

Project: Term Agreement for Design Support Services for Lock O-7 Rehabilitation (Syracuse Division)

Location: Oswego County, New York

Client: New York State Canal Corporation (NYSCC)

Cost: \$22K (Survey Fee)

Year: 2014-Present

Work Performed:

- Primary Project Survey Control
- Topographic Survey
- Design Survey and Mapping
- Bathymetric Survey
- Survey Control Report

Opened in 1828, the Oswego Canal is a historically significant local waterway, having played a vital role in the economic development of Oswego County and



Lock O-7 Wall & Gates

neighboring areas. While today the canal remains an important part of the New York State Barge Canal System, it also offers access to historic canal-side attractions and serves as a popular site for public recreation, including fishing, boating and birdwatching. The canal has a depth of 14 feet and consists of seven locks, all of which are single-chamber structures measuring 328 feet by 45 feet.

Prudent was retained by the NYSCC as subconsultant to perform a detailed survey and inspection of Lock O-7 in Oswego, New York, to determine the lock's potential structural deficiencies and rehabilitation needs. Prudent coordinated the design survey and mapping component of this project, which entailed establishing primary project

control. Using GPS, Prudent's survey team also established two azimuth pairs and three benchmarks; horizontal control was submitted as State Plane Coordinates and vertical control was achieved using NAVD 88. Upon completing these tasks, Prudent prepared a final control report.

The survey team also acquired topographic details, including utilities, Right-of-Way evidence, lock walls, bridge abutments, lock house and other features impacting the overall design. In addition to determining the 'blue line' along the canal, Prudent ascertained details concerning the private ownership of Leto Island, a popular fishing destination on the Oswego River. Prudent then conducted an expansive bathymetric survey, which encompassed the channel at anticipated cofferdam locations, the upstream area south of Lock O-6, and the region spanning from Route 481 to the eastern/western approach walls. Prudent's bathymetric survey also covered the area downstream of Lock O-6 and Lock O-7, the Lock O-8 channel and, lastly, features along the riverside of the channel/river wall. Prudent's survey and mapping data will provide useful information for the rehabilitation of these historic water control structures.



Lock O-7 Upstream