

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 *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking an "X" in the appropriate box or by entering the information requested. If an 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. Place additional entries and narrative items on continuation sheets (NPS Form 10-900-a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name Allegheny River Lock and Dam No. 8
other names/site number N/A

2. Location

street & number R.D. #1 (along SR 1033, 1.5 mi S of Templeton) [N/A] not for publication
city or town Templeton [N/A] vicinity
state Pennsylvania code PA county Armstrong code 005 zip code 16259-0157

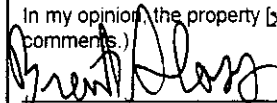
3. State/Federal Agency Certification

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 [] nationally [] statewide [] locally. ([] See continuation sheet for additional comments.)

Signature of certifying official/Title _____ Date _____

State or Federal agency and bureau _____

In my opinion, the property [x] meets [] does not meet the National Register criteria. ([] See continuation sheet for additional comments.)



Exec. Dir. 12/31/98
Signature of certifying official/Title _____ Date _____

PA Historical and Museum Commission
State or Federal agency and bureau _____

4. National Park Service Certification

I hereby certify that the property is

<input type="checkbox"/> entered in the National Register [] See continuation sheet	Signature of the Keeper _____	Date of Action _____
<input type="checkbox"/> determined eligible for the National Register [] See continuation sheet	_____	_____
<input type="checkbox"/> determined not eligible for the National Register	_____	_____
<input type="checkbox"/> removed from the National Register	_____	_____
<input type="checkbox"/> other, (explain) _____	_____	_____

Allegheny River Lock and Dam No. 8
Name of Property

Armstrong County, PA
County and State

5. Classification

Ownership of Property 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

Number of Resources within

(Do not include previously listed resources)

Contributing	Noncontributing	
<u>3</u>	<u>0</u>	buildings
<u>0</u>	<u>0</u>	sites
<u>3</u>	<u>1</u>	structures
<u>0</u>	<u>0</u>	objects
<u>3</u>	<u>1</u>	Total

Name of related multiple property listing

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

Number of contributing resources

previously listed in the National Register

Allegheny River Navigation System, 1739-1948

0

6. Function or Use

Historic Functions

(Enter categories from instructions)

Transportation: water-related: lock and dam

Current Functions

(Enter categories from instructions)

Transportation: water-related: lock and dam

7. Description

Architectural Classification

(Enter categories from instructions)

Late 19th and early 20th century revival

Materials

(Enter categories from instructions)

foundation concrete

walls reinforced concrete

roof rubber membrane

other _____

Narrative Description

(Describe the historic and current condition of the property on one or more continuation sheets)

PLEASE SEE CONTINUATION SHEET: 7 - 1 ON DOCUMENT PAGE 5

Allegheny River Lock and Dam No. 8
Name of Property

Armstrong County, PA
County and State

8. Statement of Significance

Applicable National Register Criteria

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

- 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.

Areas of Significance

(Enter categories from instructions)

Transportation

Maritime History

Architecture

Engineering

Period of Significance

1903-1948

Criteria Considerations

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

Property is:

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

Significant Dates

1929-1931 (construction), 1937 (addition to dam)

Significant Person

(Complete if Criterion B is marked above)

N/A

Cultural Affiliation

N/A

Architect/Builder

U.G.I Contracting Company

Narrative Statement of Significance

PLEASE SEE CONTINUATION SHEET: 8-1

(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

Bibliography

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

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 NR
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # _____

Primary location of additional data:

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository:

U.S. Army Corps of Engineers, Pittsburgh District

Allegheny River Lock and Dam No. 8
Name of Property

Armstrong County, PA
County and State

10. Geographical Data

Acreeage of Property approximately 35.8 acres

UTM References

(Place additional UTM references on a continuation sheet.) Templeton, PA

1	1	7	6	2	7	8	5	5	4	5	2	8	2	2	3	3	1	7	6	2	8	2	4	6	4	5	2	8	1	8	5
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2	1	7	6	2	8	0	4	5	4	5	2	8	3	8	2	4	1	7	6	2	7	9	7	0	4	5	2	7	9	6	2

[] See continuation sheet

Verbal Boundary Description

(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification

(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Douglas Dinsmore, Ph.D., Principal Investigator

organization Heberling Associates, Inc.

street & number 415 Church Street

city or town Huntingdon

state PA

date October 28, 1997

telephone (814) 643-1795

zip code 16652

Additional Documentation

Submit the following items with the completed form.

Continuation Sheets

Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.

A **Sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs

Representative **black and white photographs** of the property.

Additional items

(Check with the SHPO or FPO for any additional items)

Property Owner

(Complete this item at the request of SHPO or FPO.)

name _____

street & number _____

city or town _____

state _____

telephone _____

zip code _____

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. 470 *et seq.*).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 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 the form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Projects (1024-0018), Washington, DC 20503.

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Allegheny River Lock and Dam No. 8

Allegheny River Lock and Dam No. 8 property includes six contributing resources. Lock and Dam No. 8 consists of four structures, three of which contribute: the lock, dam, and esplanade; a modern hydro-electric power plant does not contribute. Three buildings, the Operations Building and two locktenders' houses, contribute to the property.

A navigation facility, the U.S. Army Corps of Engineers constructed Lock and Dam No. 8 in 1929-1931 in the Allegheny River 52.6 miles upstream for its mouth. Built on the south side of the river, Lock and Dam No. 8 permitted slackwater navigation to the no-longer extant Harbison-Walker refractory brick plant at Templeton. Although set in a rural area of natural beauty, evidence of the manufacturing and extractive industries remains visible in areas mined for coal, sand, and clay from the lock.

Lock

Land and river walls, sills, miter gates, and valve and gate machinery comprise the locks. The land and river walls are reinforced concrete set on bedrock. The upper and lower guard walls are concrete set on stone-filled timber cribs.

The lock, 56 by 360 feet, has a lift of 17.8 feet, from 782.4 to 800.2 feet. The sidewalls are steel-armored concrete, and mooring pins for securing watercraft are set along the walls. Large hydraulic pistons, connected to a rack, move a large gear attached to jointed arms to operate the gates. Similar large hydraulic pistons connected to jointed arms operate the valves. The operating levers are duplicated on both the land and river walls. Gate pockets and machinery pits on the river side of the river walls indicate the potential to add a second lock, if necessary.

Water enters and exits the lock through eight-by-ten foot culverts in both the land and river walls. The intakes for the culverts are upstream of the upper gates, and downstream of the lower ones. Openings in the lock walls fill and empty the lock from the culverts. Each culvert has two large horizontally-mounted butterfly valves to regulate the flow of water.

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Allegheny River Lock and Dam No. 8

The horizontally-framed steel miter gates close against a concrete miter sill. Anode plates diminish the effects of rust, and bubblers in the corners prevent the accumulation of debris and ice in the gate pockets.

Dam

Originally designed to be a moveable-gate dam, pockets remain for the piers of the overhead structure for the proposed gates. Three feet were added to the crest in 1937, making the dam a fixed crest one. The lock walls rest on bedrock, and the 933-foot-long, nearly 50-foot-high dam is keyed to bedrock. Sloped at approximately 1:1, the dam has a short apron. A hydroelectric plant was added to the opposite end of the dam in 1990. Because the crest of the dam is the same height across its length, water runs over its entire length. There is no spillway. As a result, the dam itself is nearly invisible when viewed from upstream. Buoys and signs reduce danger to river traffic.

Esplanade

The esplanade consists of concrete-paved fill between the former river bank and the lock's land wall. The esplanade is paved with large square of concrete, permitting replacement of sections and weather-related expansion. The esplanade contains the three penstocks for the turbines that power the hydraulic system that operates the valves and gates. The esplanade settled shortly after construction, and was subsequently refilled and repaved in 1932.

Operations Building

The two-story flat rubber membrane roofed operations building (powerhouse) is approximately 25 by 65 feet. In a vernacular version of an early twentieth century revival style, the structure was altered circa 1990. Originally, a complex cornice decorated the fascia and faux quoins graced the corners. The window and door apertures are set in full-height panels; the doors used for equipment repair set in a slightly projecting panel. A beam for hoisting equipment to the second floor projects from just underneath the cornice. The original windows have been replaced. The powerhouse was targeted circa 1990.

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Allegheny River Lock and Dam No. 8

The plain interior exemplifies the utilitarian nature of the powerhouse. Two large three-cylinder hydraulic pumps are each powered by a 26-inch vertically-mounted water turbine. The turbines additionally provide power to a single-cylinder, horizontally-mounted water pump, used for cleaning. The turbines also operated a water-cooled vertical duplex air compressor. Lock 8 retains its oil pressure relief valve, also called an automatic bypass. The third turbine, which operated the electric generator, has been removed, as have the capstans. Electric power is provided by the local power company. A modern diesel-powered generator provides back-up electricity. A two-cylinder back-up hydraulic pump, originally steam-powered, now operates on compressed air, generated from a modern, electric-powered air compressor. An overhead crane provides lift for the large mechanical components. The stair treads are open-grate metal with metal railings. Both machinery and walls have been painted a light blue-gray. An office is on the second story, with the air compressor and back-up diesel generator.

In the basement of the powerhouse, air storage tanks remain. The site of the coal bin, used to hold fuel for the steam boiler that originally heated the structure and provided backup power, has been converted to a storage area. Natural gas now heats the powerhouse, and the modern air compressor powers the backup hydraulic pump. Passageways lead to the tunnel in the land wall, and to the turbine wells.

Locktenders' Houses

Two locktenders' houses remain extant, approximately 0.6 miles from the site of Lock 8. Identical, both houses are two-story side-gabled structures resting on concrete foundations. No longer owned by the Corps, they have been described in a separate report, presently in draft form, *Thematic Study of Civil Works Residences* (Hardlines, Columbus OH, 1998).

Noncontributing Structure

One noncontributing structure exists at the site of Lock and Dam No. 8. In 1990, a low-head hydroelectric plant was added to the east side of the dam. The dam's east abutment was removed, and the plant constructed. The plant remains in operation.

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Allegheny River Lock and Dam No. 8

Landscape Features

Minimal landscape features exist at Lock 8. Derrick stone remains visible around the land face of the guide wall.

Alterations

Repairs have occurred to keep Lock and Dam No. 8 functional. Gates and valves have been repaired or replaced twice. The concrete walls and esplanade have been repaired four times. In 1960, the penstocks were repaired along with the esplanade. The heating system was switched from coal to its present gas circa 1965. Other more minor repairs have occurred on an annual basis.

Changes have also occurred to improve safety, efficiency, and security. Guard fences were added in 1935. A high water walkway, connecting the second story to the river bank, was installed in 1963.

The dam's original northern abutment received considerable damage in the 1936 St. Patrick's Day flood. Emergency repairs were performed in 1936, followed by additional repairs in 1937 and 1943. However, this abutment was removed for the installation of the hydroelectric power plant.

The design and operation of Lock 8 remain much as it was constructed in 1929-1931. Some minor changes have occurred, including remodeling of the office inside the powerhouse, and pargeting of the exterior, which obscured some original stylistic details. The continuity of the original design, layout, and construction remains.

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Allegheny River Lock and Dam No. 8

Statement of Significance

Allegheny River Lock and Dam No. 8 is significant under National Register Criteria A and C as examples of property types *lock, dam, esplanade, operations buildings, and locktenders' houses* within the Allegheny River Navigation System Multiple Property Listing. Constructed in 1929-1931, Lock 8 became part of an integral slackwater system built to permit commercial barges and towboat access to 72 miles of the Allegheny River.

Proposed in 1898, construction on Lock 8 did not begin until 1929. Although the 1898 proposal of Major Charles F. Powell received support, and Congressional appropriations were delayed by efforts to raise low bridges in Pittsburgh, by work on Locks and Dams Nos. 4 - 7, and by post-World War I recessions. However, appropriations in 1929 permitted contracts to be let later that year. By 1931, most of the facility was completed, and it opened on May 21, 1931. Additional construction continued through 1933.

The contractor for Lock and Dam No. 8 was U.G.I. Contracting Company. The designs used were standard designs, modified to fit the particular environmental setting. The similarity of locks and dams of this period on the Allegheny, Monongahela, Ohio, and Kanawha Rivers indicates a common design. When the Corps officials decided to convert the dam to a fixed crest pending the construction of Lock and Dam No. 9, York Engineering and Construction Company, who built No. 9, also added three feet to Dam 8.

Since construction, alterations have occurred. The heating system was switched from coal to its present gas circa 1965. The electric air compressor was installed circa 1975. The exterior of the operations building was targeted circa 1990.

Lock and Dam No. 8 is significant under Criterion A, for its contribution to the long-term maritime history of the Allegheny River. The lock and dam are critical to the continuing river transportation, as outlined in the MPDF *Allegheny River Navigation System, 1739-1948*. An integral part of the Allegheny River Navigation System, Lock and Dam No. 8 permitted access to the Harbison-Walker refractory brick operations at Templeton, one of the largest brick plants in North America.

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Allegheny River Lock and Dam No. 8

Allegheny River Lock and Dam No. 8 is also significant under Criterion C, as a representative example of lock and dam construction of the period 1929-1931. The lock and dam retains its original appearance, machinery, and function. Lock and Dam No. 8 retains a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association.

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Allegheny River Lock and Dam No. 8

Major Bibliographic References

National Register Multiple Property Documentation Form, *Allegheny River Navigation System, 1739-1948*

Survey conducted in June, 1997

Active Files of the U.S. Army Corps of Engineers, Pittsburgh District offices

National Archives, Philadelphia (letter-sized) E1323C and E1288, and
College Park (oversized) Record Group 77

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Allegheny River Lock and Dam No. 8

Verbal Boundary Description

Beginning at a point at the northern edge of pavement of S.R. 1033, near the downstream end of the guide wall, the boundary runs to the northwest across the river for approximately 1,110 feet. It then turns to the northeast, running for approximately 1,335 feet, along the southern edge of ballast of the Pittsburgh and Shawmut Railroad tracks. The boundary then turns to the southwest, back across the river, running for approximately 1,450 feet, to the northern edge of pavement of S.R. 1033. From there the boundary follows the edge of pavement to the west-southwest for approximately 1,260 feet, back to the point of origin.

Boundary Justification

The historic property boundary for Lock and Dam No. 8 was drawn to include the primary extant historic components of the lock and dam complex. Although the hydroelectric plant is a modern modification to the dam, it is a noncontributing element of the property.

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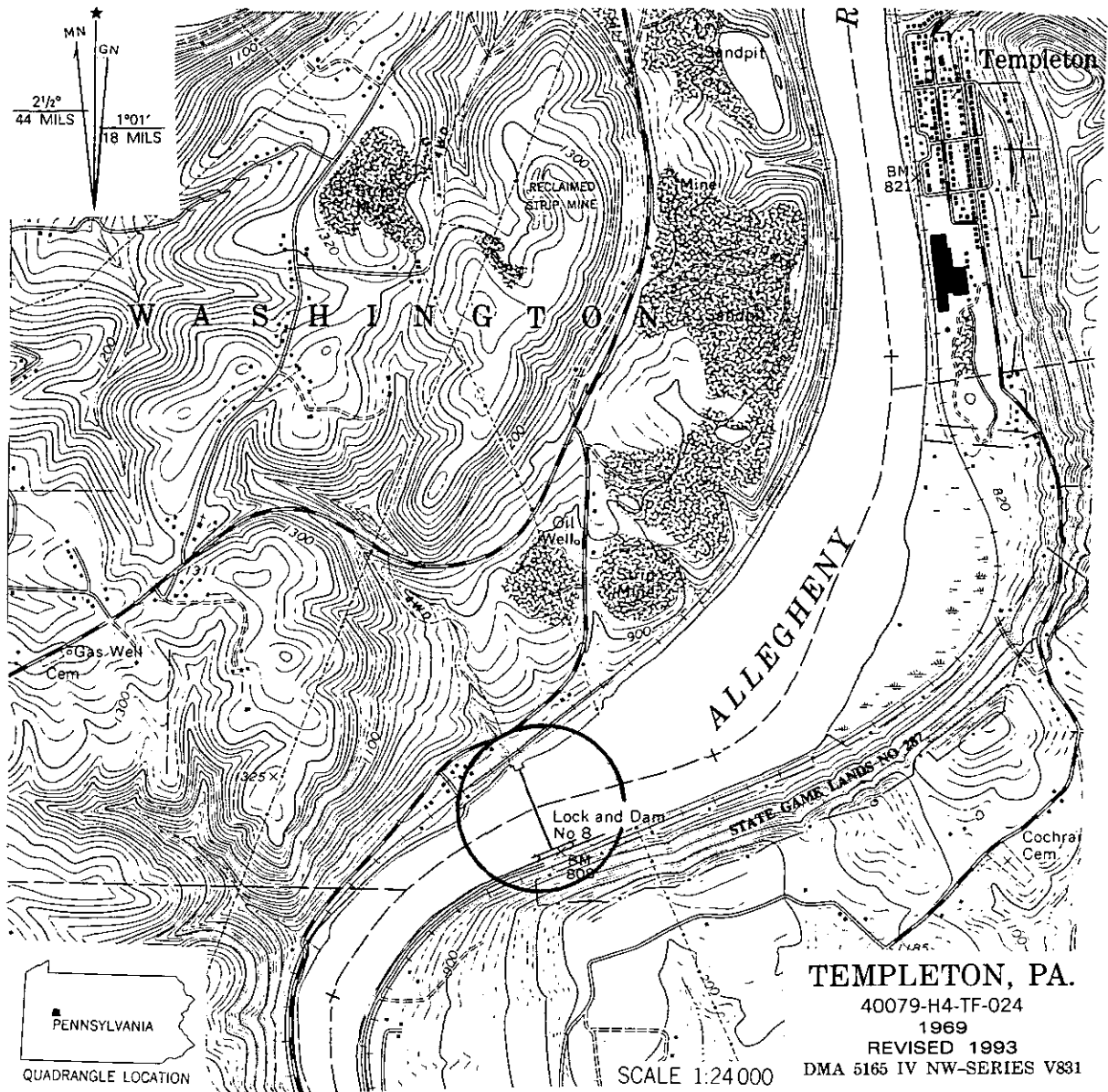
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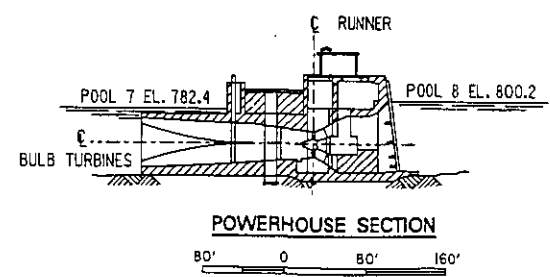
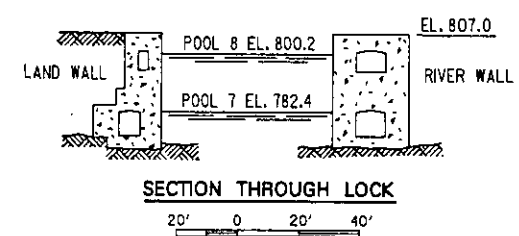
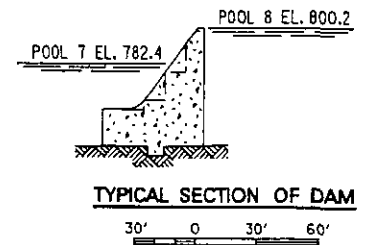
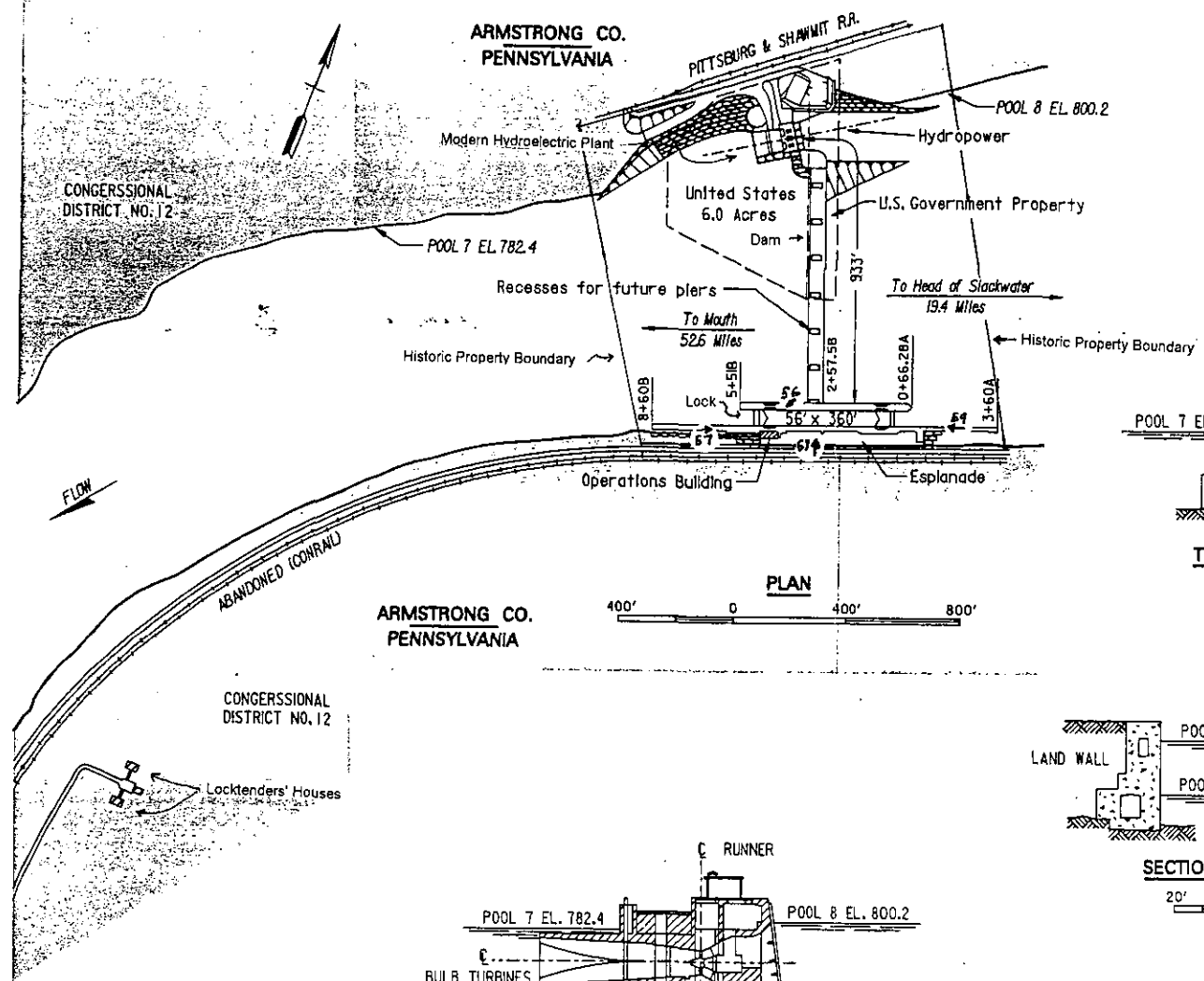
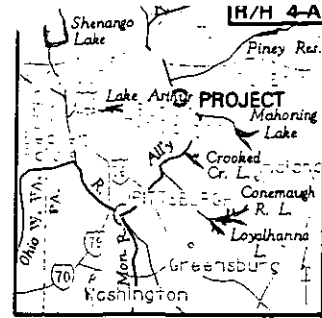
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Allegheny River Lock and Dam No. 8

USGS MAP OF LOCK AND DAM NO. 8





**ALLEGHENY RIVER
LOCKS & DAM 8
PLAN AND SECTIONS**

PITTSBURGH DISTRICT, PITTSBURGH, PA
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