NEW YORK STATE BARGE CANAL, LOCK E23
(Erie Canal, Lock E23)
9651 Lock Road
Clay
Onondaga County
New York

HAER NY-427
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WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240-0001

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HAER No. NY-427

Location: 9651 Lock Road, Clay, Onondaga County, New York

Lock E23 is located at latitude: 43.2387052, longitude: -76.1962641. The point represents the lockhouse and was obtained in 2009. There is no restriction on its release to the public.

Significance: Lock E23, located on the Erie Canal, is a component of the nationally significant New York State Barge Canal.

Description: Lock E23 is located 3 miles west of Oneida Lake and 29 miles west of Lock E22 on an artificial cut.[1] It is the last of three locks (including E21 and E22) that lowers westbound boats on the Erie Canal. Lock E23 is accessed by an asphalt road extending from the end of Lock Road to a gravel parking area. A park is located nearby with picnic benches, a modern comfort station, and information kiosk. The lock site consists of the lock and associated structures, powerhouse, lockhouse, storage and utility sheds, and guard gate. Lock E23 has the distinction of being the "busiest lock on the system" due to its proximity to Oneida Lake and Sylvan Beach.[2]

Lock E23 has a 6.9' lift to the east (one of only three on the system) with normal pool elevations of 369.9' at Oneida Lake level and 363' below. The concrete lock chamber walls have been clad in mild-steel plates. There are double-leaf, steel miter lock gates at each end of the chamber operated by spars and gear trains powered by DC electro-mechanical gate machinery. The flow of water through the culverts in the chamber walls is controlled by valves also operated by DC electro-mechanical machinery. Control stand shelters are located at the upstream and downstream corners of the south side of the chamber. The shelters are single-story frame buildings clad in horizontal fiber-cement board siding. They have pyramidal asphalt roofs with vinyl sliding windows, and each has a modern, single-panel door. Concrete-filled cast-iron bollards on concrete pads line either side of the channel, while chain-link fencing is located along the public access side of the lock. Historic light fixtures illuminate the lock, which is in good condition. A utility bridge spans the center of the chamber and appears to be in overall good condition.

At the upstream end of the lock chamber, just outside the lock gates, is a vertically-sliding guard gate to control the level of Oneida Lake. The riveted-steel superstructure sits on a concrete foundation, while the gate is frame with panels on the upstream side. The reinforced-concrete and steel counterweights are on chains for hoisting the gate. The guard gate is in good condition.

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[1] Description of current conditions is based on a site visit by the HAER recording team in summer 2009.
[2] Michele McFee, *A Long Haul: The Story of the New York State Barge Canal* (Fleischmanns, NY: Purple Mountain Press, 1998), 101.

The powerhouse is a single-story, concrete structure on a concrete foundation that sits on the north side of the lock chamber below the downstream gates. The hipped roof is covered with asphalt shingles that are in poor condition. There are nine-over-nine-light single-hung windows on the first floor and three-light windows in the eaves. The entrance is double doors with a four-light transom. Due to the low head at this site, speed-increasing bevel gears were required between the turbines and horizontal-shaft generators. The original machinery and crane are intact and still in use, making this "possibly the best preserved of the few surviving canal hydroelectric stations."[3]

The lockhouse is centered on the south side of the chamber and dates to 1957. The single-story concrete building sits on a concrete foundation. The gable roof is covered with asphalt shingles and has a concrete chimney. The gable ends have been clad with shiplap siding. The walls are pierced by one-over-one-light wood windows with aluminum storm windows. A two-light wood window is located in the gable end. The entrances are wood pane-and-panel doors. The lockhouse is in good condition.[4]

There are a number of sheds located at Lock E23. One storage shed is at the access road to the site, adjacent to the parking area. This is a single-story, frame building on a poured concrete foundation. The gable roof has asphalt shingles in poor condition. The building is clad in shiplap siding, and there is a paneled wood door and six-over-six-light wood windows. It is in good condition. South of the lock and parking area is a small, modern shed. The single-story metal building sits on a concrete foundation. It is in good condition but is non-contributing. Also in this area is a small utility shed. This single-story frame building is on a concrete foundation. The shed is clad in shiplap siding and has an asphalt-shingled gable-front roof. This is also in good condition but is non-contributing.

The guide walls are in various conditions. The northeast one is a wood dock with metal cleats and modern metal ladders. It is in good condition. The northwest guide wall is concrete, except for a section near the powerhouse that has been lined with mild-steel plates. The foundation of the powerhouse, located near the lock gate, has severe spalling and breakage. Concrete-filled cast-iron bollards and a modern guide light are located at this wall, which is in fair condition. The southeast guide wall, like the northeast one, has wood docks with metal cleats and ladders. Reproduction light fixtures line the docks. It is in good condition. Finally, the concrete of the southwest guide wall is severely spalling and breaking. Concrete-filled cast-iron bollards are located a short distance from the edge of the canal. Modern light fixtures and utility hook-ups line this wall, which is in fair to poor condition.

History: Lock E23 was built as part of Contract 12, awarded to Stewart-Kerbaugh-Shanley Company on September 23, 1907. Construction on the contract started in April 1908 under the

[3] McFee, 105.
[4] State of New York, Department of Public Works, *Annual Report, 1957* (Albany: s.n., 1958), 82.

supervision of State Engineer N.R. McLoud. The contract was assigned to James Stewart & Company on August 25, 1910, and had been completed in August 1915.[5]

The power plant was built as part of Contract 93, along with those at locks E20, E21, E22, E25, New London Junction Lock, O3, O5, and O6. MacArthur Brothers Co. & Lord Electric Co. won the contract on August 12, 1913, for "erecting power-plants, electrical equipment and machinery for operating and lighting [select] locks." H.A.J. Castor was the State Assistant Engineer in charge. By the end of 1914, the powerhouse was nearly complete, with the gate and valve operating machinery installed. The tile roof, floor, painting, and woodwork remained to be completed.[6]

Later additions and alterations were made at the site. The guard gate was installed at the site in 1935. The 1934 *Annual Report* states that one leaf of the Port Gibson Guard Gate was installed at this lock and the other at Lock E24. In 1941, the Department of Public Works began installing what is referred to as "wrought iron plates" on the chamber walls and pouring new concrete on the top of the walls. This work continued through the following year. In 1949, towers were erected and an overhead buffer beam was put up at the lower end of the lock. One of the turbines was also overhauled. Contract US93 in 1956 involved work on the sills and gates at the lock. This may have been related to a Department of Public Works initiative from 1949 in which approximately thirty-two lock sills were planned for lowering to provide a minimum 13' depth, which consequently required altering the lock gates to fit. The guard gate was painted in 1990 as part of Contract D253455.[7]

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[5] *Annual Report of the State Engineer and Surveyor for the Fiscal Year ended in September 30, 1908, Vol. 1* (Albany: J.B. Lyon Company, 1909), 219-220; *Annual Report of the State Engineer and Surveyor for the Fiscal Year ended in September 30, 1915, Vol. 1* (Albany: J.B. Lyon Company, 1916), 196.

[6] *Annual Report of the State Engineer and Surveyor for the Fiscal Year ended in September 30, 1913, Vol. 1* (Albany: J.B. Lyon Company, 1914), 225; *Annual Report of the State Engineer and Surveyor for the Fiscal Year ended in September 30, 1914, Vol. 1* (Albany: J.B. Lyon Company, 1915), 240.

[7] State of New York, Department of Public Works, *Annual Report of the Superintendent for the Year 1934* (Albany: J.B. Lyon Company, Printers, 1935), 6; State of New York, Department of Public Works, *Annual Report of the Superintendent for the Year 1935* (Albany: J.B. Lyon Company, Printers, 1936), 19; State of New York, Department of Public Works, *Annual Report of the Superintendent for the Year 1941* (New York: Publishers Printing Company, 1942), 24-25; State of New York, Department of Public Works, *Annual Report of the Superintendent for the Year 1942* (Albany: Williams Press, Inc., 1943), 28; State of New York, Department of Public Works, *Annual Report of the Superintendent for the Year 1949* (Albany: s.n., 1950), 93, 125; and Maintenance Contracts 1990.

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Historians: Laura S. Black and Jami Babb, summer 2009

Project Information: The Historic American Engineering Record (HAER) is a long-range program that documents and interprets historically significant engineering sites and structures throughout the United States. HAER is part of Heritage Documentation Programs (Richard O'Connor, Manager), a division of the National Park Service, United States Department of the Interior. The New York State Barge Canal Survey was undertaken in summer 2009 in cooperation with the Erie Canalway National Heritage Corridor (ERIE), Beth Sciumeca, Executive Director. Justine Christianson, HAER Historian, and Duncan Hay, ERIE, served as project leaders. The staff of the New York State Canal Corporation provided access to the sites. Craig Williams of the New York State Museum provided research materials and assistance. The HAER field team consisted of Jami Babb and Laura Black.

Appendix: Images of Current Conditions

Image 1: Lock overview with lockhouse at left and utility bridge spanning chamber. Field photograph taken by HAER recording team, summer 2009.

Image 2: Guard gate at east end of lock chamber. Field photograph taken by HAER recording team, summer 2009.

Image 3: Powerhouse. Field photograph taken by HAER recording team, summer 2009.

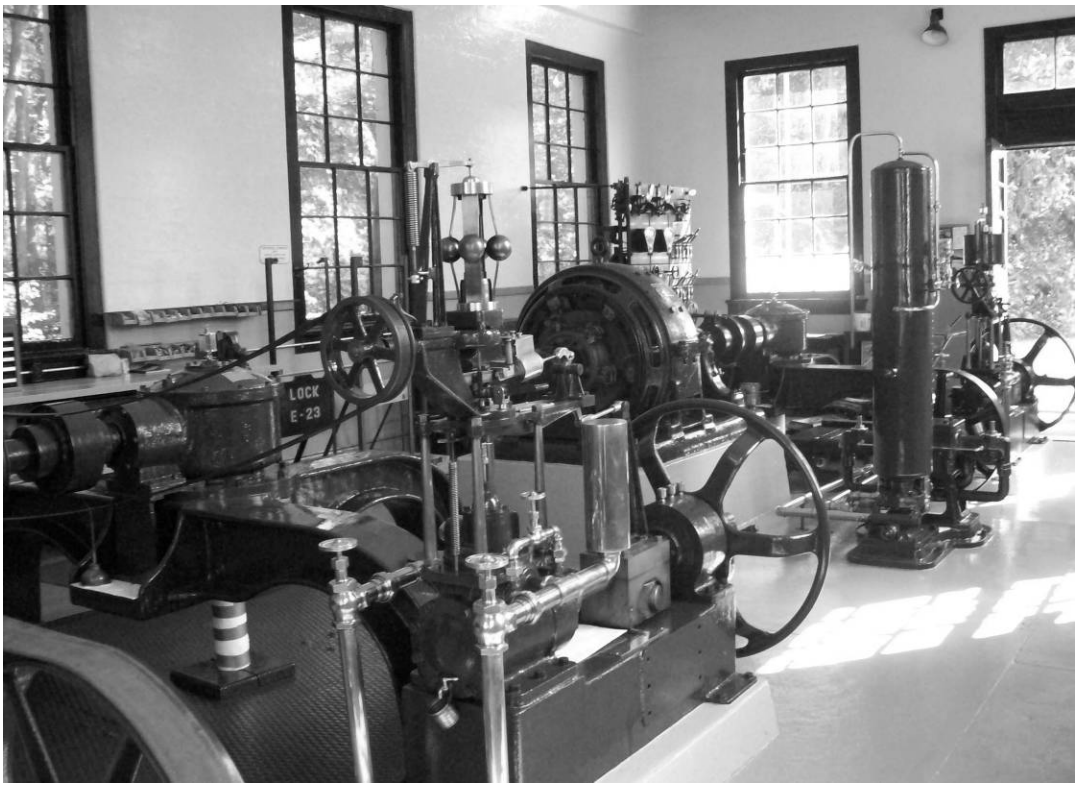

Image 4: Powerhouse interior. Field photograph taken by HAER recording team, summer 2009.

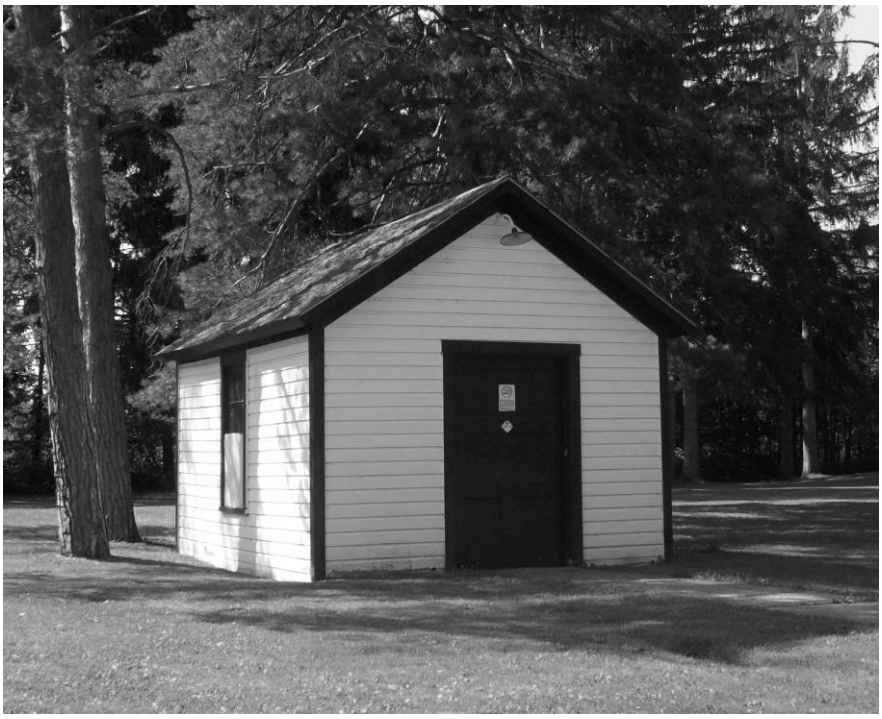

Image 5: Storage shed. Field photograph taken by HAER recording team, summer 2009.