United States Department of the Interior
National Park Service

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: Kentucky Hydroelectric Project
Other names/site number: _____N/A_____
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_

2. Location

Street & number: _____640 Kentucky Dam Road (42045)
City or town: _Grand Rivers_ ___ State: _____KY_____ County: Marshall and Livingston_
Not For Publication: ☐ Vicinity: ☐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 ___ 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 ___ 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**

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

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: **Date**

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

Kentucky Hydroelectric Project
Name of Property

Marshall and Livingston, KY
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 Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply.)

Private: [ ]

Public ï Local [ ]

Public ï State [ ]

Public ï 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	
7	9	buildings
0	0	sites
6	4	structures
0	0	objects
13	13	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*
TRANSPORTATION/*Water-related*
TRANSPORTATION/Road-*related*

Current Functions
(Enter categories from instructions.)

INDUSTRY/PROCESSING/EXTRACTION/ *Energy Facility*
RECREATION AND CULTURE/ *Outdoor Recreation*
TRANSPORTATION/*Water-related*
TRANSPORTATION/*Road-related*

7. Description

Architectural Classification
(Enter categories from instructions.)
MODERN MOVEMENT/Streamlined Moderne

Materials: (enter categories from instructions.)
Principal exterior materials of the property: Concrete, Steel, Rock, Earth

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.)

Summary Paragraph

The Kentucky Hydroelectric Project is located on the Tennessee River in Livingston County in the state of Kentucky, from which the dam takes its name. Below the Kentucky Dam, the Tennessee River forms the boundary line between the two counties. The Kentucky Hydroelectric Project consists of a dam, powerhouse, switchyard, navigational locks and associated buildings, campgrounds, and maintenance area. The 206-foot high Kentucky Dam has an overall crest length of 8,422 feet across the channel and adjacent bottoms. Kentucky Dam is a straight reinforced concrete, gravity-type spillway dam constructed mainly of concrete and steel.[1] The Kentucky Hydroelectric Project impounds the 160,300-acre Kentucky Reservoir (also called Kentucky Lake), which has a flood storage capacity of 4,008,000 acre-feet between elevation 354 and 359. Kentucky Reservoirôs storage capacity, more than two-and-one-half times greater than that of TVAôs next largest reservoir, aids in reducing flood damage for six million acres of

[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.

the lower Ohio and Mississippi Rivers and flood frequency for another four million acres.[2] Kentucky Reservoir extends 184 miles and lies within counties in both Kentucky (Livingston, Marshall, Lyon, Galloway, and Trigg) and Tennessee (Humphreys, Benton, Decatur, Hardin, Wayne, Henry, Henderson, Perry, Stewart, Houston, and Carroll).[3]

Narrative Description

The Kentucky Hydroelectric Project is located approximately twenty miles upstream of the mouth of the Tennessee River, where it joins with the Ohio River at Paducah, Kentucky. The Tennessee Valley watershed comprises 40,910 square miles, all of which is located above Kentucky Dam. The geology and topography of the area influenced the ultimate site of the Kentucky Hydroelectric Project. The project was designed in accordance with local topography and geology that characterizes the region, broad flat lowlands with cherty Fort Payne limestone. In the area of the dam site, the Tennessee River runs through a one-and-one-half-mile wide floodplain at about elevation 300 before merging into the Mississippi River at Paducah. Parallel to the river on the east is a ridge rising to about elevation 500, forming the divide between the Tennessee and Cumberland River Valleys.[4]

The Kentucky Hydroelectric Project consists of the west embankment, dam with spillway, powerhouse, intermediary embankment, navigational locks and associated control buildings, the east embankment, and switchyard and transmission lines, which are interconnected and integral to one another. To the south of the dam and powerhouse is a picnic area and campgrounds are further east. The dam, powerhouse, navigational locks, and switchyard were all completed in 1944. The maintenance area and recreational area were also designed in 1944 as part of the TVA mission.

Construction of the Kentucky Hydroelectric Project commenced on July 1, 1938 and required 1,356,001 cubic yards of concrete 12,771 tons of reinforcing steel, 6,140,555 cubic yards of excavation, 5,063,605 cubic yards of earth fill, 518,482 cubic yards of riprap, and 733,952 bags of foundation grouting cement.[5] The Kentucky Hydroelectric Project originally consisted of the dam, earth embankments, powerhouse with visitor lobby, navigational locks and related operational buildings, a maintenance yard, recreational facilities and structures, and a switchyard and transmission lines. The Kentucky Hydroelectric Project has the longest dam operated by TVA east of the Mississippi including the embankments. Initially built for flood control and navigation, the facilityôs powerhouse was added to support defense industries in the area during World War II. Unit 5 was added four years after the original Units 1-4. Since completion of the original project, other buildings and sites have been added to the property. (*see Photos 1, 2*)

[2] Tennessee Valley Authority, ñKentucky Reservoir,ò at webpage http://www.tva.gov/sites/kentucky.htm accessed June 18, 2015.
[3] Tennessee Valley Authority, *The Kentucky Project: A Comprehensive Report on the Planning, Design, Construction, and Initial Operations of the Kentucky Project, Technical Report No. 13*, (Washington, D.C.: U.S. Government Printing Office, 1951), 9-10, 113.
[4] Ibid.
[5] Ibid., 11.

INVENTORY

1. Kentucky Dam, 1944 (Contributing Structure)

The 206-foot high Kentucky Dam has an overall crest length of 8,422 feet across the channel and adjacent bottom. The west embankment is 5,680 feet long and connects to the spillway, 1,176 feet in length. The Kentucky Dam is a straight reinforced concrete, gravity-type spillway dam with twenty-four gates.[6] The spillway, at elevation 325 feet, is located in the main river channel (*see Photo 3*). Below the spillway is a concrete apron to dissipate energy and prevent erosion. The apron has two rows of staggered baffles and a notched edge sill. The spillway has twenty-four fixed wheel lift gates, each measuring forty feet by fifty feet, in three sections (*see Photo 4*). The spillwayôs discharge capacity is 660,000 cubic feet per second at elevation 359 feet and 1,049,000 cubic feet per second at elevation 375 feet. The operating bridge deck is built-up structural steel girders. The walkway is ten feet, three inches wide on the downstream girder. There are two gantry cranes to operate spillway and intake gates; they were manufactured by Lakeside Bridge and Steel Company of Milwaukee (*see Photo 5*). Gate-lifting loads (including frictional resistance of seals, bearings, etc.) are as follows: Spillway gate, bottom section: 213,900 pounds; middle section: 133,400 pounds; top section: 94,600 pounds; intake gate: 247,265 pounds.[7]

The 5,680-foot west embankment is in two sections. The first is just over 3,800 feet in length from the railroad embankment to the ridge. It is impervious rolled earth fill. Its crest is forty-feet wide at elevation 388 feet. Its height varies between less than forty and fifty feet. Its upstream slope is covered in three feet of riprap on one foot of gravel. The second section, from the spillway to the railroad embankment, is sand fill with impervious rolled earth fill core and is 1,878 feet long. The crest width is fifty-seven-and-one-half feet; the crest height varies from forty to eighty feet. Both down- and upstream side have three-foot-thick riprap above elevation 340 feet.[8]

There is another earthen embankment between the powerhouse and the navigational lock. It measures 732 feet in length. The crest width is eighty-five feet; the crest height varies from sixty-five feet on natural ground to 140 feet at the lock and powerhouse excavation. Both up- and downstream sides have riprap. A third embankment on the opposite side of the lock and terminating at the right bank is 200 feet long. Its maximum height, at the lock, is seventy-five feet.[9]

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[6] 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.
[7] Ibid., 709.
[8] Ibid., 707-08.
[9] Ibid., 11, 113.

2. Powerhouse, 1944 (Contributing Building)

The facilityôs five-unit powerhouse including service bay is 447.5 feet in length (five units at seventy-seven-and-one-half feet, plus a ninety-foot service bay). It is located on the right side of the river channel. The powerhouse is semi-outdoor type and is of reinforced concrete construction. The powerhouse superstructure was completed for five units, though initial installation was in four units. The five units have a total generating capacity of 160,000 kilowatts. There are five intakes, each with three bays. The service bay has reinforced concrete walls, concrete roof, and concrete floor slabs on a steel frame. The control building is eighty-two feet long by sixty-nine-and-one-half feet wide by forty-five-and-one-half feet high above the service bay deck. It has stone facing on steel frame with concrete floor and roof slabs on steel frame. The five 44,000-horsepower Kaplan, adjustable-blade propeller turbines have 35,000 kilovolt-amperes, 78.3 revolutions per minute, three-phase, sixty-cycle vertical shaft generators.[10]

The intake is a combination gravity and buttress concrete structure. With the powerhouse, it forms an integral part of the dam. Its length is 387.5 feet (five units at seventy-seven-and-one-half feet). At its base elevation 246, the intake is fifty-two feet wide. It rises to 145 feet in height. Each unit has three openings, each sixteen-and-one-half feet wide, thirty-nine feet high. The gates are structural steel, vertical lift, fixed wheel design.[11]

The powerhouse has five levels: the draft tube access gallery; the pipe gallery and turbine access pit; the generator room, cable gallery, and switchboard (*see Photo 6*); main leads gallery and switchgear; and the roof deck (*see Photo 7*). The five draft tubes are concrete elbow design with circular sections at the upper end, becoming three rectangular exit passages. They are lined with three-quarter-inch steel plate and are eighty-five feet in length. The draft tube gates are structural steel, vertical lift, slide gates manufactured by the Carolina Steel and Iron Company of Greensboro, North Carolina.[12]

The control building is structural steel frame with reinforced concrete floors, and exterior walls of structural steel tile faced with limestone. It is located above the downstream end of the service bay. It has four levels: a reception room and control room; offices; air-conditioning and exhaust fans; and roofs at different elevations. The service bay has five levels: oil storage; ventilating fans, compressors, and septic tank; machine shop, spreading room, and electric shop; terminal room, battery, telephone, and lockers; and the roof, or ground floor of the control building.[13]

The powerhouse retains much of its original design and detailing. The building has a concrete foundation, concrete walls divided into rectangular panels, and a flat roof of rolled roofing material. The primary entrance to the powerhouse is on the east elevation. The entrance bay

[10] Ibid., 703.
[11] Ibid., 710.
[12] Ibid., 711.
[13] Ibid.

projects slightly from the façade wall and has original, paired, single-light glass and aluminum doors, single-light sidelights, and a three-part transom with fixed lights. Above the entrance are the original letters spelling ñKENTUCKYò (*see Photo 8*). The entrance opens into a one-story lobby. There is a similar configuration of doors and lights on the north elevation of the lobby, leading outside to a balcony of concrete walls overlooking the river. Behind the lobby, the powerhouse proper rises to two stories with several floors beneath (*see Photo 9*). Continuing west beyond the powerhouse are the intake gates for the facilityôs five turbines and the dam and spillway.

The lobby of the powerhouse contains the buildingôs visitorôs center which is the buildingôs fifth floor. The lobby retains original marble walls and recessed marble water fountains (*see Photo 10*). The interior of the visitor center retains original terrazzo floors, marble walls, and an original circular light fixture (*see Photo 11*). The visitor center has a cove ceiling with cove lighting around the perimeter, plaster ceilings, aluminum and full light doors and windows. The space has numerous displays and an observation window into the control room. Above this window is the original lettering sign, ñ1938 ï BUILT FOR THE PEOPLE OF THE UNITED STATES ï 1944ò (*see Photo 12*).

A stairwell between the fifth and sixth floors of the powerhouse has original tile walls. The sixth floor has administrative offices with steel and vent doors, linoleum floors, plaster walls, dropped acoustical tile ceilings, and original wood paneling on some walls. Original steel windows are fixed with lower hopper panels. The sixth floor also has an assembly room/conference room with linoleum flooring, dropped acoustic tile ceilings, and a full partition wall of structural glass block (*see Photo 13*). The north, west, and south elevations have clerestory aluminum fixed windows stacked in columns of three. The view from the north side of the sixth floor roof overlooks the top of the generator room and the expanse of the dam and spillway across the river.

Another stairwell from the fifth floor lobby descends into the substructure of the powerhouse, (floors one through four). The curved stairwell retains original marble walls and closed railing and original terrazzo flooring (*see Photo 14*). Staircases between adjoining floors of the substructure have ceramic tile walls, terrazzo floors, plaster ceilings and terrazzo treads.

The first floor of powerhouse holds air tanks and pumps (*see Photo 15*). This level has concrete tile floors, brick walls, and a concrete and steel beam ceiling. The second floor of powerhouse holds vent fans (*see Photo 16*). Its interior features similar floor, ceiling, and wall treatments to those on the first floor. The third floor has the machine shop, kitchen, and entry to generator roomôs ground floor. This level also has similar walls, ceiling, and floors to those on the first and second levels and has steel interior doors. The generator room has ceramic tile floors and walls and a steel beam ceiling (*see Photo 17*). The generators were built in 1941 by the Allis-Chalmers Manufacturing Company of Milwaukee, Wisconsin. Between the generators are metal governor cabinets housing monitoring equipment (*see Photo 18*). Extending from the third floor to the switchyard is a concrete tunnel containing the cable trays and cables (*see Photo 19*).

The fourth floor of the powerhouse has a switchgear room and visitor overlook into the generator room (Photo 20). Its interior has concrete tile floors, brick walls, concrete ceilings and steel beams. The fourth floor corridor has terrazzo floors, ceramic tile walls, plaster ceilings (*see Photo 21*), and aluminum handrails in overlook area. Overlook windows are original aluminum single light design and the room has steel and single-light doors.

Initially, the facility operated with four turbines, then ultimately five 44,000-horsepower, adjustable-blade, propeller turbines, each connected to a 32,000-kilowatt generator. The units operate at 78.3 revolutions per minute.

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

The switchyard is located on a built-up island 300 feet downstream of the intermediary embankment between the powerhouse service bay and the navigational lock (*see Photo 22*). It measures 714 feet in length and 204 feet in width. The switchyard contains a series of transformer banks and transmission lines. On completion, the switchyard included ten transformers in three banks of three, plus one spare. The 154-kilovolt yard was in seven bays at thirty-eight feet each, the 66-kilovolt yard was in five bays at thirty-one feet each, and the 12-kilovolt yard was in three bays at twelve feet each.[14] 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.

4. Switchyard Garage, ca, 2000 (Non-Contributing Building)

This is a concrete block building located west of the switchyard, added ca. 2000. It has a low-pitched hip roof of standing-seam metal, split face concrete block walls, and overhead sliding-track metal doors on the north and south elevations.

5. Switchyard Storage Building, ca, 2000 (Non-Contributing Building)

Adjacent to the garage is a one-story storage building built ca. 2000. This building has an exterior of split face concrete block, a metal gable roof and solid steel door (*see Photo 23*).

6 - 7. Navigational Lock, 1944, (Contributing Structure,) Navigational Lock, 2015, (Non-Contributing Structure)

The original lock near the right bank of the river is located between a 732-foor earthen embankment and the 200-foot east embankment (*see Photo 24*). It is a single-lift lock with a clear chamber measuring 110 feet wide by 600 feet long. Its maximum height is seventy-three feet. Upper and lower lock gates are horizontally framed, double-leaf design. Their manufacturer was the American Bridge Company of Cincinnati, Ohio (*see Photo 25*). Each leaf of the upper gates is sixty-one feet, nine inches wide, forty-five feet, nine inches high, and seven feet, one-

[14] Ibid., 703, 723.

and-one-half inches deep and weighs 570,000 pounds. Each leaf of the lower gate has a similar width, but is ninety-one feet, nine inches high, and seven feet, two inches deep. Each lower gate leaf weighs 1,330,000 pounds. The gates are operated by electric motors with a required opening time of two minutes. The gate operating machinery was manufactured by the Foote Brothers Gear and Machine Corporation of Chicago. The motor design is squirrel cage, splash proof, two-speed, 30/10 horsepower, and 810/240 revolutions per minute.[15]

The structure was designed with provisions for installation of a future lock measuring sixty feet by 360 feet, to the right (east) of the original lock. Construction of the second lock began in 1998 and this construction continued in 2015 (*see Photo 26*). Its final dimensions will be 1,200 feet in length and 110 feet in width. It is expected to open for navigation in 2023.

8. Lock Operation Building, 1944 (Contributing Building)

The main lock building is located on the west side of the river next to the locks. This Streamline Moderne-style building is one-story with a second-story octagonal office at the south elevation. (*see Photo 27*) The building was originally used as offices and the control building for the operation of the locks. It has a flat roof with a concrete parapet wall and an exterior of concrete. It has original square and rectangular fixed windows in pairs or individually divided by concrete panels. Lock building interior has ceramic tile walls, terrazzo floors, and a dropped ceiling. The second floor has been renovated with carpet and dropped ceilings, but has original windows and plaster walls.

9 and 10. Lock Control Buildings, 1988 (Non-Contributing Buildings)

These small, one-story buildings are not original, though are modeled after the standard design utilized at every other main river-navigation lock. They have a concrete foundation, concrete block walls, and a flat, metal roof. The exterior walls have fixed, single-light windows in metal frames. The buildings have single-light glass and metal doors with single metal panels.

11. Public Service Safety Building, ca. 1960 (Contributing Building)

Constructed to serve as offices and provide public restrooms, this is a one-story building with a concrete panel exterior and a flat roof of gravel and tar. The main entrance has an original single-light glass and aluminum door. Windows are original single-light with lower hopper panels. There are a series of clerestory windows below the roofline. The interior has added carpet on the floors, original solid wood interior doors, tile walls, and original metal ceiling panels (*see Photo 28*).

[15] Ibid., 704-705.

12. Picnic Area Restroom, ca. 1950 (Contributing Building)

To the southeast of the dam is a picnic area which is now abandoned and used for temporary offices and storage for the new lock project now underway. The picnic area retains a ca. 1950 restroom. This is a standardized plan restroom designed by TVA for use at many of its campgrounds and picnic areas. This is a concrete block building with a saltbox roof of asphalt shingles, original tile flooring, four fixed windows at each gable end elevation, and ca. 2000 steel doors (*see Photo 29*).

13. Illinois Central Railroad Bridge, 1944 (Contributing Structure)

Construction of the Kentucky Dam resulted in the relocation of the Illinois Central Railroad across the top of the navigation lock. The railroad bridge was completed in 1944 and is a three-span, through-plate, girder structure of steel construction. The railroad tracks continued across the top of the dam until 2009 when a new bridge was built to the north of the Kentucky Dam.

Maintenance Base – 6 resources

Located upstream of the dam on the right bank is the maintenance yard with six buildings and structures. This maintenance yard was constructed ca. 1955 and contains the following:

14. Office/Garage 1955 (Contributing Building)

A ca. 1945 one-story, concrete block garage and office building with a side gable roof of asphalt shingles and five garage bays with replacement metal overhead-track doors (*see Photo 30*). The façade also has a loading dock with recessed paired steel and single-light doors. The interior has wood paneling walls, linoleum floors, and tile ceilings. On the roof is a large shed dormer with eight fixed, single-light clerestory windows.

15. Chemical Storage Building, ca. 1980 (Non-Contributing Building)

A ca. 1980 chemical storage building east of the main maintenance building. This building is all corrugated metal with a flat roof.

16. Garage, ca. 1955 (Contributing Building)

This is a ca. 1955 four-bay garage with concrete block walls and a gable roof of asphalt shingles. The garage bays have ca. 1970 overhead-track, metal doors with two oval lights.

17. Equipment Shed, ca. 1980 (Non-Contributing Building)

This is a ca. 1980 three-bay equipment shed with three walls of corrugated metal siding and open façade bays and a gable roof of metal.

18. Hazardous Materials Storage Shed, ca. 1955 (Contributing Structure)

This is a ca. 1955 concrete block hazardous materials storage shed with a wood door and original flat roof with an added frame shed roof topped with standing-seam metal.

19. Fuel Tank, ca. 1955 (Contributing Structure)

This is a ca. 1955 fuel tank structure with a gable roof of asphalt shingles, two open bays with tanks and original pumps, and one enclosed garage bay of concrete block construction and a ca. 1980 overhead-track metal door with two oval lights (*see Photo 31*).

20. Lock Maintenance Building, 1988 (Non-Contributing Building)

To the northeast of the navigational lock is a 1988 maintenance building. This building is of split faced concrete block construction with a metal roof, metal panels below the roofline, a pedestrian entrance with a surround of structural glass block and three garage bays with overhead track metal doors This design was used repeatedly at for other lock maintenance buildings at TVAôs other hydroelectric sites with navigational locks.

21 - 22. Radio Transmission Tower and Control Building, ca. 1955 (Contributing Building), ca. 2010 (Non-Contributing Building)

To the southeast of the dam is a radio transmission tower and control building used by TVA. The building is of concrete block with a flat concrete roof. It has a steel door on the west elevation. Attached at the roof is a steel radio tower (*see Photo 32*). To the north of this building is a ca. 2010, one-story frame equipment building with vinyl siding, a metal door and metal gable roof.

23. Toilet Building, 1976 (Non-Contributing Building)

A 1976 toilet building is located on the west side of the river and dam. This building is now vacant and closed to the public. It has a skirt wall of concrete block with vertical board siding above. The building has a flat metal roof and steel doors leading into the restrooms.

24 – 26. Fishing Piers, ca. 2000 - 2009 (Non-Contributing Structure)

There are three fishing piers which are associated with the project. To the north of the dam on the east side of the river is a circular, concrete fishing pier which is now submerged just below the water and no longer used. On the east side of the river just south of the lock is a concrete fishing pier with a metal railing. To the north of the dam on the east side of the river is a fishing and observation pier built in 2009. The concrete structure consists of a walkway to a circular terminus, all with a metal pipe railing.

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
(Mark ñxò 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

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

Period of Significance
____1938-1965_____

Significant Dates
_____1938-44_____

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

The Kentucky Hydroelectric Project meets National Register Criteria A and C for its historical significance as an integral part of the Tennessee Valley Authority Hydroelectric Project. The

Kentucky Hydroelectric Project is significant in the expansion of energy for World War II manufacturing and in the improvement of quality of life through transmission of electricity, control of seasonal flooding, and creation of public recreational facilities. The Kentucky Hydroelectric Project was one of twenty-five (25) 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 main objective of the 1933 Tennessee Valley Authority Act was the creation of a continuously navigable nine-foot channel from the mouth of the Tennessee River in Kentucky to Knoxville, as well as flood control, power generation, and public benefits. The Kentucky project was integral to TVAôs unified plan submitted to Congress in 1936. Construction began in 1938 and power was first generated at the facility on September 14, 1944. The Kentucky Hydroelectric Project meets the registration requirements set forth in the Multiple Property Documentation Form, ñ*Historical Resources of the Tennessee Valley Authority Hydroelectric Project.”*

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

HISTORICAL NARRATIVE

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 of the flexibility and initiative of a private enterprise.ò To this end, Congress passed the TVA Act on 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 navigation projects at any point along the Tennessee River and its tributaries (Sec. 4i).[17]

Antebellum efforts to improve navigation on the Tennessee River focused on negotiating around the low-water shoals in north Alabama. Attention on the lower river first occurred in 1868 when Congress advanced a project to create an open channel from Paducah, Kentucky, to Florence, Alabama. The River and Harbors Act of 1890 authorized a five-foot channel, 150 feet wide, from Riverton and Paducah. The Act was modified in 1912 to provide a channel six feet deep. The channel, however, never was achieved. Various other congressional acts followed, none successful. The United States Corps of Engineers conducted field surveys in 1927, 1928, and 1932, submitting a report to Congress with recommendations for development of a dam at Aurora Landing, at mile 43.4. The site was not fully explored at that time, and in 1934, the newly created TVA followed up on the recommendation. During the summer of 1935, while Wheeler

[16] ñHistory of the Tennessee Valley Authority,ò at website http://www.policyalmanac.org/economic/archive/tva_history.shtml accessed April 16, 2015.
[17] Tennessee Valley Authority Act of 1933, at website http://www.policyalmanac.org/economic/archive/tva_history.shtml, accessed April 16, 2015.

and Pickwick Landing projects were in progress, TVA conducted core drilling of the lower Tennessee River area. TVA determined the Aurora Landing site was not suitable, advancing instead a project at Gilbertsville, renamed the Kentucky Dam and Reservoir project. As presented to Congress, the Kentucky project would not include a powerhouse, but was justified on the need for flood control of the lower Ohio and Mississippi Rivers and for navigation. Increased demand for power, however, revised the project to include generating facilities.[18]

Funding for the Kentucky Hydroelectric Project was the result of the Independent Offices Appropriations Act for 1939, which was approved May 23, 1938. Construction began July 1, 1938; the project was completed in six years. With the reservoir impoundment in September of 1944, the Kentucky Dam became the seventh main-river dam that TVA completed.[19]

The Kentucky project required the purchase of 320,244 acres of land, displacing 2,609 families. Of this area, 48,496 acres were wooded and required clearing. The area included farmlands and low-lying swampy tracts. Principal agricultural crops included corn, grain, hay and clover in the lower-river areas and cotton on higher grounds. Many residents in the reservoir area were employed in industry, even if residing on farms. Sixty-four percent of families were tenants. Only three percent of the families were African American.[20]

In the course of the project, a total of 365 miles of highways and railroads were relocated, sixty-four new bridges were constructed, and several more were reconstructed or raised. The Kentucky project also required the relocation of 3,309 graves, and 578 monuments were moved from 397 cemeteries.[21]

Filling of the reservoir began August 30, 1944, with the closure of the dam. The navigational lock opened September 12. The first generator (Unit 3) went into commercial operation on September 14th. It was followed by Unit 2 on November 18, 1944, Unit 1 on April 6, 1945, and Unit 4 on December 23, 1945. The fifth turbine was in operation starting January 16, 1948.[22]

On October 10, 1945, President Harry Truman dedicated the Kentucky Dam before 15,000 cheering spectators.[23] With the dam as a backdrop, Truman posited that TVA linked together modern science and good management, developing an integrated system of facilities for flood control, river navigation, and power generation to ñget the most service out of the river for mankind.ò[24]

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[18] Tennessee Valley Authority, *The Kentucky Project*., 7-9, 749-50.
[19] Ibid., 1.
[20] Ibid., 509, 546.
[21] Ibid., 509.
[22] Ibid., 6, 11, 607.
[23] George T. Blakely, *Hard Times and New Deal in Kentucky, 1929-1939*, (Lexington, Kentucky: University of Kentucky Press, 1986), 139.
[24] Harry S. Truman, "Address and Remarks at the Dedication of the Kentucky Dam at Gilbertsville, Kentucky," October 10, 1945, available online by Gerhard Peters and John T. Woolley, *The American Presidency Project*., at webpage http://www.presidency.ucsb.edu/ws/?pid=12318.

Total land costs for the project amounted to $16,854,226, 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, and transportation totaled $79,985,511. Indirect construction costs, including accounting, timekeeping, office supplies, and police service, came to $6,626,705. Design and engineering expenditures, which included salaries and expenses of executive engineers, technicians, and inspectors, amounted to $6,500,958. These amounts plus other categorized costs brought the total project to $118,529,390.[25]

After World War II, the planned recreational facilities were finally completed and included a campground, picnic area and boat launch ramp along the west 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 is the intact original lobby with its marble walls, murals and terrazzo floors. This lobby continues to be open to visitors and contains a series of displays and other information concerning the construction and operation of the hydroelectric project.

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, and addressed issues of national concern. 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.[26] 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.

[25] Tennessee Valley Authority, *The Kentucky Project*., 655
[26] 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, *Prisoners of Myth: The Leadership of the Tennessee Valley Authority, 1933-1990*, (Princeton, NJ: Princeton University Press, 1994), 30-33.

The design of the Kentucky dam, powerhouse and lock operation building at the project reflects the ñmodernismò that the TVA architects and engineers strived for in the 1930s and early 1940s. The dam was built utilizing the most advanced methods of its time, and the powerhouse 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. 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. The Kentucky project powerhouse retains several elements expressing the style. Curved stairwells lead to the generator room floor, and similar staircases curve to the generator unit housing. The generating units themselves convey the Streamlined Moderne style, with their smooth-finish metal housing and perfectly cylindrical form. The powerhouse interior retains its original interior aluminum doors, original light fixtures, interior wall and floor finishes, and original restroom fixtures and finishes. These elements express the polished minimalism of the Streamlined Moderne architectural style.

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 lock operation buildingôs streamlined design also reflects the Streamlined Moderne style. The smooth concrete exterior resembles a ship, with its curved bow and porthole windows.

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 eleven 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 50 million trees across the TVA region by 1939, further assisting in soil conservation.[27]

During the Kentucky project construction, over 1,000 acres of forest were restored on eroding land. TVA applied fire-protection practices to these new and existing timber lands. The harvesting of mature timber resulted in improvement of 4,945 acres of woodlands. Between 1945 and 1949, harvested timber amounted to 2,765,000 board feet of lumber and 265,000 linear feet of wood posts. TVA also conducted a soil survey during the project, providing information and

[27] Carroll Van West, *Tennessee's New Deal Landscape*, (Knoxville: University of Tennessee Press, 2001), 212-214.

advice to area farmers through Kentucky and Tennessee Agricultural Extension Services. Limestone was screened during crushing operations for the project and was applied to TVA lands along with concentrated superphosphate. Grazing licenses to local farmers reduced substantially the costs of vegetation removal.[28]

SIGNIFICANCE IN ENGINEERING

The Kentucky Hydroelectric Project is an integral part of the overall engineering design of the TVA system. The TVAôs series of dams was designed to store and release water to facilitate year-round navigation of the river and to alleviate flooding. The downstream-most dam on the Tennessee River, the Kentucky facility receives the entire valley watershed. The engineering design of the Kentucky Dam was critical to the management of the integrated system, particularly as relates to the lower Ohio and Mississippi Rivers.

Model tests for the Kentucky project designs were conducted at TVA labs at Norris. The model was built on a scale of 1:100 and included the spillway, powerhouse, lock, bridge, 2,000 feet of forebay, and 8,000 feet of river channel below the dam. The topography was simulated using river sand covered in concrete near the dam site to test erosion effect. A discharge rate of 200,000 cubic feet per second (cfs) was used in the model tests. Navigation conditions were also studied using the model.

Spillway model tests were done to determine the design of the apron, a spillway gate operating schedule, and the design of other features such as the training wall. Spillway model tests were conducted on a scale of 1:30 with a spillway of three bays. In total sixty-two different combinations of apron design, discharge rate, and method of gate operation were tested. A river model at a scale of 1:21 was used to study hydraulic structure design and location, focusing on effects of currents, eddies, and non-uniform operation of gates. A discharge of 344,000 cfs, the maximum discharge of the 1937 flood, was chosen for these tests. Tests on the river model determined the proper apron length as relates to eddies and currents and also indicated that the apron could be built in sections at different levels, depending on rock formations in the river channel.[29]

A unique factor in the Kentucky project was the presence of a major fault line. Geological and hydraulic investigations took into account the proximity of the location of the New Madrid earthquake of 1811-1812. The New Madrid epicenter was determined at a location some 100 miles southwest of the proposed Kentucky project site with an axial line crossing into Illinois ninety to 100 miles west of the site, considered a safe distance from the fault. For the Kentucky project, TVA surveyed and mapped 684,824 acres of land, including aerial photography of 11,000 square miles. Engineering for the project encompassed every aspect from property owner reconnaissance to determination of reservoir boundaries, cemetery relocation survey to

[28] Tennessee Valley Authority, *The Kentucky Project*, 636-38.
[29] Ibid., 771, 787-790.

underwater contouring for navigation channels and buoy placement, drainage and grading for malaria control to utility relocation survey.[30]

Due to its location and sheer size of reservoir, the Kentucky Hydroelectric Project in particular has been instrumental in flood control of the lower Ohio and Mississippi River. Between 1946 and 1950, flood control measures at the Kentucky Dam were credited with averting between an estimated $200,000 and $1.8 million in damages annually. During those five years, a total of $5.5 million estimated damages of were avoided.[31]

SIGNIFICANCE IN INDUSTRY

The Kentucky Hydroelectric Project was built as part of TVAôs rapid expansion of electrical power to serve the industrial and military requirements of the region. At the nationôs peak of war-time activity in 1942, the TVA was in the process of building twelve hydroelectric facilities. During the early post-war years, the TVA supplied electricity at a rate (1.35 cents per kilowatt-hour) less than half of the national average (2.78 cents per kilowatt-hour). 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.[32]

Several businesses benefitted from completion of the Kentucky project. Forest products harvested locally could be delivered by truck or wagon to barges on the reservoir for river shipment. Additionally, two local companies dredged sand and gravel from the river bed for commercial sale. Fishing and mussel operations also contributed to the local economy as well.[33]

Between September 1944 and December 1949, the Kentucky Hydroelectric Projectôs gross generation of power was 5,282,509,200 kilowatt hours. Average output during that period was 113,000 kilowatts, and peak load, 205,000 kilowatts. [34] In recent decades, TVA has continued to encourage industrial development with affordable power. Economic development is a critical component of TVA's mission. In 2013, TVAôs Economic Development office helped attract or retain almost 52,000 jobs and generate nearly five billion dollars in capital investment across the TVA region.[35] The Kentucky Hydroelectric Project contributes electrical power to industries throughout the region.

[30] Ibid., 509-12, 749-50.
[31] Ibid., 614, 617, 620, 621.
[32] Patricia Bernard Ezzell, ñTennessee Valley Authority in Alabama (TVA),ò available at website http://www.encyclopediaofalabama.org/article/h-2380, accessed April 22, 2015.
[33] Tennessee Valley Authority, *The Kentucky Project*, 621-22.
[34] Ibid.,, 607.
[35] ñEconomic Development,ò at webpage http://www.tva.com/econdev/index.htm accessed May 5, 2015.

SIGNIFICANCE IN RECREATION

Following World War II, as middle class American households gained wealth and indoor electricity, a by-product was outdoor leisure time. The TVAôs contribution to recreational activities is noteworthy. The agencyôs hydroelectric projectsô reservoirs attracted outdoor enthusiasts who enjoyed fishing, boating, camping, and hiking in the environs the TVA helped create, re-forest, and conserve. TVA operates some 100 public recreation areas throughout the TVA region, fostering outdoor tourism across the region.

At 184 miles in length, Kentucky Reservoirôs recreational resources are accessible to citizens in portions of eight states. Within a 400-mile radius of the dam, nine cities have a combined population of nine million people. TVA worked with Tennessee and Kentucky Conservation Departments who recommended a pattern of public recreation sites in relation to tributary populations. Fifteen major areas were recommended for development along the shores of Kentucky Reservoir. TVAôs preliminary studies of recreational potentialities were formulated into comprehensive plans, while actual development was left to local and state governments as desired by the public.[36]

TVA recommended the Fort Heiman site, a Civil War control point on a bluff over the river, for development as a historic park with state or federal sponsorship. To the State of Tennessee, TVA conveyed 600 acres that was developed as Paris Landing State Park. Other potential sites available in Tennessee included ninety acres that could become an addition to Nathan Bedford Forrest Memorial Park and 1,500 acres surrounding the Trace Creek embayment at the site of old Johnsonville. There were also several development opportunities for county and municipal parks, including at Pine Bluff, Mousetail Landing, Saltillo, Grand Rivers, Clifton, and Big Sandy. Numerous creeks provided even more potential recreational sites.[37]

In 1948, the State of Kentucky leased the project employee village and other areas of the project reservation for use as a state park for public recreation. On May 3, 1949, TVA transferred 1,098 acres of land to the state for the development of Kentucky Dam Village State Park. The State remodeled construction facilities into permanent structures for recreational use. TVA conveyed another 1,300 acres that became Kentucky Lake State Park.[38] These sites contribute to the Kentucky State Park system, today considered among the nationôs finest. Kentucky was a leader in development of over-night lodging in state parks.[39] The idea for over-night accommodations is thought to have originated with Stephen Mather, who promoted lodging at Yellowstone and Yosemite National Parks. Kentucky was the first to adopt to idea at the state level, with a 1942 lodge at Cumberland Falls. By the mid-1940s, Kentucky had decided to make resort lodging a

[36] Tennessee Valley Authority, *The Kentucky Project*, 639-47.
[37] Ibid.
[38] Ibid., 286, 639.
[39] Ney C. Landrum, Entrepreneurism in Americaôs State Parks,ò *The George Wright Forum*, Volume 22, Number 2 (2005), 27.

signature of its state parks.[40] Following World War II, the state spent millions of dollars developing Kentucky Dam Village State Park, which today includes a runway for air transportation.

After the Cumberland River was dammed in the 1960s, the area between its reservoir (Lake Barkley) and Kentucky Lake became the location of Land Between the Lakes (LBL), a National Recreation Area. President John F. Kennedy envisioned the experimental project as a demonstration of economic development where timber and industrial resources were limited. The project was controversial, displacing multi-generational residents who had enjoyed relative isolation due to their geography. The nearly 1,000 families vehemently decried TVAôs disrespectful treatment and undervalued land assessments. Their U.S. Congressional Representative Frank Stubblefield, originally a proponent of the project, used residentsô affidavits to amend the Tennessee Valley Authority Act of 1933, revising TVAôs use of eminent domain.[41]

The project exposed the extreme politicism behind TVAôs power growth in the post-World War II period and left the agency with a sullied reputation. TVA had known opposition from its creation, chiefly the invested local power companies and the displaced residents. During the 1960s and 1970s, TVA detractors had expanded to include not just landowners within a project area, but those concerned about the use of eminent domain.[42]

The public and even some politicians began to question TVAôs Congressional carte blanche and over-reach of its mission, particularly with development of the Land Between the Lakes (LBL) recreational area and non-power projects at Tellico, Normandy, and Columbia, Tennessee. One descendant of an original settler of the LBL area described the ñtotal population expulsionò by TVA as an example of forcible hegemony via its bureaucratic template. David Nickell, descendant of Jeremiah Nickell, an original settler of the inland peninsula, lived through the removal process. The modern Nickell came to articulate a personal response to the LBL experience, suggesting it was a microcosmic example within TVAôs macro-planning. ñThe model,ò Nickell wrote, is applied throughout, as if ñ[o]ne place is considered to be the same as any other. The complexities of the many and diverse local realities of human praxis are necessarily excluded from consideration, which can prove devastating to communities and places that do not adequately fit the plan.ò On a cultural level, he continued, ñ[t]he very agencies and policies created to protect our homeland and the culture embedded in that landscape threatened to destroy all that was authentic in order to preserve it.ò[43]

Though most Americans did not have a personal understanding on this level, public opinion rose against TVAôs autonomy and spending of taxpayersô dollars. In previous decades, dissenting

[40] Ney C. Landrum, The State Park Movement in Americaò A Critical Review, ( ), 238.
[41] David Nickell, ñBetween the Rivers: A Socio-historical Account of Hegemony and Heritage,ò Humanity and Society, VOL. 31 (May/August 2007), 164-209.
[42] Kenneth M. Murchison, *The Snail Darter Case, TVA versus the Endangered Species Act*, (Lawrence, Kansas: University Press of Kansas, 2007), 177-179.
[43] Nickell.

citizens within TVAôs project areas were dismissed as uneducated farmers. TVA employed a similar tactic in removing residents from the LBL project area, asserting the isolated community was ñbackwardsò and impoverished and therefore in need of government help. As politicians and journalists increasingly spoke out against the upside-down benefit-to-cost ratio of TVA projects, the outcry drew national attention to other matters, such as eminent domain and environmental disregard. Average citizens interested in ecology, history, fishing and boating and economists, archaeologists, biologists, attorneys, and other professionals who counted themselves as intellectual peers to TVAôs experts gathered in collective public momentum against TVAôs macro-planning. In response, Congressôs largesse for funding TVA projects was curtailed during the 1960s and 1970s.

Though the Land Between the Lakes National Recreation Area went through as planned, the negativity surrounding it as well as TVAôs tributary projects had contributed to new scrutiny and restrictions of TVAôs autonomy. TVA officials considered the recreational area a major accomplishment and originally supported a comprehensive environmental education program. The purported basis for the demonstration parkôs development ï exclusion of private ownership and commercial development ï was not the reality. Land of Lakes National Recreation Area has become one of Kentuckyôs major tourist attractions, contributing to an industry with annual revenue of one-half billion dollars. Thus, the controversial project engendered by TVAôs construction of Kentucky Dam has resulted in an important benefit to the state in the area of recreation.

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, those devastated by the Depression. The land was over-worked, de-forested, and unproductive. In the process of the Kentucky 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 had by this point succeeded in developing a protocol regarding the families displaced by its hydroelectric projects.

Work opportunities began with clearing of the reservoir, starting on April 14, 1941. Local farm labor was the preferred candidate for the work, based on experience. By October, the regular five-day, forty-hour work week was expanded to forty-eight hours in six days per week. The change was made to counter employee loss during the war years, one of the problems the project faced. The scope of clearing the Kentucky Reservoir surpassed that of any other TVA project. The low-lying flat lands consisted of vast swamps, boggy even during dry season. These swamps had to be drained prior to clearing. Malaria was a severe problem in the area, and decaying forests would have contributed to illnesses had they not been thoroughly removed. A timber-felling unit consisted of a foreman, two labor foremen, one saw filer, one ax filer, a first-aid worker, fifty men, and one mule team. A bank-clearing unit included a foreman, four or five

labor foremen, one saw filer, one ax filer, one first-aid worker, three to five mule teams, a twenty-five-horsepower tractor, a tractor operator, and sixty-five to eighty-five men.[44]

TVA countered housing shortage in the area of the project through several solutions. Forty-six existing homes in Gilbertsville, one-half mile from the site, were reconditioned for employee housing. TVA also constructed a camp and village, with segregated areas for white and black employees. Facilities included eleven permanent and seventy-two temporary single dwellings, six temporary duplexes, and eight menôs dormitories, each housing 480 at capacity. The village, located one-and-one-half-mile southwest of project site, also included a community building service and administrative buildings, warehouses, and a school for African-American students. A permanent school was built by Marshall County on land that TVA deeded. The permanent houses had concrete block foundation and frame construction.[45]

The Kentucky project site also included a nineteen-bed hospital. Medical services at the project were provided to employees in the form of periodic health exams, immunizations, and occupational injury treatment. When employment at the project site peaked at 4,861 workers in July of 1942, the hospital was staffed with two medical officers, six graduate nurses, medial aides, clerks, cooks, and orderlies. Additional medical units were established at Murray, Kentucky, and Camden and Paris, Tennessee, serving residents of the local communities.[46]

Library services and training courses were available to employees. Subjects offered would be applied on the job and in the greater workplace post-project, including mathematics, dictation, electricity, welding, and blueprint-reading. Over 1,600 employees participated in all training programs.[47]

The TVA established a family readjustment program to assist residents in relocation from the reservoir. Through this program, the TVA worked in cooperation with local and state agencies, especially the Land Grant Colleges and county agricultural extension services. The Farm Security Administration was also involved, and state welfare departments, county health units, and the Red Cross contributed services as applicable.[48]

Impoundment of the reservoir would have inundated the town of Big Sandy, with a population of 650 people in 1939. At risk were the entire business district and sixty-five residences (about one-quarter of the townôs homes). Four alternatives were considered: TVA could 1.) purchase the entire town; 2.) purchase the flooded portion of the town; 3.) partially protect the town with a dike outside the community; 4.) provide full protection of the community through diking. To determine the preferred alternative, TVA weighed relative costs, moral obligations, and public input, ultimately deciding on complete protection. This alternative still involved readjustment within the town, and TVA not only surveyed for installation of a diking system, but also

[44] Tennessee Valley Authority, *The Kentucky Project*, 549-556.
[45] Ibid., 263.
[46] Ibid., 11, 374-75.
[47] Ibid., 371-72.
[48] Ibid., 547.

provided assistance in improved methods of agriculture, industrial development, and infrastructure improvements. The mayor of Big Sandy appointed a Permanent Community Committee to work with TVA and the Tennessee State Planning Commission.[49]

The town of Grand Rivers, located on the east bank of the river one-and-one-half miles above the dam site, lost annual tax revenue with the relocation of the railroad outside its city limits. As a result of discussions with TVA, the town created the Grand Rivers Planning Commission. The group received assistance from TVA in waterfront development, and TVA made land available for a city park. Camden, the seat of Benton County was not affected by the reservoir, though outlying agricultural lands were. Extension discussions between TVA and local officials led to the organization of the Benton County Planning Commission in 1943. TVA worked with the organization on a four-point plan to analyze industrial, recreational, agricultural, and forestry development.[50]

Local communities near the project benefitted from the construction of a new county school. This eight-classroom building met modern construction and design standards. Some houses in the white village were retained for lock employees after project completion. In 1948, the State of Kentucky leased the village and other areas of the project reservation for use as a state park for public recreation. Area infrastructure was improved as a result of the project. In Kentucky five state highways and U.S. 68 were affected. Where replacement equaled or surpassed value of affected infrastructure, TVA applied higher standards of design in relocation. Bridges were raised and/or extended and approaches were improved. Embankments were graded for drainage and either covered in riprap or seeded for grass. In 1947, Congress approved TVAôs contract with the State of Kentucky to build a bridge across the Kentucky Dam, to link the shores via a new arterial highway built by the state. In the State of Tennessee, nine state highways were affected, most significantly, SR 76 between Paris and Dover, SR 1 (U.S. 70) between Camden and Waverly, and SR 22 near Shiloh National Park. The Scott Fitzhugh Bridge, a 4,636-foot structure on SR 76, was raised and its embankments were expanded vertically and horizontally with the new floodplain. Trotters Landing Bridge on SR 1 over the river also had to be raised. Eighty-eight miles of county and local roads in Kentucky were relocated and in 182 miles in Tennessee.[51]

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).[52] The opening of the Guntersville Reservoir to navigation in January of 1939 completed a 464-mile

[49] Ibid., 543.
[50] Ibid., 543-545.
[51] Ibid., 279-80, 285, 588-94.
[52] 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.

navigable channel from the mouth of the Tennessee River to Chattanooga.[53] At that time, the lower Tennessee had a commercially useful channel at six-foot depth. Not until the opening of the Kentucky Reservoir in September of 1944, however, was the length of river open for deep-draft commercial navigation year-round. The Kentucky Reservoir carries a substantial load of the riverôs total commerce, including coal, grain, automobiles, and petroleum products. Forest products harvested locally are trucked to barges on the reservoir.[54]

Increased traffic volume on the Tennessee River during the 1950s led TVA to study new and larger navigational locks at its dams. TVA foresaw the economic growth of the region and its reliance on river transportation, allowing room for future installation of larger locks at several of its dams, including Fort Loudoun, Wheeler, Pickwick Landing, and Guntersville Dams. A second lock was added at Wheeler Dam in 1963, at Guntersville in 1965, and at Pickwick Landing in the late 1970s. The 1967 Nickajack Hydroelectric Project replaced the pre-TVA Hales Bar Dam and improved river navigation with the installation of two large locks, 600 and 800 feet in length. Freight traffic on the Tennessee River reached a record 3.5 billion ton-miles in 1970, a volume approximately 100 times the river traffic in 1933. Shippers using the river in 1970 saved $51.4 million in transportation costs, a figure six times the costs of operating the waterway that year. Between 1933 and 1970, total savings to shippers was $548 million, versus TVAôs $141.2 million in operational costs during the same period.[55] The improvements in the Tennessee Riverôs transportation system helped to increase volume on the river, and in 1975 the river bore an estimate 27.1 million tons of commercial freight ranging from automobiles to sand.[56]

The Kentucky Dam was also designed with provisions for installation of a future lock measuring sixty feet by 360 feet, to the right (east) of the original lock. Construction of the second lock began in 1998. With final dimensions of 1,200 feet in length and 110 feet in width, it will be the largest lock on the river. It is expected to open for navigation in 2023.

Summary

The Kentucky 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

[53] Tennessee Valley Authority, *The Guntersville Project: A Comprehensive Report on the Planning, Design, Construction, and Initial Operations of the Guntersville Project*, *Technical Report No. 4*, (Tennessee Valley Authority: Knoxville, TN, 1941), 283-284.
[54] Tennessee Valley Authority, *The Kentucky Project*, 621-22.
[55] 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.
[56] Thomas D. Clark, ñThe Tennessee Valley Authority,ò in *The Encyclopedia of Southern History*, edited by David C. Roller and Robert W. Twyman, (Baton Rouge: Louisiana State University Press, 1979), 1206.

of loss in displacement from their homes, the Kentucky Hydroelectric Project brought new opportunities and spurred economic development in the surrounding counties. The Kentucky 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.

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

9. Major Bibliographical References

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

Clark, Thomas D. ñThe Tennessee Valley Authority.ò In *The Encyclopedia of Southern History*. David C. Roller and Robert W. Twyman, eds. Baton Rouge: Louisiana State University Press, 1979.

ñEconomic Development.ò At webpage http://www.tva.com/econdev/index.htm. Accessed May 5, 2015.

Ezzell, Patricia Bernard. ñTennessee Valley Authority in Alabama (TVA).ò Available at website http://www.encyclopediaofalabama.org/article/h-2380. Accessed April 22, 2015.

ñKentucky Reservoir,ò at webpage http://www.tva.gov/sites/kentucky.htm accessed July 21, 2015.

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

ñHistory of the Tennessee Valley Authority.ò At website http://www.policyalmanac.org/economic/archive/tva_history.shtml. Accessed April 16, 2015.

Murchison, Kenneth M. *The Snail Darter Case, TVA versus the Endangered Species Act*. Lawrence, Kansas: University Press of Kansas, 2007.

Nickell, David. ñBetween the Rivers: A Socio-historical Account of Hegemony and Heritage.ò Humanity and Society, VOL. 31. May/August 2007.

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

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 Guntersville Project: A Comprehensive Report on the Planning, Design, Construction, and Initial Operations of the Guntersville Project*, *Technical Report No. 4*. Tennessee Valley Authority: Knoxville, TN, 1941.

_____. *The Kentucky Project: A Comprehensive Report on the Planning,*

Design, Construction, and Initial Operations of the Kentucky Project, *Technical Report no. 10*. Washington, D.C.: U.S. Government Printing Office, 1949.

_____. *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.

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

Wheeler, W. Bruce. ñTennessee Valley Authority.ò At webpage Tennessee Encyclopedia of History and Culture. Accessed May 29, 2015.

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
__X_Federal agency
____ Local government
____ University
____ Other
Name of repository: __Tennessee Valley Authority, Knoxville, Tennessee

Historic Resources Survey Number (if assigned): _____N/A_____

10. Geographical Data

Acreage of Property __1,435 acre_____

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: 36.999505 Longitude: 88.281726
2. Latitude: 37.003071 Longitude: 88.285847
3. Latitude: 37.028630 Longitude: 88.248158
4. Latitude: 37.010054 Longitude: 88.244100

Or
UTM References
Datum (indicated on USGS map):

☐ NAD 1927 or ☐ NAD 1983

1. Zone: Easting: Northing:
2. Zone: Easting: Northing:
3. Zone: Easting: Northing:
4. Zone: Easting : Northing:

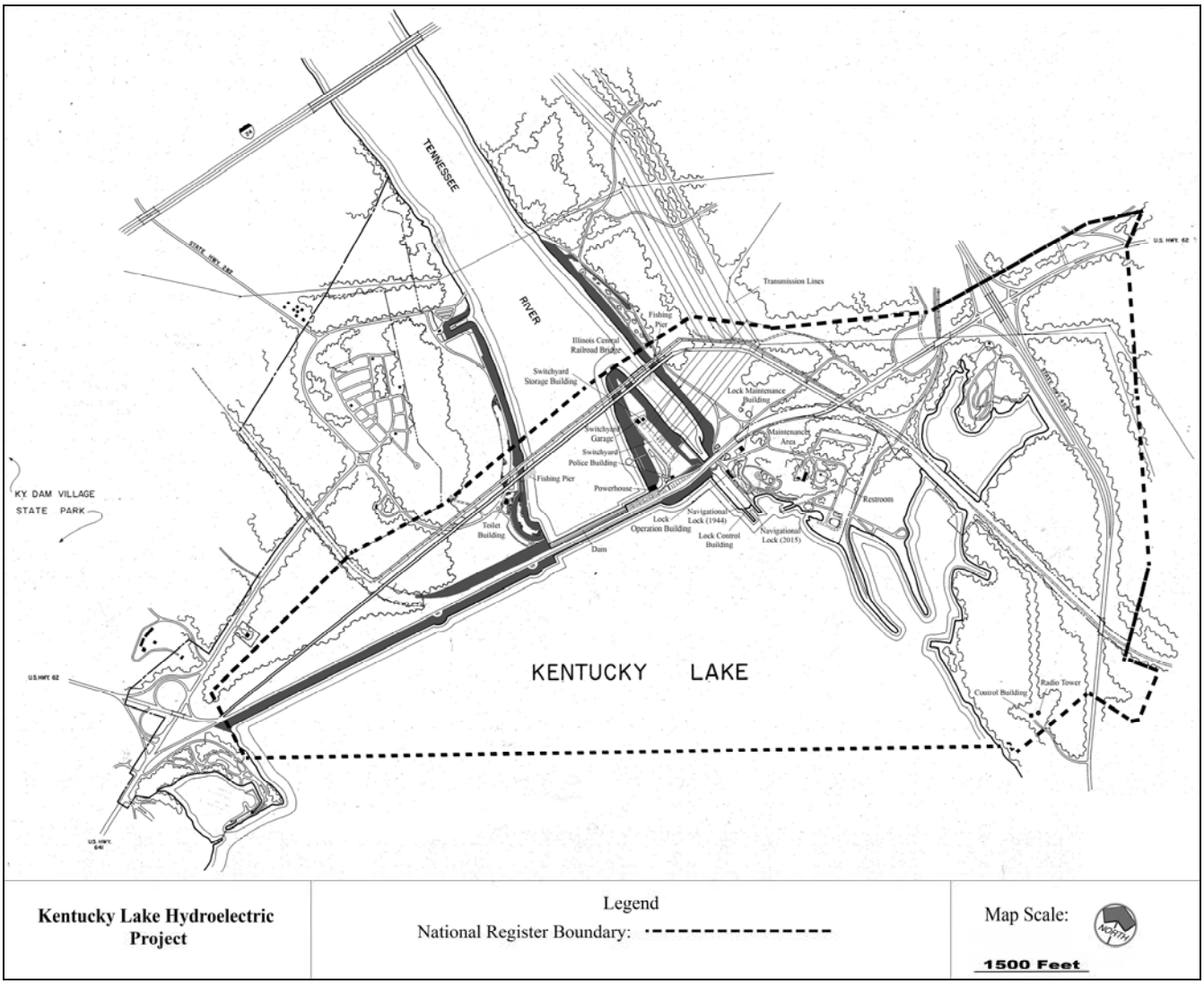
Verbal Boundary Description (Describe the boundaries of the property.)

The boundary for the Kentucky Hydroelectric Project is depicted as a dashed line on the accompanying site plan map. It is drawn at a scale of 1ò = 500ô

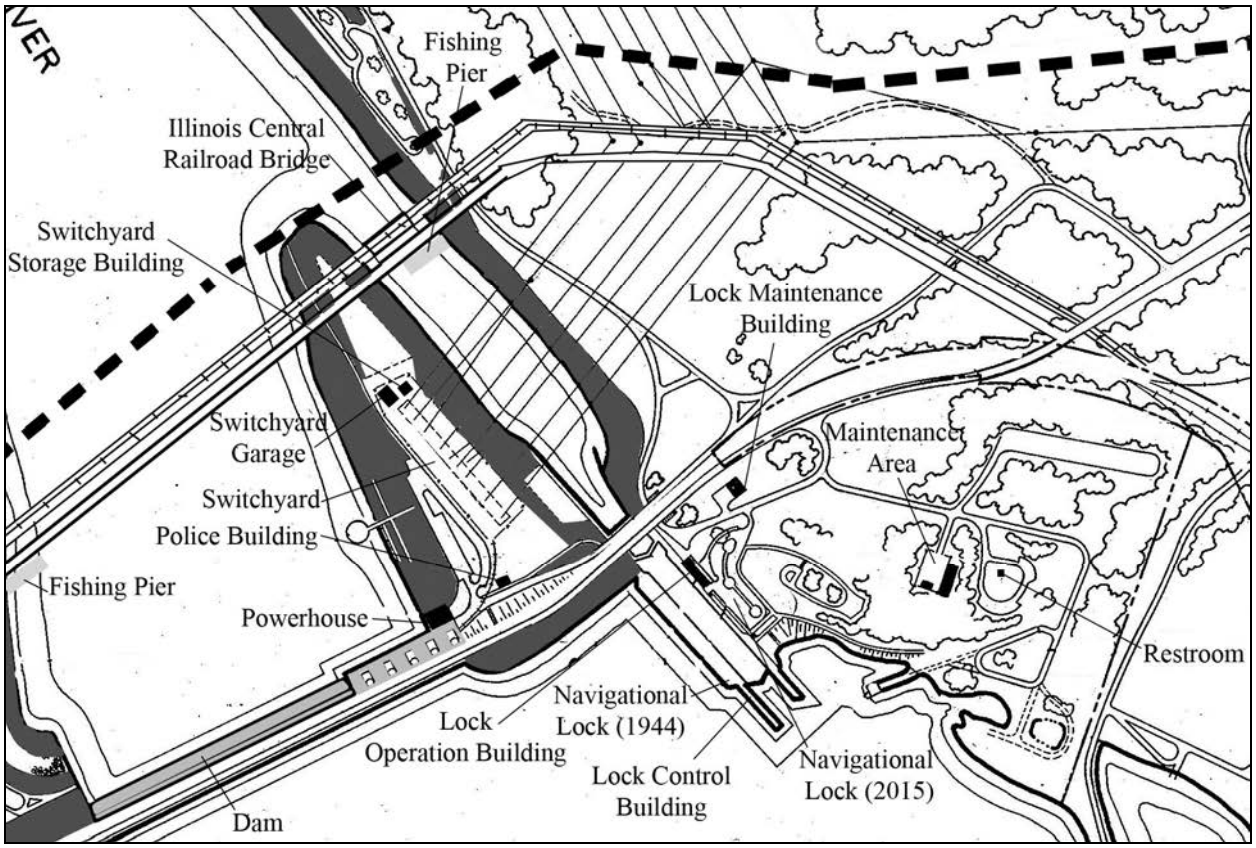
Boundary Justification (Explain why the boundaries were selected.)

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.

Site plan and National Register boundary for Kentucky Hydroelectric Project



Enlarged view of site plan



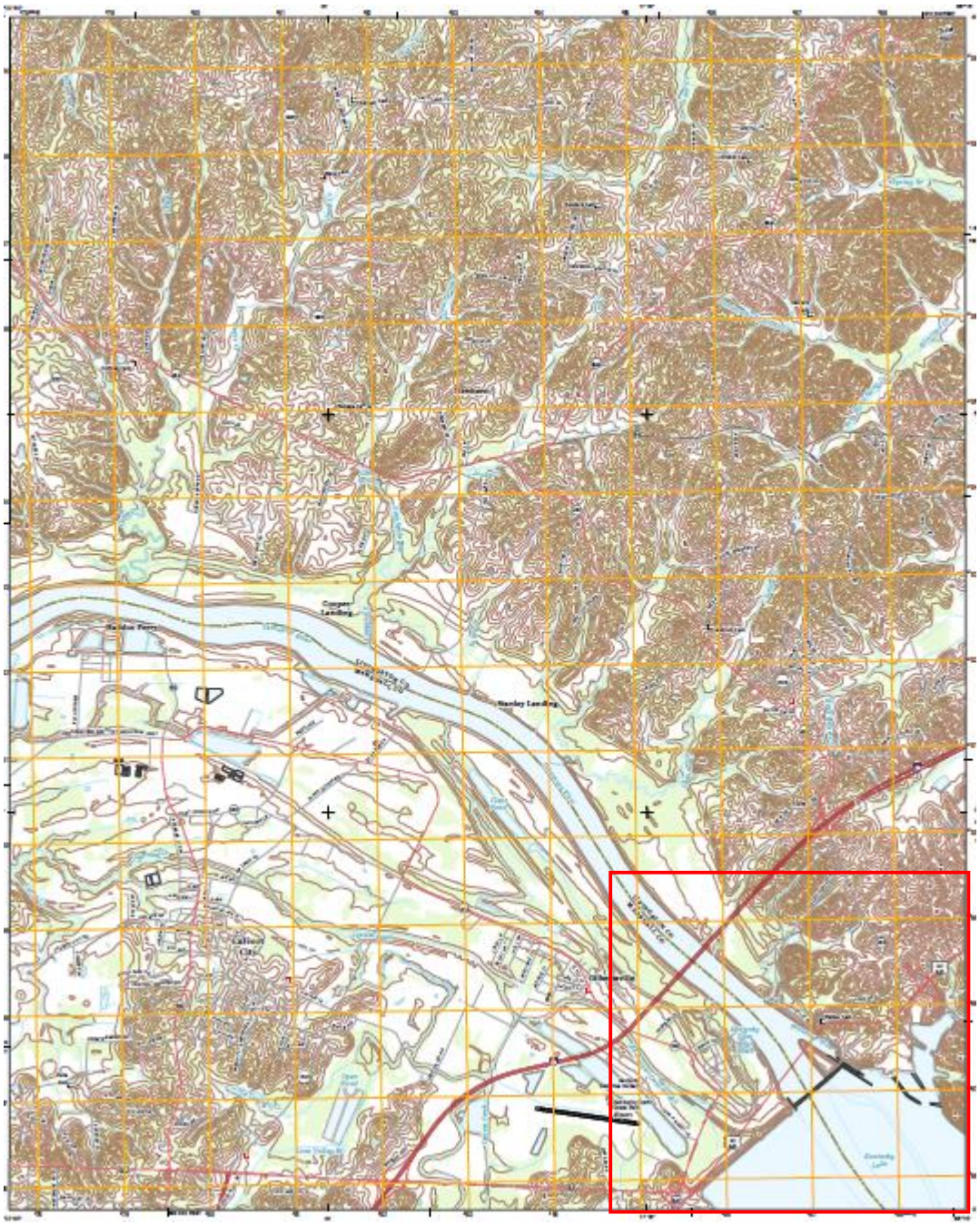
11. Form Prepared By

name/title: _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:_____July 5, 2016_____

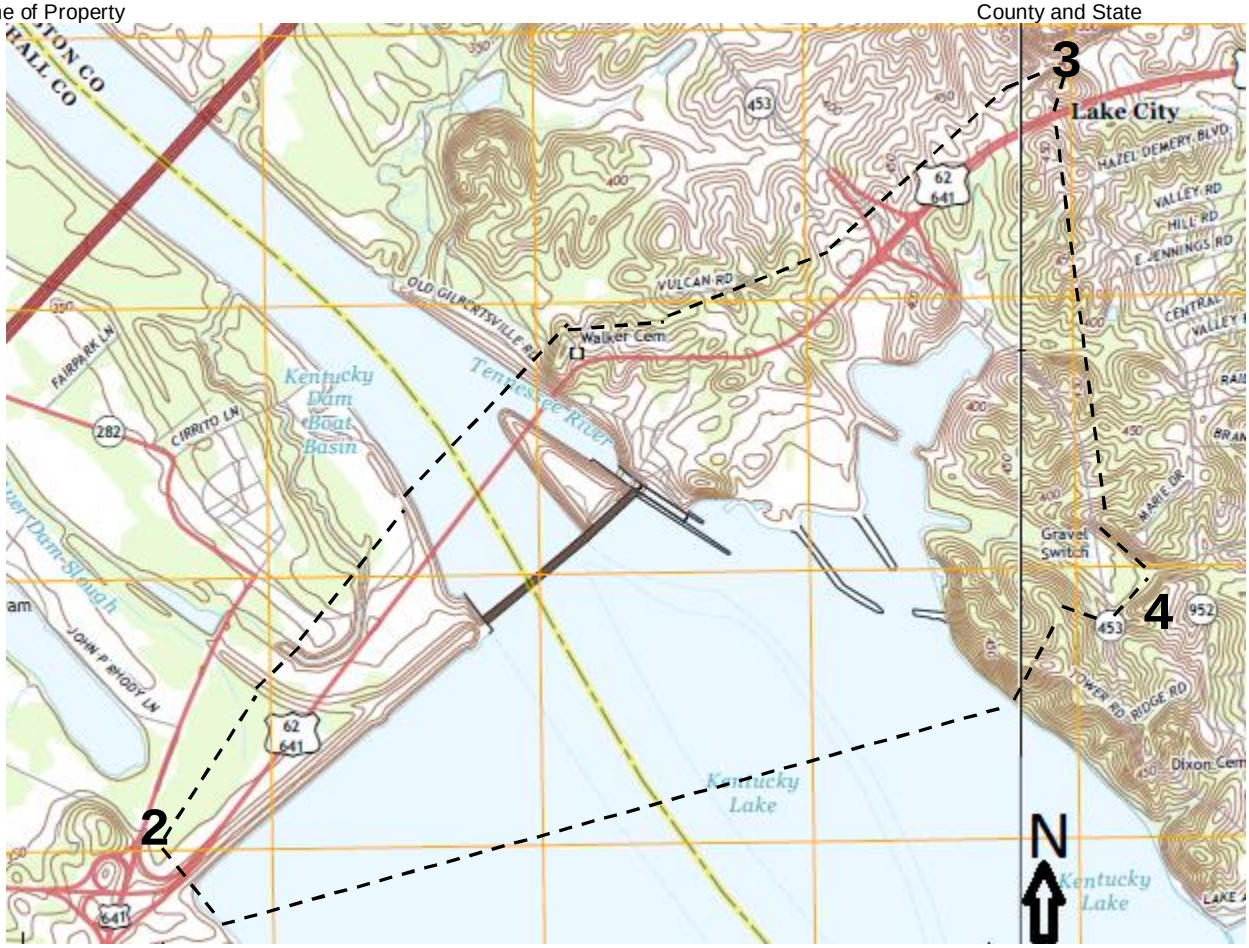
Additional Documentation

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.)

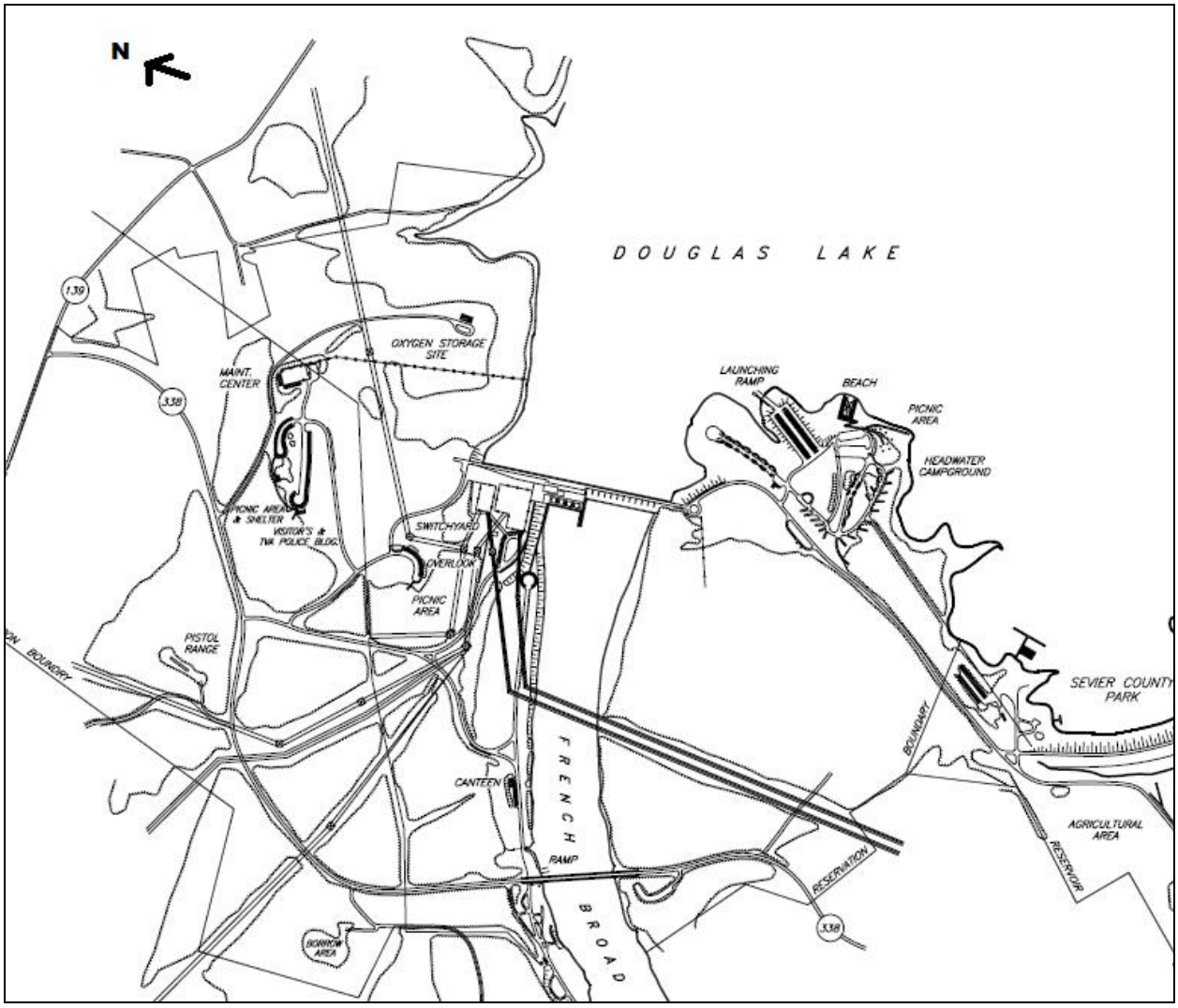


Calvert City USGS Topographical Quad Map, 2013

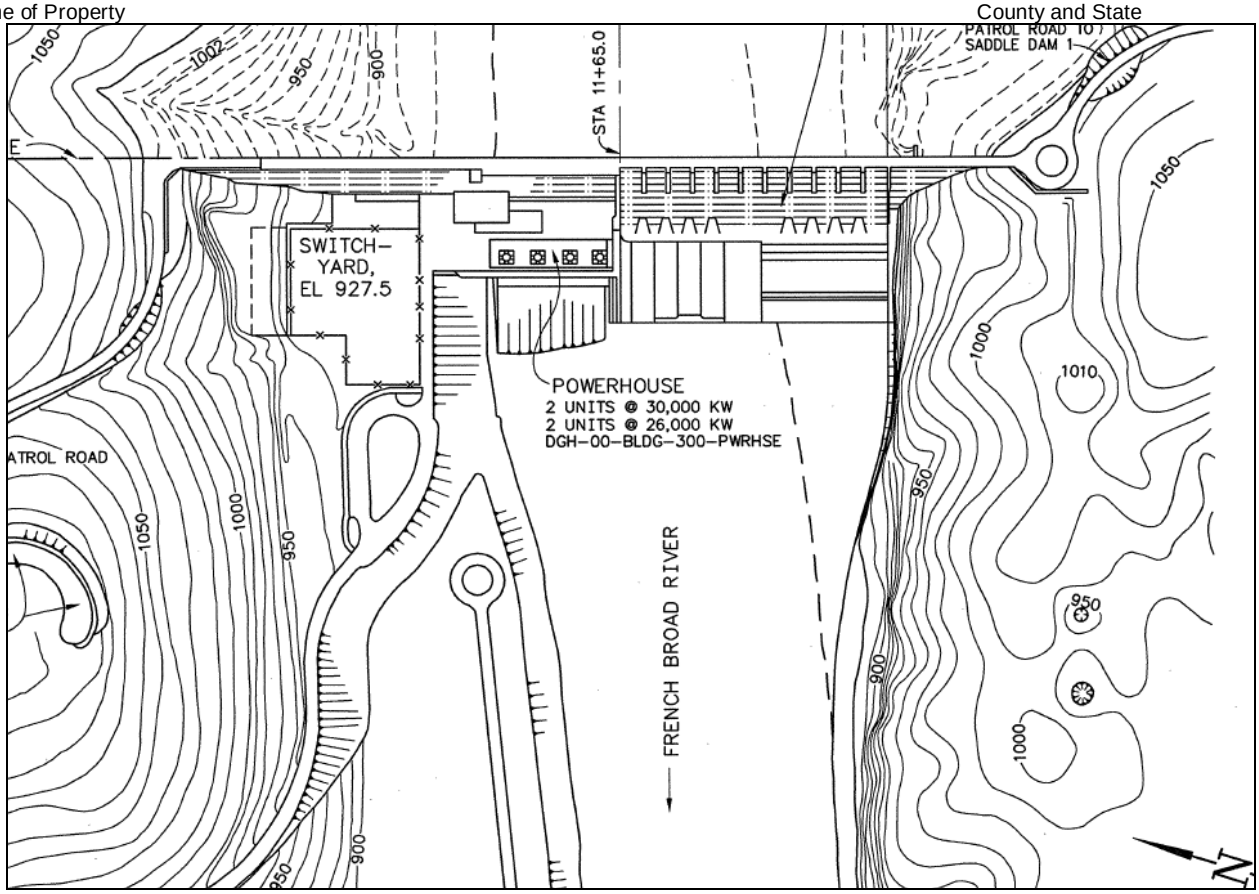


Enlarged section depicting NR boundary for Kentucky Project.
Numerals correspond with Latitude/Longitude coordinates noted in section 10.

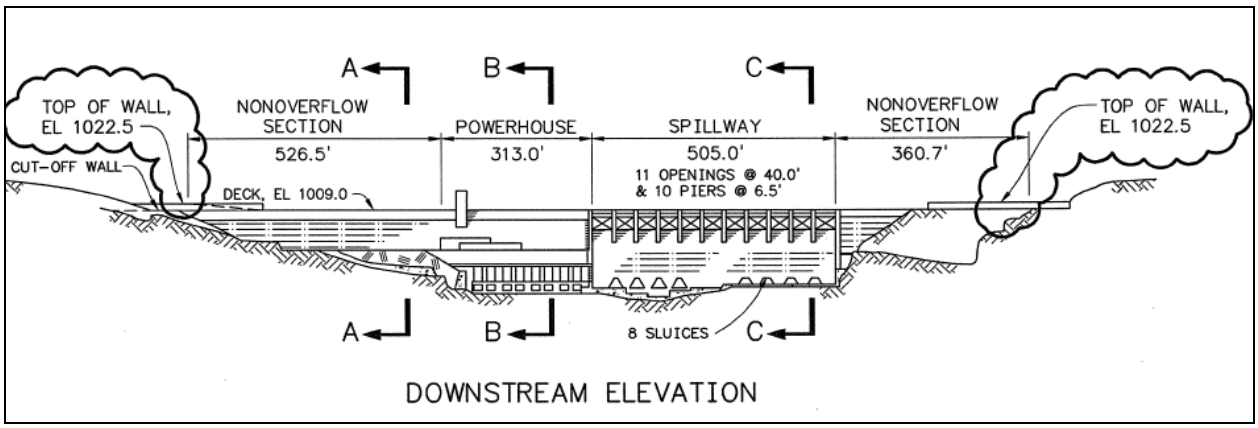
Site Plans



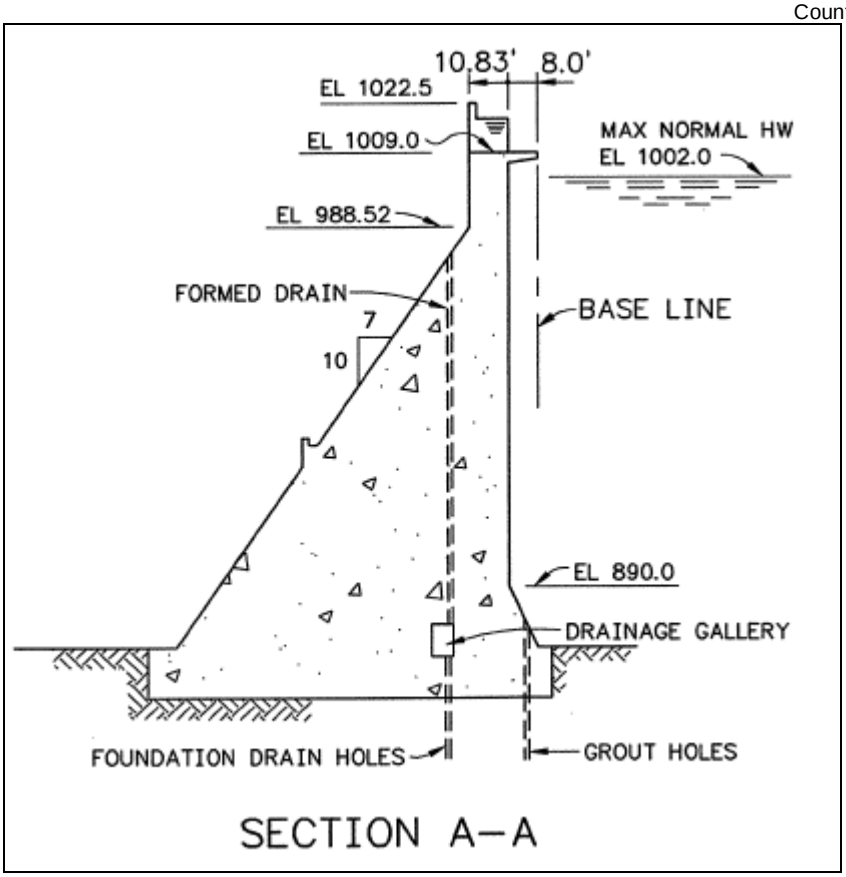
TVA General Site Plan of Kentucky Dam.

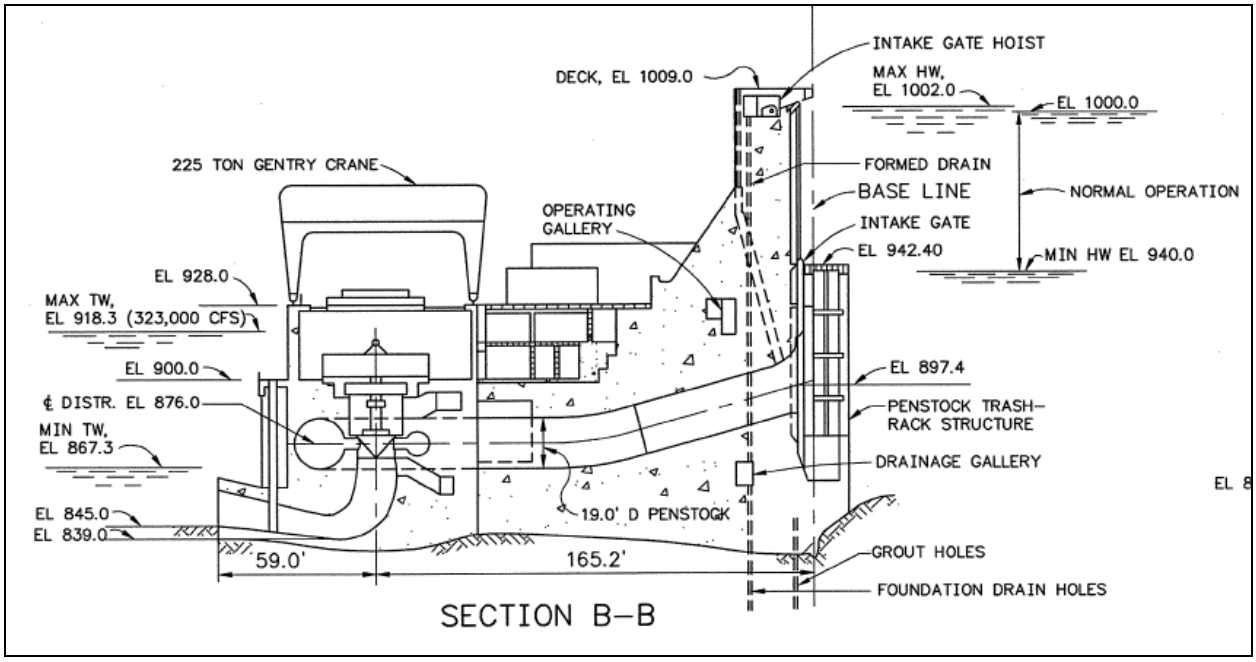


Plan for Kentucky Hydroelectric Project



Plan viewed from downstream, see sections A, B, C below.


10.83'
8.0'
EL 1022.5
EL 1009.0
MAX NORMAL HW
EL 1002.0
EL 988.52
FORMED DRAIN
7
10
BASE LINE
EL 890.0
DRAINAGE GALLERY
FOUNDATION DRAIN HOLES
GROUT HOLES
SECTION A–A


INTAKE GATE HOIST
DECK, EL 1009.0
MAX HW,
EL 1002.0
EL 1000.0
225 TON GENTRY CRANE
FORMED DRAIN
BASE LINE
NORMAL OPERATION
OPERATING
GALLERY
INTAKE GATE
EL 942.40
MIN HW EL 940.0
EL 928.0
MAX TW,
EL 918.3 (323,000 CFS)
EL 900.0
EL 897.4
℄ DISTR. EL 876.0
PENSTOCK TRASH-
RACK STRUCTURE
MIN TW,
EL 867.3
DRAINAGE GALLERY
EL 845.0
EL 839.0
19.0' D PENSTOCK
59.0'
165.2'
GROUT HOLES
FOUNDATION DRAIN HOLES
SECTION B–B

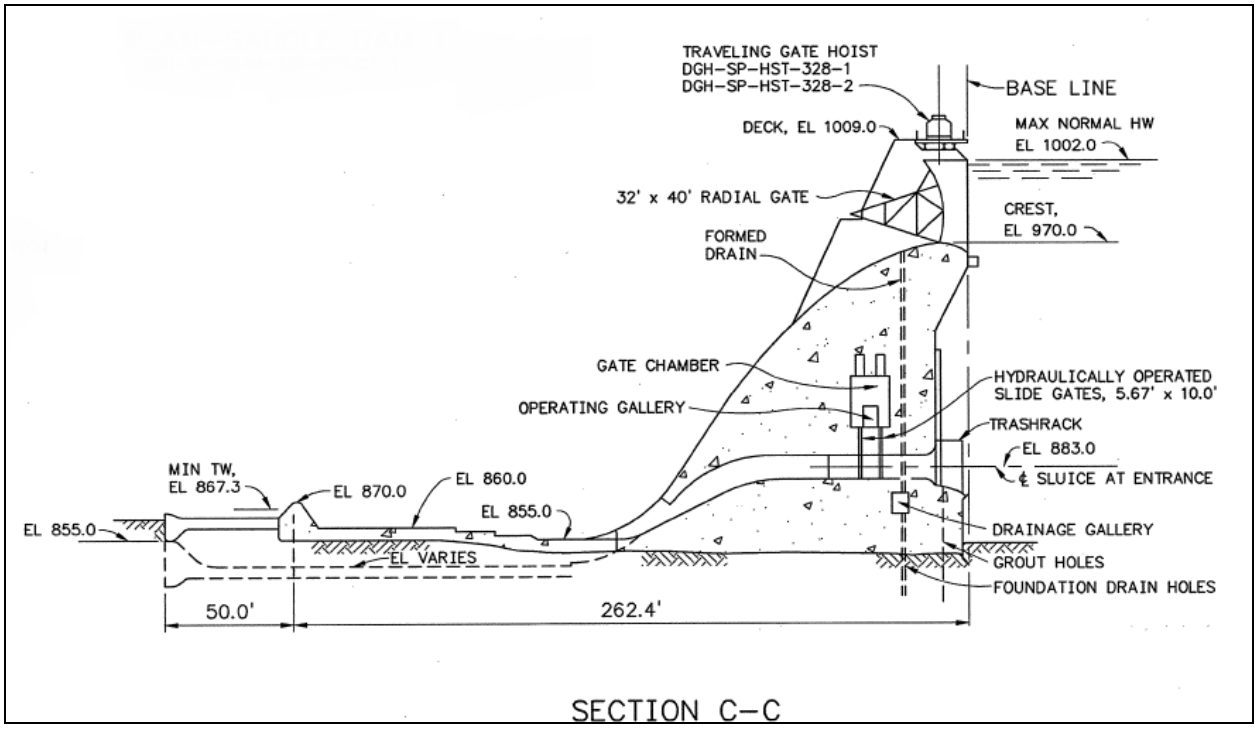
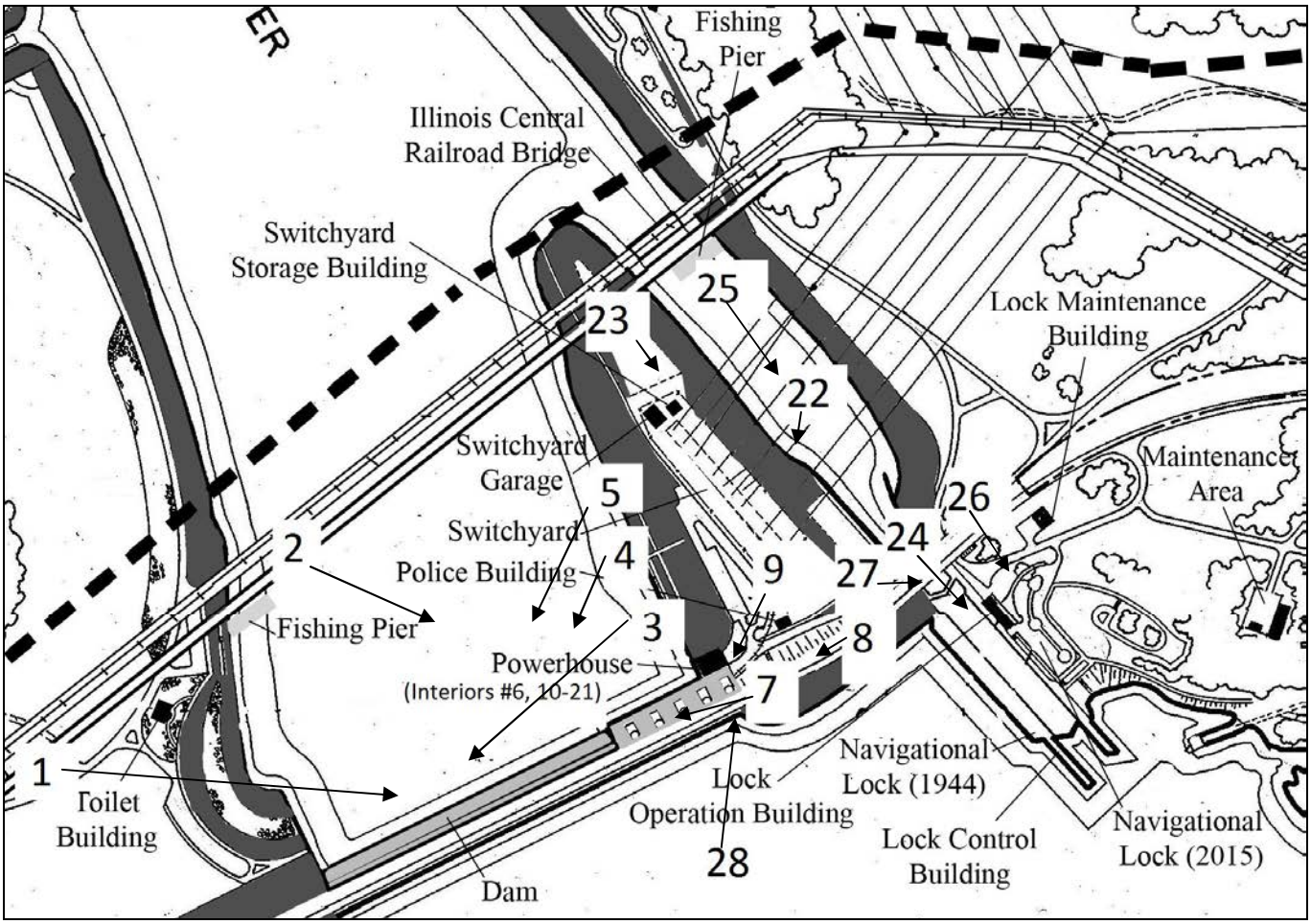

TRAVELING GATE HOIST
DGH-SP-HST-328-1
DGH-SP-HST-328-2
BASE LINE
DECK, EL 1009.0
MAX NORMAL HW
EL 1002.0
32' x 40' RADIAL GATE
CREST,
EL 970.0
FORMED
DRAIN
GATE CHAMBER
HYDRAULICALLY OPERATED
SLIDE GATES, 5.67' x 10.0'
OPERATING GALLERY
TRASHRACK
EL 883.0
℄ SLUICE AT ENTRANCE
MIN TW,
EL 867.3
EL 870.0
EL 860.0
EL 855.0
EL 855.0
DRAINAGE GALLERY
EL VARIES
GROUT HOLES
FOUNDATION DRAIN HOLES
50.0'
262.4'
SECTION C-C

Photo Log

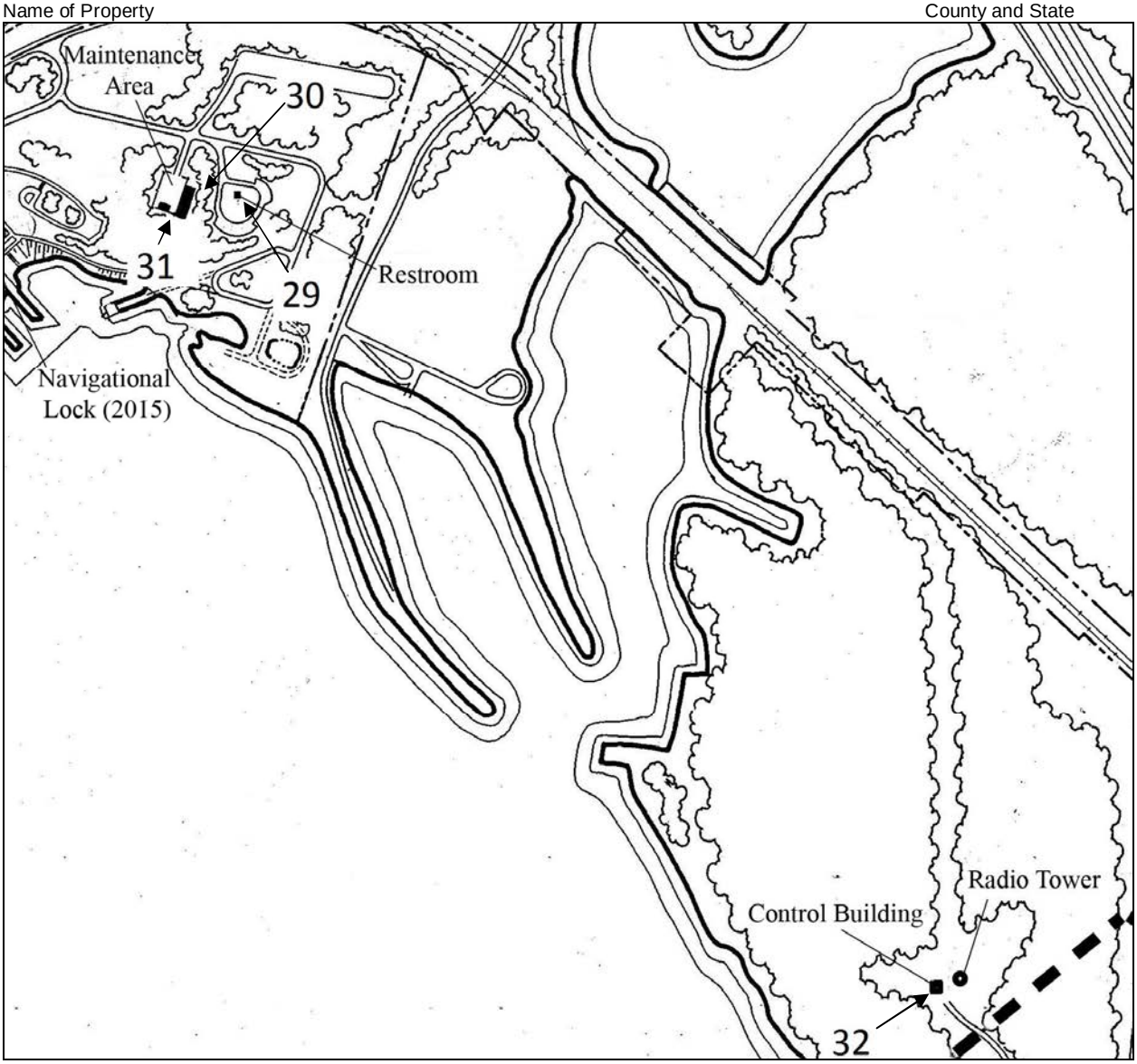
Name of Property: Kentucky Hydroelectric Project
City or Vicinity: Gilbertsville
County: Marshall and Livingston State: Kentucky
Photographer: Thomason and Associates
Date Photographed: June 11, 2015

Photo 1 of 32 General view of Kentucky Dam from 2009 bridge, view to southeast.
Photo 2 of 32 General view of Kentucky powerhouse from 2009 bridge, view to southeast.
Photo 3 of 32 Spillway view to west.
Photo 4 of 32 Spillway gate, view to south.
Photo 5 of 32 Spillway gantry cranes, view to southwest.
Photo 6 of 32 Powerhouse, switchgear corridor.
Photo 7 of 32 Overlooking the rooftop of the generators, view to southwest
Photo 8 of 32 Powerhouse, east entrance, view to west.
Photo 9 of 32 Powerhouse and gantry crane, view to southwest.
Photo 10 of 32 Powerhouse visitor lobby, water fountain.
Photo 11 of 32 Powerhouse visitor lobby, light fixture.
Photo 12 of 32 Powerhouse visitor lobby exhibit and ñBuilt for the Peopleò insignia.
Photo 13 of 32 Powerhouse fifth floor assembly room, view to west.
Photo 14 of 32 Powerhouse visitor lobby corridor staircase
Photo 15 of 32 Powerhouse basement floor, air tank room.
Photo 16 of 32 Powerhouse second floor, central fan room.
Photo 17 of 32 Powerhouse generator room tile floor & walls.
Photo 18 of 32 Powerhouse governor cabinet for generator Units 4 and 5.
Photo 19 of 32 Powerhouse third floor tunnel to switchyard.
Photo 20 of 32 Powerhouse generator room from visitor overlook, view to southwest.
Photo 21 of 32 Powerhouse typical interior corridor.
Photo 22 of 32 Transmission lines and switchyard from lock access road, view to northwest.
Photo 23 of 32 Switchyard storage building, view to southeast.
Photo 24 of 32 Lock interior, view to south.
Photo 25 of 32 North side of locks from 2009 bridge, view to south.
Photo 26 of 32 Construction of new lock, view to south.
Photo 27 of 32 Lock operation building, northwest elevation, view to southeast.
Photo 28 of 32 Police building, southwest elevation, view to northeast.
Photo 29 of 32 Standardized bath house design, southeast elevation, view to northwest.
Photo 30 of 32 Maintenance area, main building, northeast elevation, view to southwest.
Photo 31 of 32 Maintenance, gas and garage, view to northeast.
Photo 32 of 32 Radio tower control building, view to northeast.

Photo key maps for Kentucky (not to scale):



(photos 1-28 – interior photos of powerhouse #6, 10-21)


Maintenance Area
30
31
29
Restroom
Navigational Lock (2015)
Radio Tower
Control Building
32

(photos 29-32)

Kentucky Hydroelectric Project
Name of Property

Marshall and Livingston, KY
County and State

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

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.