

NEW YORK STATE BARGE CANAL, LOCK O2
(Oswego Canal, Lock O2)
East Broadway at South First
Fulton
Oswego County
New York

HAER NY-530
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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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Location: East Broadway at South First, Fulton, Oswego County, New York

Lock O2 is located at latitude 43.316217882, longitude -76.414432764. The point represents the upstream lock gates and was obtained in summer 2009. There is no restriction on its release to the public.

Significance: Lock O2, located on the Oswego Canal, is a component of the nationally significant New York State Barge Canal. The original gate and valve operating machinery is intact but differs from the DC electro-mechanical gate and valve operating machinery installed elsewhere on the system, probably because it was installed under a different contract.

Description: Lock O2 is located about 10 miles north of Lock O1.¹ The site consists of the lock chamber and its associated structures, a lockhouse, various auxiliary structures, a fixed and movable crest dam, and swing and truss bridges. A riveted-steel swing bridge with an open-grated deck spans the channel to provide access to the operator's parking area and the Oswego Falls Dam. The counterweighted span pivots on a bearing on the east side of the lock chamber. The bridge's plaque reads: "1919 Built by Fort Pitt Bridge Works Pittsburgh, PA."

Located on the downstream end of the lock on the riverside chamber wall, the lockhouse is a single-story concrete block structure with a concrete chimney that sits on a concrete foundation. The gable-front roof is covered with asphalt shingles with metal panels at the edges. The gable ends have horizontal board infill. Two-over-two-light wood windows punctuate the gable ends while the rest of the building has one-over-one-light aluminum windows. The entrance is a wood pane-and-panel door. The lockhouse is in good condition.

There are two modern storage sheds at the site. The large one is a frame structure with vertical board paneling and an asphalt shingle-covered, gable-front roof. Entrance is through a wood door. The small shed is a standard frame structure with seam metal walls and asphalt-shingled gable roof. A wood door provides access to the shed's interior. Both non-contributing sheds appear to be in good condition.

The lock has a 17.8' lift with normal pool elevations 335' below and 352.8' above. The chamber walls are scored concrete with cast-iron quarter-round coping, and there are vertical cut-outs with cables. There are double-leaf, steel miter lock gates at each end of the lock operated by spars and gear trains powered by original electric motors in cast-iron housings located in pits below the deck. The chamber is watered by culverts equipped with valves. While original, the gate operating machinery differs from that used elsewhere on the system, which may be due to its

¹ Description of current conditions is based on a site visit made by the HAER recording team in summer 2009.

early installation under a different contract. There are riveted-steel electrical cabinets at each corner of the lock chamber. The capstans are located on a raised concrete platform surrounded by steel railing and open-grates. Concrete-filled cast-iron bollards on concrete pads line either side of the chamber. Chain-link fencing and pipe railings surround the public access side of the lock chamber, and either historic or reproduction (fieldwork could not verify this) light fixtures illuminate the site. The lock appears to be in good condition.

Control stand shelters are located at the upstream and downstream ends on the river side of the lock chamber. Each is a single-story frame structure with horizontal wood siding and a pyramidal asphalt roof. The walls are punctuated by vinyl sliding windows and a single-paned door. The shelters are in good condition.

The guide walls are concrete and are in various conditions ranging from good to fair. The northeast guide wall, which is lined with concrete-filled cast-iron bollards, extends between locks O2 and O3. The portion of the wall on the other side of the Broadway Bridge exhibits severe spalling and breakage, while that closest to the lock gate is in good condition. The northwest guide wall appears to have new concrete near the lock gates, but elsewhere there are signs of spalling and breakage. Concrete-filled cast-iron bollards line this wall, along with reproduction lighting fixtures. The southeast guide wall has new concrete and is lined with concrete-filled cast-iron bollards. Finally, the southwest guide wall shows severe spalling and breakage in some areas, while the section near the lock gate appears to be of newer concrete. This wall separates the lock from the commercial hydro-electric plant. Concrete cribs extend from the wall; some are spalling and even tipping into the water. Each crib has concrete-filled cast-iron bollards.

Spanning the Oswego River is the fixed and movable crest Oswego Falls Dam. Built in a vaguely U-shaped plan, the fixed crest section parallels the river bank. The middle section consists of a 186' spillway and six Tainter gates between concrete piers operated by a cable system with concrete counterweights. The east fixed crest dam section is 282' long. The dam is in good condition.

History: The construction of Lock O2 was part of a 1906 contract (Contract No. 10) that covered 1.2 miles along the riverfront in the Fulton area and involved building two locks (excluding the gates and valves), six sets of head gates, and raising two existing dams across the Oswego River. The contract was originally awarded to Mosier & Summers of Buffalo, New York, in June 1906, but was re-assigned to McDermott Contracting Company of Philadelphia, Pennsylvania, in April 1909. In 1911, Contract 10 was re-let as Contracts 10A and 10B.²

Contract 10A, let on December 14, 1911, to T.A. Gillespie of New York City, covered the completion of the dams and Tainter gates. The contract “provided for completing the remaining construction on the southerly end of contact No. 10, which was canceled by resolution of the

² *Annual Report of the State Engineer and Surveyor of the State of New York for the Fiscal Year ended in September 30, 1909, Vol. 1* (Albany: J.B. Lyon Company, 1910), 139; *Annual Report of the State Engineer and Surveyor of the State of New York for the Fiscal Year ended in September 1912, Vol. 1* (Albany: J.B. Lyon Company, 1913), 177-78.

Canal Board, July 19, 1911.” The alterations to the contract included placing six Tainter gates in this dam, and work began on January 11, 1912. The contract had been completed by April 1914. Contract 10B was awarded to Oswego Construction Company on March 4, 1912, with Assistant Engineer Harry H. Brown in charge. At Lock O2, the work focused on completing the lower end of the lock and prism excavation and including building a docking wall between locks O2 and O3. The contract was completed in September 1914.³

Penn Bridge Company of Beaver Falls, Pennsylvania, under the supervision of State Assistant Engineer George C. Andrews, provided and installed the lock gates, valves, and needle beams. Work on the contract began in January 1911 and had been completed by the end of the year.⁴

The power plant was originally included in Contract 90 and awarded to D’Olier Engineering Company on April 6, 1910. Work progressed slowly through 1912, when it was re-let as Contract 90A and awarded to Lupfer & Remick of Buffalo, New York, with State Engineering Draftsman H.A.J. Castor in charge. The contract covered building a hydro-electric plant at Lock O2, minus the wheel pits, feed culvert, and tail culvert, which were included in contracts 10 and 10B, and an extra foundation for the powerhouse. Lupfer & Remick started work on August 19, 1912, and completed it in 1915. The powerhouse was removed at some point after 1945, as the *Annual Report* from that year noted it was being painted.⁵

Repairs and alterations were made to the lock and dam after completion. In 1943, the State of New York’s Department of Public Works embarked on a project replacing the corroded buffer beams at the end of each lock. Buffer beams, located in a recess in the lock approach wall, could be swung across the channel to support the needle dam used to dewater the lock during repair. The replacement plans called for using a vertical-lift type supported on towers. Locks O1 through O5 had the new buffer beams installed. The turbines at Lock O2 were also repaired that same year.⁶

The Department of Public Works also embarked upon a project in 1949 to lower thirty-two lock sills to provide a minimum 13' depth, which required altering the lock gates to fit. That work was probably encompassed in Contract US 97, awarded in 1958 to alter the sills and gates of the lock. In 1988, the dam underwent rehabilitation as part of Contract D500504.⁷

³ *Annual Report of the State Engineer and Surveyor of the State of New York for the Fiscal Year ended in September 30, 1911, Vol. 1* (Albany: J.B. Lyon Company, 1912), 177-78; *Annual Report, 1912*, 178-79; *Annual Report of the State Engineer and Surveyor of the State of New York for the Fiscal Year ended in September 30, 1914, Vol. 1* (Albany: J.B. Lyon Company, 1915), 207-09.

⁴ *Annual Report of the State Engineer and Surveyor of the State of New York for the Fiscal Year ended in September 30, 1910, Vol. 1* (Albany: J.B. Lyon Company, 1911), 145; *Annual Report, 1911*, 134.

⁵ *Annual Report, 1911*, 129; *Annual Report, 1912*, 184; *Annual Report of the State Engineer and Surveyor of the State of New York for the Fiscal Year ended in September 30, 1915, Vol. 1* (Albany: J.B. Lyon Company, 1916), 212; State of New York, Department of Public Works, *Annual Report of the Superintendent for the Year 1945* (Albany: Williams Press, Inc., 1946), 106.

⁶ State of New York, Department of Public Works, *Annual Report of the Superintendent for the Year 1943* (Albany: Williams Press, Inc., 1944), 47, 51.

⁷ State of New York, Department of Public Works, *Annual Report of the Superintendent for the Year 1949* (s.n., 1950), 93; Maintenance Contract, 1988.

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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 control stand shelter at left of chamber in the foreground and lockhouse at left in the background. Field photograph taken by HAER recording team, summer 2009.



Image 2: Overview of Oswego Falls Dam with Tainter gates at right. Field photograph taken by HAER recording team, summer 2009.