



Finding ‘New’ Dams on the Erie Canal

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Problem Statement – Multiple significant dams, in-place for 100+ years, were absent from the regulators inventory: NYSCC, a subsidiary corporation of NYPA since 2017 owns over 140 dams integral to operation of the current and former NYS Canal System. Some of these dams were not identified in the NYSDEC inventory until 2019. Thirteen of these dams were located on the 17- & 60-mile pools in the Western Region of the Erie Barge Canal. Baseline documents needed for compliance including Emergency Action Plans (EAP’s), Safety Inspections, Engineering Assessment (EA’s), and Inspection & Maintenance (I&M) Plans had to be created for multiple dams on a similar timeline while overcoming the logistical challenge of working around a fully operational canal focused on supporting navigation and recreational activities while also relying on design and construction record documents typically more than 100 years old.

Method/Approach – Contract with expert Consultants utilizing a multi-year approach to scoping work with regional and hazard-based prioritization to complete the necessary field work and analyses for compliance with NYSDEC regulations while also embracing the use of RIDM based risk assessment methods to rank the dams based on impacts to the public paired with Potential Failure Modes (PFM’s) for each site.

Findings – Significant budget utilization required. Multiple internal staff working with acquisition teams, Consultant PM’s, etc. to maintain progress. Identified deficiencies at each dam in stability and structural analyses to inform soundness of structures, consequences of failure, risk analysis and risk prioritization. Identified system lack of overflow capacity, and lack of downstream hydraulic capacity in existing stream channels.

Implications- Identified deficiencies in condition at all structures, completed stability and structural analyses to inform soundness of structures, evaluation of risk to help focus and prioritize structures for maintenance, repair and rehabilitation. Developed a new appreciation among the Canals and NYPA teams for the significance of the structures they work with each day.