

NEW YORK STATE BARGE CANAL, LOCKS CS2 AND CS3  
(Cayuga-Seneca Canal, Locks CS2 and CS3)  
Seneca Street  
Seneca Falls  
Seneca County  
New York

HAER NY-522  
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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

## HISTORIC AMERICAN ENGINEERING RECORD

### NEW YORK STATE BARGE CANAL, LOCKS CS2 AND CS3 (Cayuga-Seneca Canal, Locks CS2 and CS3)

HAER No. NY-522

**Location:** Seneca Street, Seneca Falls, Cayuga County, New York

Locks CS2 and CS3 are located at latitude 42.9143000, longitude -76.7877034. The point was obtained in 2009 and represents the lockhouse. There is no restriction on its release to the public.

**Significance:** Locks CS2 and CS3, located on the Cayuga-Seneca Canal, are components of the nationally significant New York State Barge Canal. They are combined (or “tandem”) locks with no pool between them, which is unusual on the Barge Canal. The only other similar combined locks on the canal are Locks E34 and E35 (HAER No. NY-61).

**Description:** The locks are located at the east end of Van Cleef Lake and about 5 miles northeast of Lock CS4 on the Seneca River.<sup>1</sup> The locks are on the south bank of the channel, with Dam 2 stretching across the river to a privately-owned powerhouse. Locks CS2 and CS3 are accessible from a gravel road off Seneca Street. This access road is partially laid on a fixed crest dam near the lockhouse and ends at a gravel parking area. The site consists of the combined locks and associated structures, guard gate, lockhouse, transformer building, and storage sheds.

Locks CS2 and CS3 have a 49' lift to the west with normal pool elevations 381.5' below and 430.5' above. The concrete chamber walls of Lock CS2 have been faced with wrought-iron plates. The concrete of Lock CS3's chamber walls has been left exposed, although there is cast-iron quarter-round coping. There are double-leaf, steel miter lock gates at each end of the chambers with direct-acting hydraulic cylinders. The chambers are watered by culverts equipped with butterfly valves. A single control stand shelter is located between the locks on the south bank of the chamber. The shelter is two-sided with a Plexiglass partial wall on the east side. A pipe railing runs along the public access side of the lock, which is illuminated by modern light fixtures. A wood plank walkway on a steel frame runs along the southern edge of the chamber, and a floating dock is located at the southwest corner. The lock and its associated structures are in good condition.

A 45'-wide guard gate with a riveted steel truss superstructure is located at the upper end of Lock CS3. The vertical-lift gate operates by a cable pulley system and steel counterweights. The guard gate is in good to fair condition.

There is no longer a powerhouse at the site, although originally one was located where the sluice gates of Dam 2 are now. It is unknown when the powerhouse was removed and the transformer building was erected. The transformer building is located next to Lock CS3 and south of the

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<sup>1</sup> Description is based on a site visit made by the HAER recording team in summer 2009.

lockhouse. The single-story frame structure has a gable-front asphalt roof and is clad in shiplap siding. Entrance is through a steel door. The building is in good condition.

The lockhouse, located at the west end of Lock CS3, was probably built in the 1970s and is in good condition. Built of concrete blocks and sitting on a concrete foundation, the building has a gable-front roof covered with asphalt shingles. There is shiplap siding in the gable ends. The walls are pierced by one-over-one-light vinyl windows and wood pane-and-panel doors with steel mesh coverings and shed overhangs. The basement is accessed through a steel door.

Two modern storage sheds are located on the site. The southern storage shed is located behind the lockhouse along the access road. The single-story frame structure sits on a concrete slab foundation and is clad in vertical-board siding. The offset side-gable roof is covered with asphalt shingles and has a wood door. The eastern storage shed is similar in appearance and is located east of the lockhouse and next to Lock CS3. The storage sheds are in good condition but are non-contributing.

The concrete of the northeast guide wall is spalling with some vegetation growth, so it is in fair condition. The southeast guide wall is concrete and exhibits spalling and breaking in the section farthest away from the lock. The section of the guide wall closest to the lock has cast-iron coping along the edge and is in better condition. Concrete-filled cast-iron bollards are set back from the wall.

Dam 2 extends across the Seneca River and consists of (from south to north) four sluice gates, a concrete spillway, and a privately-owned hydroelectric plant. The four sluice gates are located adjacent to the lock chambers on the former powerhouse site. The sluice gates have steel floor stands. The approximately 50' spillway is equipped with Obermayer gates, made up of hinged steel panels with inflatable rubber bladders. The spillway's concrete apron exhibits spalling and breaking, so the dam is in overall fair condition.

A buoy house used to be located near Lock CS3 but has since been removed. The nearby boat launch consists of a deteriorated concrete pad.

**History:** Locks CS2 and CS3 were built as part of Contract C, which covered the construction of the locks and approach walls, as well as the dam (designated Dam 2). The locks replaced a series of five locks dating from the nineteenth-century alignment of the Cayuga-Seneca Canal, and contracts C-1 and C-2 covered the removal of existing buildings on the site. The contract was let on January 11, 1913, to Larkin and Sangster and was overseen by State Assistant Engineer H.C. Smith. The spillway below the original Lock 6 had to be moved downstream about 1,200' and a cofferdam built across the river below the site of the new locks. Once unwatering the site and excavation had been completed, concrete work could begin in July. The concrete work had been finished by fall 1913, and the locks and 60' of the south end of the dam had been completed by the following year.<sup>2</sup>

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<sup>2</sup> *Annual Report of the State Engineer and Surveyor of the State of New York for the Fiscal Year ended in September 30, 1913, Vol. 1* (Albany: J.B. Lyon Company, 1914), 244; *Annual Report of the State Engineer and Surveyor of the*

Contract G, awarded to Lupfer and Remick of Buffalo, New York, covered supplying and erecting the wood lock gates and valves, as well as the buffer beams for the locks, the needle beam and spillway at Dam 2, a guard gate on Lock CS3, and incidental work. Work started on March 9, 1915, and was completed in 1916.<sup>3</sup>

The powerhouse was built as part of Contract M, also awarded to Lupfer and Remick, and completed in 1916.<sup>4</sup>

The cutoff wall located below Lock CS3 was included in Contract P dating to 1917. The Foundation Company won the contract, with oversight provided by C.H. Swick, State Assistant Engineer. The wall, which was horseshoe-shaped in plan, measured 4' wide and 10' to 15' tall and was located under the upper end of Lock CS3. The 1918 *Annual Report* noted “the work was done under air pressure by sinking a shaft on the south side of the lock to the lowest level of the bottom of the tunnel, then a connecting tunnel was driven to a point midway under the near lock wall and from here the actual work on the cut-off wall was started, working two headings, one to the right and one to the left.” The contractor then filled the tunnel with concrete.<sup>5</sup>

Repairs and alterations were made to the locks and dam after their initial completion. A ten-year period of leaking at the dam caused necessary extensive repairs in 1927 after “this leak assumed alarming proportions.” The state decided to build a cut-off wall “approximately 65 feet in depth running southerly from the end of the dam wall back in to the bank” at a cost of about \$100,000 to permanently fix the problem. The dam was again rehabilitated in 1990 under Contract D252322.<sup>6</sup>

By the 1930s, the timber lock gates were showing signs of deterioration. In 1937, welded steel lock gates were built to replace those on Lock CS2. The gates weighed 35 tons each and measured 41'-7" tall. They were installed in 1938. The Syracuse shop manufactured another set for the middle gates between locks CS2 and CS3. These gates weighed 38 tons apiece and measured 42' tall. The State of New York, Department of Public Works, planned to replace the upper gates of Lock CS3 with steel gates that had originally been located at the New London junction lock and then altered at the Syracuse shop by reducing the height to 16'-7".<sup>7</sup>

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*State of New York for the Fiscal Year ended in September 30, 1914, Vol. 1* (Albany: J.B. Lyon Company, 1915), 233.

<sup>3</sup> *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), 224-225; *Annual Report of the State Engineer and Surveyor of the State of New York for the Fiscal Year ended in September 30, 1916, Vol. 1* (Albany: J.B. Lyon Company, 1917), 202.

<sup>4</sup> *Annual Report, 1915*, 228; *Annual Report, 1916*, 206.

<sup>5</sup> *Annual Report of the State Engineer and Surveyor of the State of New York for the Fiscal Year ended in September 30, 1917, Vol. 1* (Albany: J.B. Lyon Company, 1918), 263; quote from *Annual Report of the State Engineer and Surveyor of the State of New York for the Fiscal Year ended in September 30, 1918, Vol. 1* (Albany: J.B. Lyon Company, 1919), 184.

<sup>6</sup> Maintenance Contracts, 1990; quote from State of New York, Department of Public Works, *Report of the Superintendent of Public Works for the Year 1927* (Albany: J.B. Lyon Company, Printers, 1928), 22.

<sup>7</sup> State of New York, Department of Public Works, *Annual Report of the Superintendent for the Year 1937* (Albany: J.B. Lyon Company, Printers, 1938), 19; State of New York, Department of Public Works, *Annual Report of the Superintendent for the Year 1938* (Albany: J.B. Lyon Company, Printers, 1939), 19; State of New York, Department

The locks were rehabilitated in 1974 as part of Contract No. M74-3. Later work at the site included replacement of the middle set of lock gates as part of Contract D250869 (M84-1) in 1984. Two years later, Lock CS3 and the foundation of the lock house were rehabilitated as part of Contract D252018. In 1991, additional repair work was undertaken on the locks under Contract No. D253629.<sup>8</sup>

**Sources:**

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of Public Works, *Annual Report of the Superintendent for the Year 1939* (Albany: J.B. Lyon Company, Printer, 1940), 23.

<sup>8</sup> Maintenance Contracts for years 1974, 1984, 1986, and 1991. The brief description of the 1986 work states, "Rehabilitation of Lock C & S-3, & Lock House Foundation (Sink Hole)" indicating the possible reason for the work.

\_\_\_\_\_. *Annual Report of the Superintendent for the Year 1939*. Albany: J.B. Lyon Company, Printer, 1940.

**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: Lockhouse and guard gate. Field photograph taken by HAER recording team, summer 2009.



Image 2: View of dam with lock at left, and sluice gates, spillway, and hydroelectric power plant at right. Field photograph taken by HAER recording team, summer 2009.