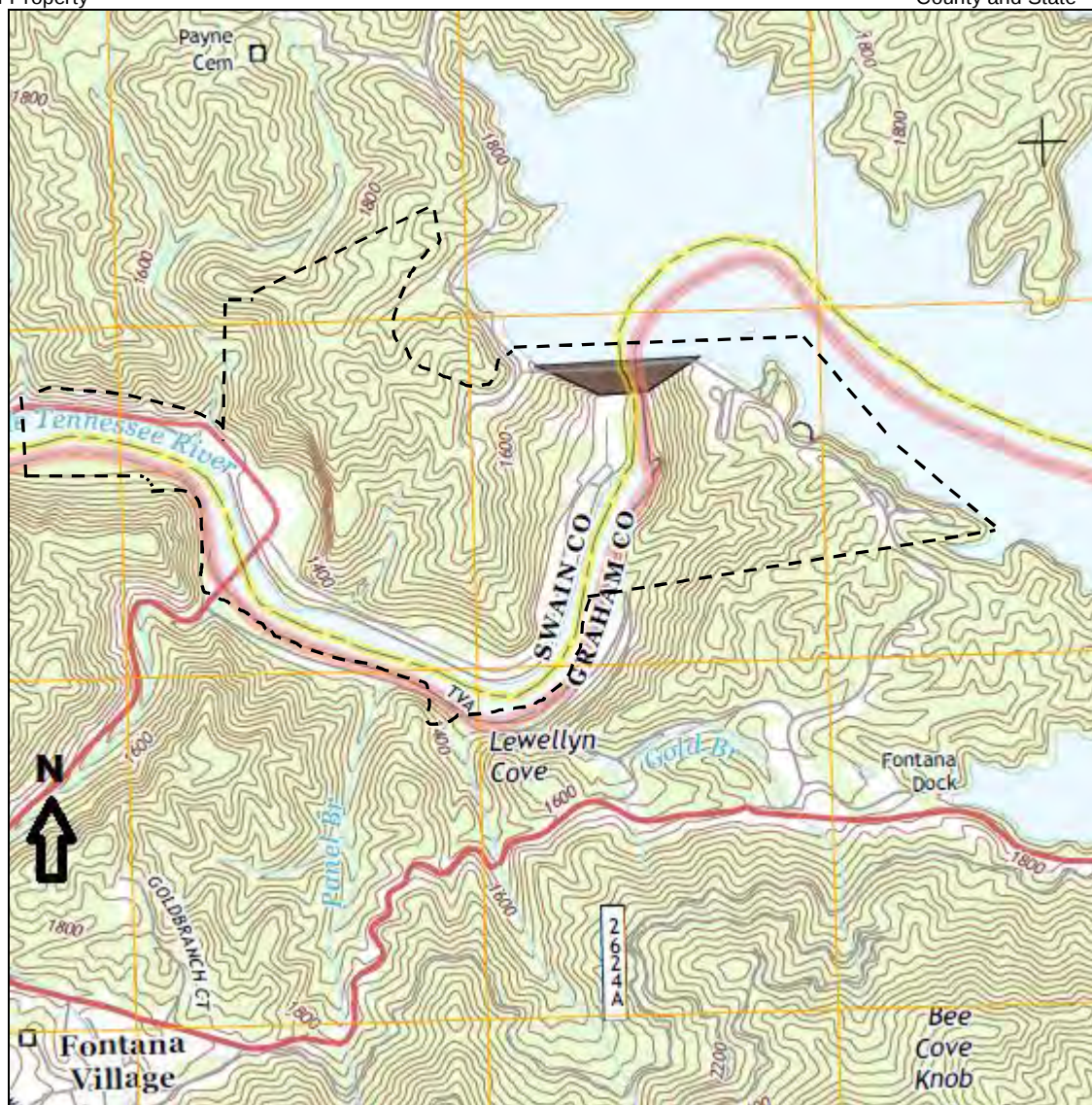
Fontana Dam USGS Topographical Quad Map, 2014

Fontana Hydroelectric Project

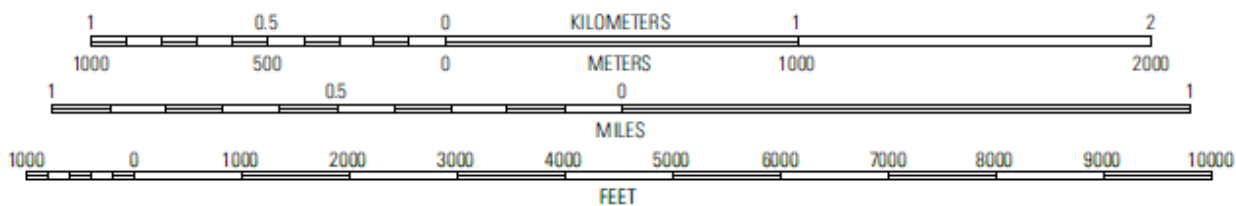
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SCALE 1:24 000



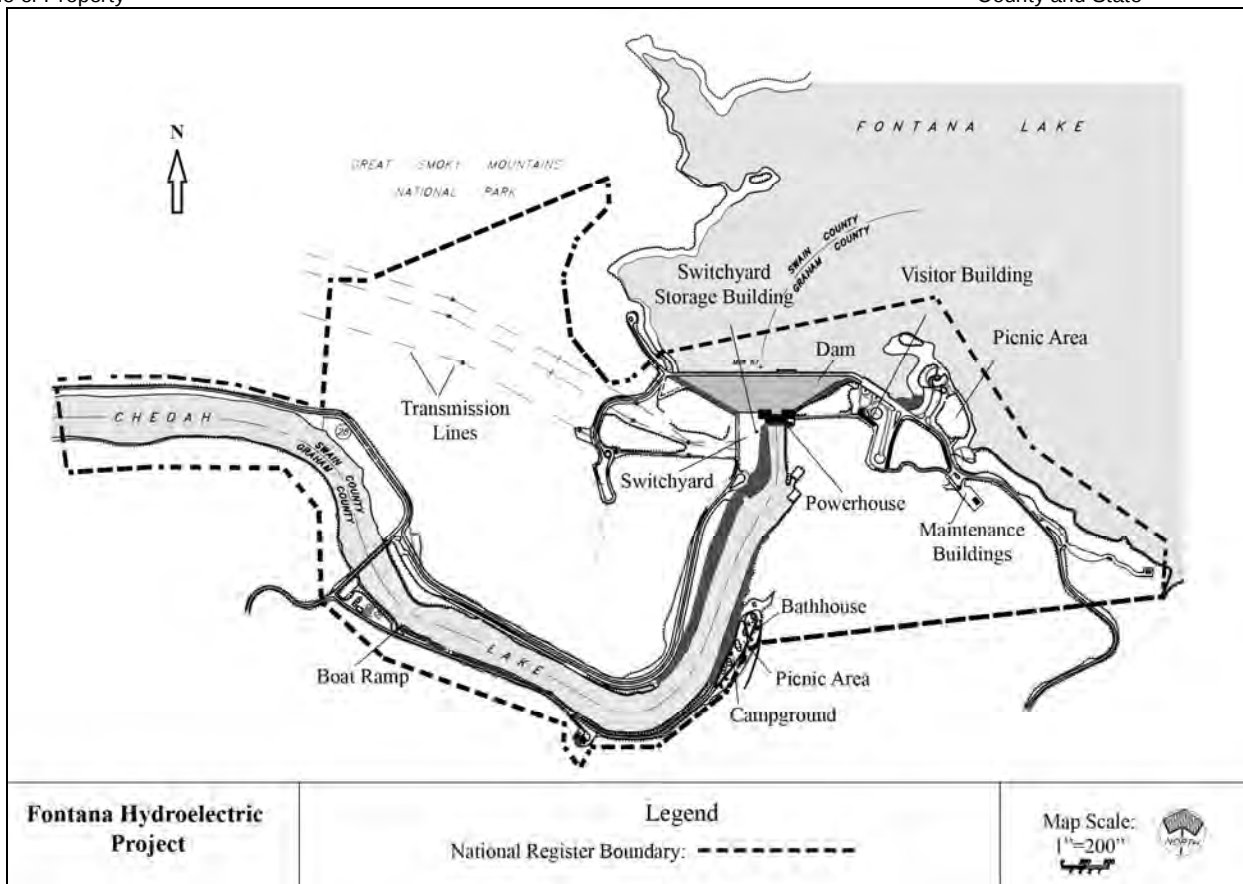
Enlarged section depicting NR boundary for Fontana Hydroelectric Project

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Site plan and National Register boundary for Fontana Hydroelectric Project

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11. Form Prepared By

name/title: Rebecca Hightower/Andra Kowalczyk Martens/Philip Thomason
organization: Thomason and Associates
street & number: P.O. Box 121225
city or town: Nashville state: TN zip code: 37212
e-mail: thomason@bellsouth.net
telephone: 615-385-4960
date: April 22, 2016

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 this map.
- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

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Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

Photo Log

Name of Property: Fontana Hydroelectric Project

City or Vicinity: Bryson City

County: Graham

State: North Carolina

Photographer: Thomason and Associates

Date Photographed: July 14, 2015

Description of Photograph(s) and number, include description of view indicating direction of camera:

Photo 1 of 30 General view of dam and powerhouse, view to north.

Photo 2 of 30 General view above dam, view to east.

Photo 3 of 30 General view below dam, view to east.

Photo 4 of 30 Spillway, view to south.

Photo 5 of 30 Spillway gate hoists, view to southeast.

Photo 6 of 30 Powerhouse interior, generator room.

Photo 7 of 30 Powerhouse, south facade, view to northwest.

Photo 8 of 30 Powerhouse's north elevation abuts dam, view to east.

Photo 9 of 30 Powerhouse lobby, staircase leading from entrance of incline railway.

Photo 10 of 30 Powerhouse basement pipe gallery

Photo 11 of 30 Powerhouse basement tunnel to switchyard

Photo 12 of 30 Powerhouse control room viewing area

Photo 13 of 30 Powerhouse interior marble staircase

Photo 14 of 30 Powerhouse visitor lobby water fountain, and typical interior door.

Photo 15 of 30 Powerhouse generator room, south interior wall, with "Built for the people" insignia.

Photo 16 of 30 Powerhouse, crane above generator room.

Photo 17 of 30 Powerhouse visitor lobby men's restroom

Photo 18 of 30 Switchyard and dam, view to northwest.

Photo 19 of 30 Switchyard and transmission lines, view to west.

Photo 20 of 30 Switchyard storage building, view to south.

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- Photo 21 of 30 Visitor building, view to south.
- Photo 22 of 30 Visitor building, view to west.
- Photo 23 of 30 Visitor building interior.
- Photo 24 of 30 At visitor building, abandoned incline entrance staircase.
- Photo 25 of 30 At visitor building, abandoned incline entrance.
- Photo 26 of 30 Maintenance, main building, southwest elevation, view to northeast.
- Photo 27 of 30 Maintenance area, old TVA police, view to southwest
- Photo 28 of 30 Maintenance area, pesticide storage structure, view to southwest.
- Photo 29 of 30 Picnic area at overlook, view to north
- Photo 30 of 30 Boat ramp at campground, view to north.

Photo key map for Fontana:

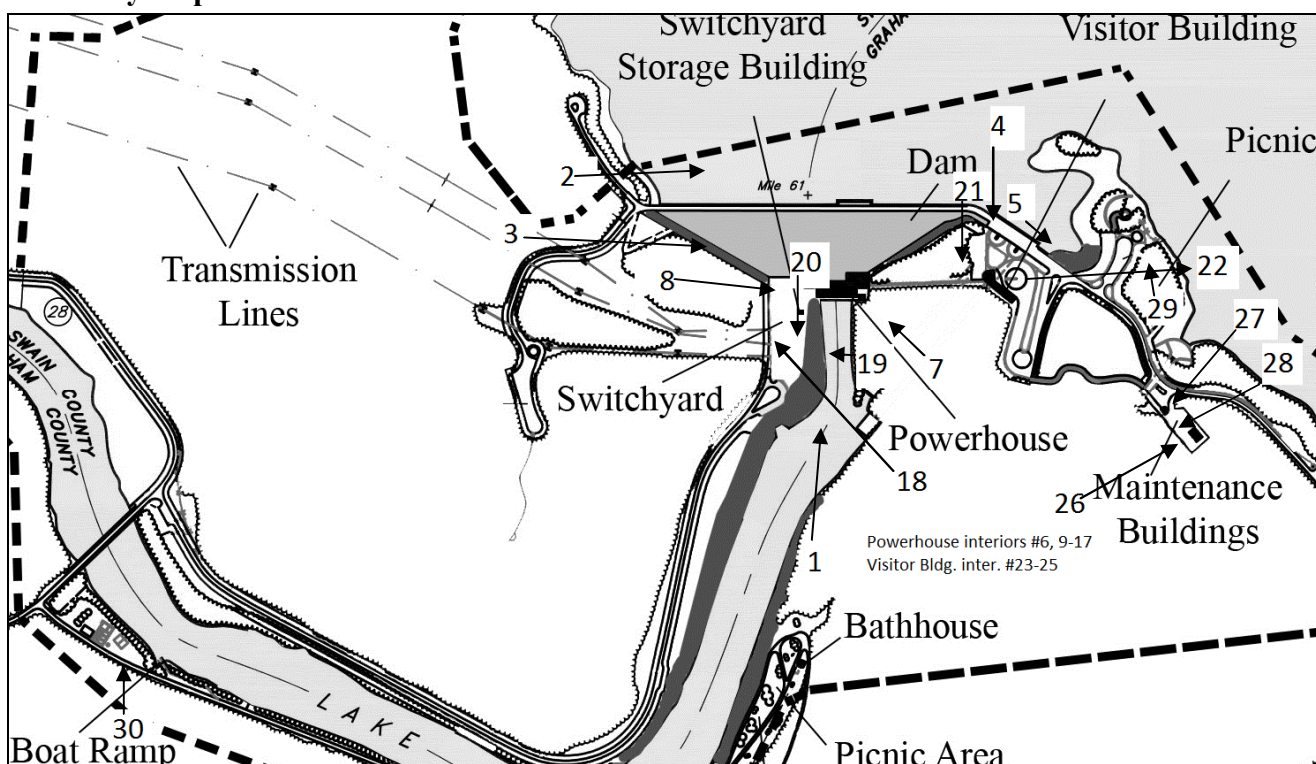


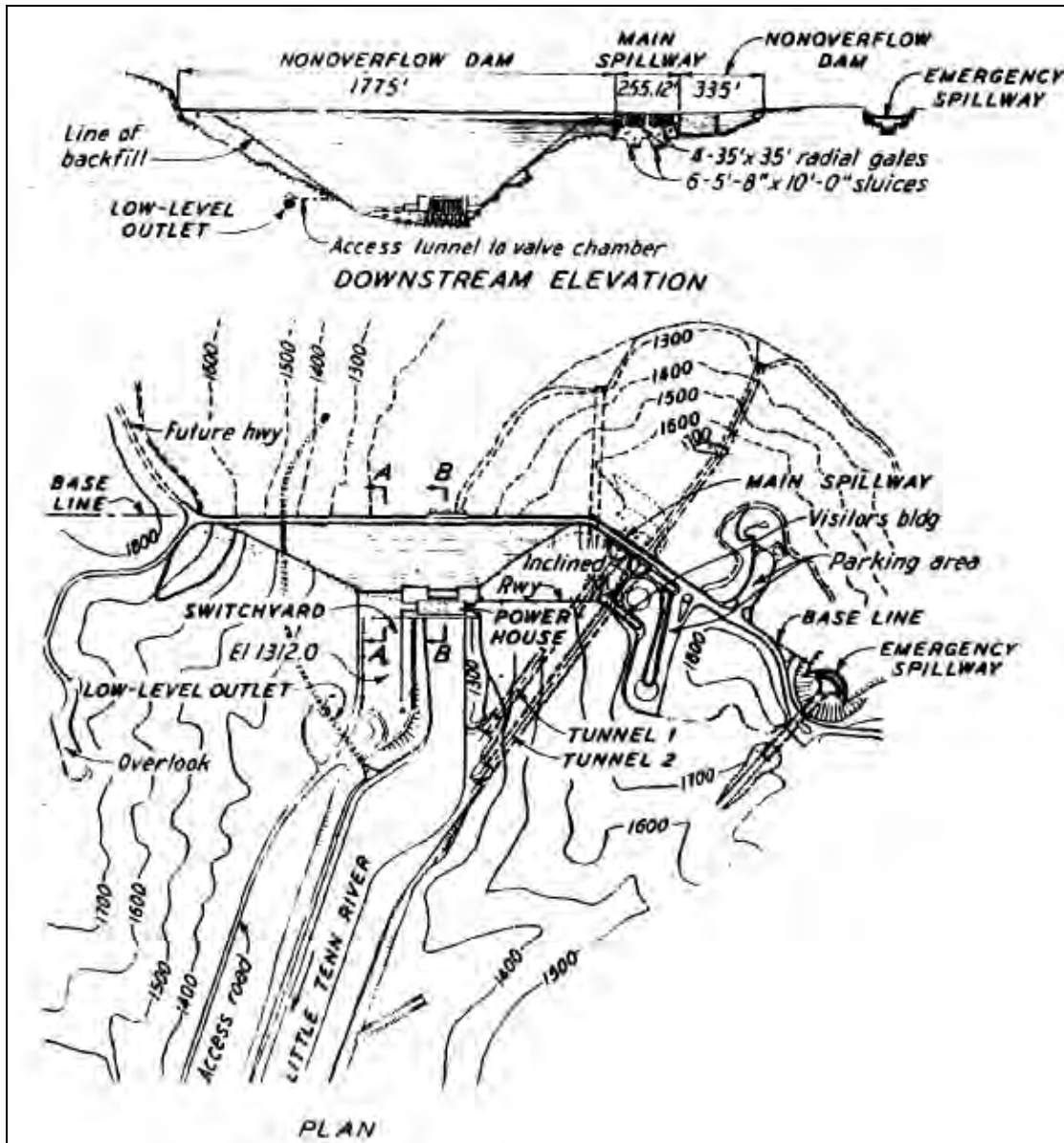
Photo Key Map for Fontana Project (not to scale)

(Powerhouse interior photos # 6, 9-17: Visitor Building interior photos #23-25)

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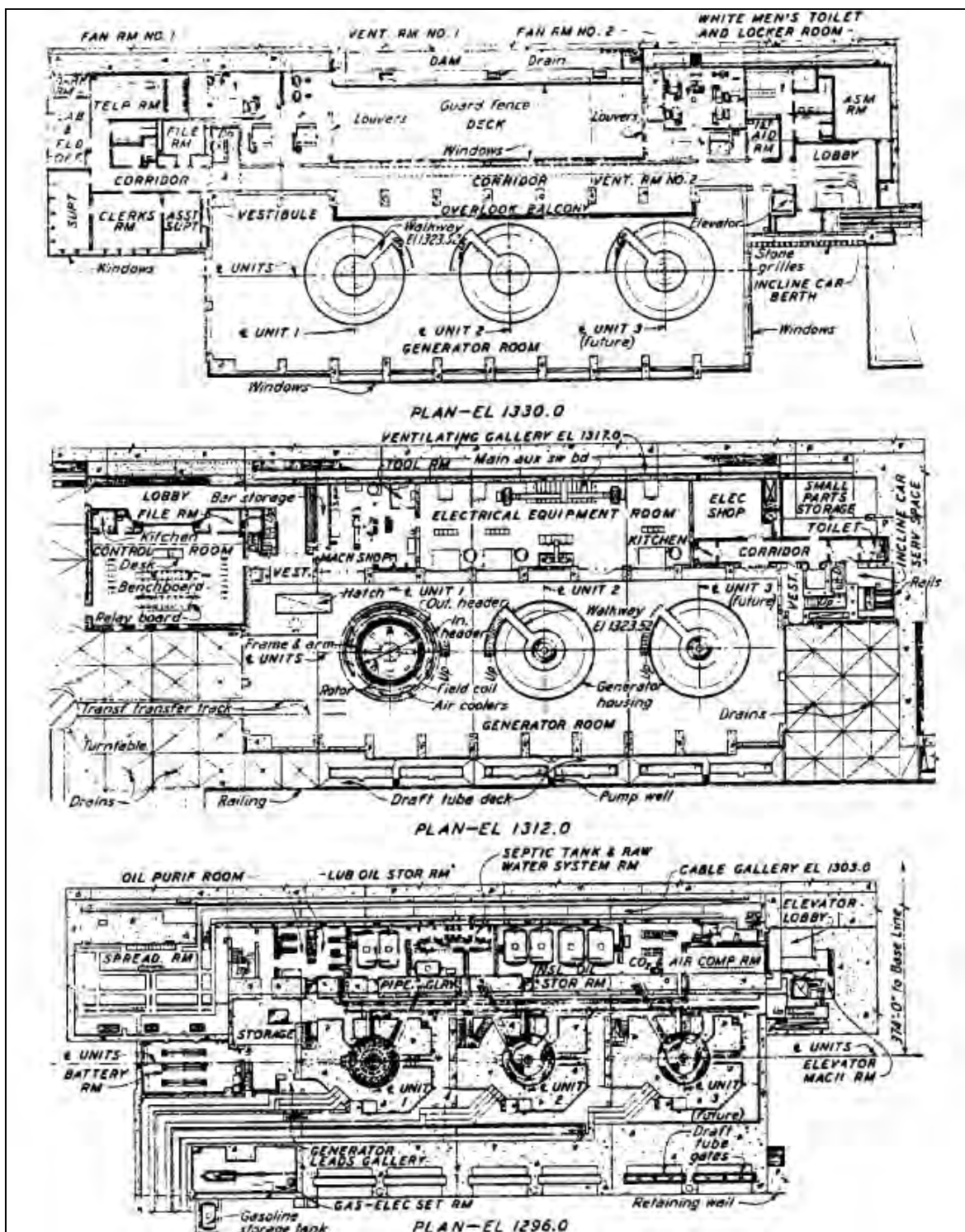
Site Plans



TVA General Site Plan of principal structures of the Fontana Hydroelectric Project.

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Overhead view of three floors within the Fontana Powerhouse

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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 ñ Pat Ezzell

Street &

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

City or

Town Knoxville State/Zip TN 37902

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 100 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Office of Planning and Performance Management, U.S. Dept. of the Interior, 1849 C. Street, NW, Washington, DC.





















CAUTION
ELECTRICITY
DO NOT TOUCH
EQUIPMENT
OR WIRING

HEATING STORAGE

GEN FLOOR







INCLINE CAR
EQUIPMENT ROOM





T FOR THE PEOPLE OF THE UNITED STATES OF AMERICA - 1964















TENNESSEE VALLEY AUTHORITY











ROAD
CLOSED

DANGER
NO OPEN FLAMES
NO SMOKING
NO DRINKING







UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

Requested Action: Nomination

Property Name: Fontana Hydroelectric Project

Multiple Name: Tennessee Valley Authority Hydroelectric System, 1933-1979 MPS

State & County: NORTH CAROLINA, Graham

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

Reference number: MP100001462

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	

☒ Accept ☐ Return ☐ Reject 8/11/2017 Date

Abstract/Summary Comments: Meets registration requirements of MPS. National significance is limited to Engineering for the solutions used to create this "tallest dam in the east" and for its importance in supplying electricity to a key defense industry up until '46.

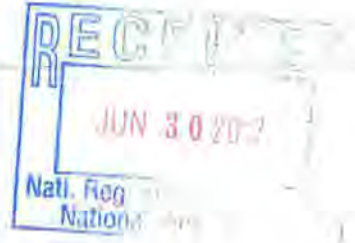
Recommendation/ Criteria: Accept / A&C

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.



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, Gunter'sville, 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/



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,

A handwritten signature in black ink that reads "Pat Bernard Ezzell". The signature is written in a cursive, flowing style.

Patricia Bernard Ezzell
Federal Preservation Officer
Communications

Enclosures