



US Army Corps  
of Engineers®

## HARBOR INFRASTRUCTURE INVENTORIES

### Oswego Harbor, New York



**Harbor Location:** Oswego Harbor is located on the southern shore of Lake Erie at the mouth of the Oswego River, about 32 miles Northwest of Syracuse, NY.

**Authority:** River and Harbor Acts of 1870, 1907, 1930, 1935, 1940, 1948, 1954, and 1962

**Project Description:** Oswego Harbor is a deep draft commercial harbor. Protective structures consist of east and west arrowhead laid up stone breakwaters, and outer west timber crib with concrete cap breakwater and a detached laid up stone breakwater with a total length of 10,265'.

**Transportation Importance:** Major receiving and shipping port on the Great Lakes and a Harbor of Refuge.

#### Congressional Interest:

- Representative Daniel Maffei D-NY-24
- Senator Kirsten Gillibrand D-NY
- Senator Charles Schumer D-NY

**Current Condition Assessment:** **F**



**Date of Site Visit:** 4 June 2010

**Summary of Impact:** Prevailing waves come from the west to northeast direction. Failure of the protective structure would eliminate use of the Oswego outer harbor and would cause damage and flooding to the facilities located within the harbor. Freight shipping would be significantly impacted, with operations being limited at Sprague Energy, the Oswego Cement Terminal, Essroc Cement and the Oswego Port Authority. Additionally, sedimentation of the mouth of the Oswego River and the port facilities would increase maintenance requirement and exacerbate light loading issues presently being experienced at the port facilities. Marina facilities are reliant on the breakwaters for protection of vessels and facilities. The Fort Ontario Historic Site is situated on a bluff overlooking the lake, and is not reliant on the breakwaters for protection. The Port Authority facilities are reliant on railroad connections that run along the lake to the east of the site. Breakwater failure would damage these connections.

**Examples of Protected Infrastructure:**



1. **City of Oswego Westside Wastewater Treatment Plant:** 12 million gallon per day water treatment facility built in 1974 at a cost of \$5 million. Serves the City of Oswego and the Town of Scriba, an estimated population of 23,000. 6,250' long 10' diameter intake running northwest into the lake. Plant is just west of the west breakwater, and therefore would not be impacted by breakwater failure or inundation.



2. **NRG Energy Oswego Harbor Power LLC:** Privately owned 1,650 MW oil fired plant with 4 units - 2x850 MW in service since 1975. Two power units were installed at a cost of \$90 million each. Plant originally built in 1939, however original units no longer in service. All fuel is brought in by lake from Montreal. Plant is reliant on lake and safe harbor for fuel delivery. Oil is stored in 4 tanks onsite with a total storage of 1.5 million barrels and at a remote site with a capacity of 3.5 million barrels. The remote site is connected via pipeline to the plant. Plant dockage facility consists of an 720' wharf with an 18' draft. The plant runs as demand increases, running a total of about 3% of the time. When generating, the plant has 50 workers; the workforce is cut to 5 while on standby. Plant concerns are with continued degradation of breakwater which would cause damage to the wharf, limits to fuel delivery and would likely curtail generation.





3. **City of Oswego Westside Wastewater Treatment Plant:** 4 million gallon per day activated sludge wastewater treatment facility build in 1979 at a cost of \$6 million. Serves the west side of the City of Oswego, the State University of New York College at Oswego, and the Town of Oswego. Plant serves a population of about 16,000 people. Plant discharges into the inner harbor, however the plant itself is set back from shore.



4. **Breitbeck Park:** 15 acre public park with a pavilion, barbeque grills, restrooms, playground, baseball field, 4 basketball hoops and a walking/jogging trail. Park is located on a bluff overlooking the lake so direct impacts of breakwater failure would be minimal. There is a recreation trail leading from the park along the lake, river and out to the Fort Ontario Historic Site. Increased wave action as a result of breakwater failure could cause washing out and damage to this trail.



5. **Wrights Landing Marina:** Municipally owned marina built in the early 70's with 223 floating plastic and wood slips, 57 of which are available for transient dockage. Able to accommodate vessels up to 40'. Rates range up to \$1800 per season with electric and water available. Other amenities include a 1 ton manual hoist, pumpout, a fish cleaning station, showers and restrooms. A 6 ramp boat launch is also located on-site, rates are \$10 daily, or \$20 for a senior season pass, \$100 for a resident or \$150 for a non resident. Parking available for about 120 trailers and tow vehicles. Breakwaters allow for calm harbor for dockage, and are integral for operation.



6. **Oswego Yacht Club:** Private yacht club formed in 1881 with clubhouse located at the International Marina.





7. **International Marina:** Port Authority owned marina built in the mid 90's with 54 floating composite slips, expanding to about 100 slips in the next five years and 3 transient slips. Able to accommodate vessels up to 30' seasonally, but can accommodate up to 80' vessels on a short term basis. Rates range from \$1395 to \$1895 per season with electric, cable and water available. Other amenities include pumpout, laundry, showers and restrooms. Breakwaters allow for calm harbor for dockage, and are integral for operation.



8. **H. Lee White Maritime Museum:** Private not for profit maritime museum with exhibits in a 30'x50' building and aboard 3 vessels. Museum receives about 20,000 visits per year. Breakwaters allow for protection from wave action, which would cause damage to vessels docked along wharf and to the building located on the pier.



- 9. Essroc Cement Corporation:** Privately owned industry involved with cement shipping, employing 2. Receives cement via ship from Picton, Ontario. Around 90,000 tons handled annually, with cement shipped to local area via truck. Peak activity was around 120-130,000 tons annually. Facility has 4 holding silos - 2x2000 tons and 2x3000 tons, a truck scale and self unloaders. Wharf is able to accommodate vessels up to 400' in length. Industry is concerned with vessel draft, presently depth is 22' in the harbor causing vessels to light load by about 1000 tons per shipment. Breakwaters are performing well to provide protection when ships come in. A failure would limit operations, as well as cause increased sedimentation in the Federal Channel exacerbating the light loading.



- 10. U.S. Coast Guard Station Oswego:** Coast Guard Station with area of responsibility extending from Cape Vincent to Sodus, NY. 3 vessels and an occasional research vessel based at site. 2 story station. Major concern with breakwaters is armor stone that is occasionally falling into harbor and creating hazards to navigation.



- 11. Oswego Maritime Foundation:** Private not for profit sailing school/waterfront education center. 400' of docks, small sail boats and last original dry dock left on Lake Ontario. Breakwaters allow school to operate. By having a protected harbor, lessons can take place in a calm water setting.





**12. Sprague Energy Corporation:** Privately owned industry involved with bulk storage oil/asphalt shipping and handling, employing 4. Receives commodities from various ports across the Great Lakes including Montreal, Hamilton and Sarnia. All material is brought in from the lake via barge and offloaded into 5 bulk storage tanks with a total volume of 13,000,000 gallons. Dock is shared with Essroc Cement Corp. Facility normally handles 100,000 tons of material per year, however is presently handling about half of that amount. Material leaves the facility via truck, bound for local use. Truck scale onsite used to measure output. Breakwaters provide for a calm harbor for offloading material. Presently, offloading ceases when winds exceed 10 miles per hour. This would have to be reduced should the breakwaters fail.



**13. Lafarge Corporation NA Oswego Cement Terminal:** Privately owned industry involved with powdered cement shipping, employing 4. Receives cement via ship primarily from Bath, Ontario. Presently handling around 160,000 tons of material annually, however peak capacity is 230,000 tons. On site silos capable of storing 23,000 tons of material. Material is shipped from facility via truck bound for local destinations. 400' long dock with 22' depth, material unloaded via 2x10" suction line un-loaders. Breakwaters limit wave action, allowing protected harbor for offloading. Industry concerns are with dredging, current draft is around 21'6", causing vessels to be light loaded by around 400-500 tons.





**14. New York State Canal Corporation Oswego Canal Lock 8:** State owned 300'x40' lock connecting the 524 mile long New York State Canal system with the Port of Oswego and Lake Ontario. Built in 1918 to serve freight traffic, today recreational users make up about 80-90% of traffic.



**15. Oswego Marina:** Port Authority owned marina built in 1952 with 55 fixed cement and wood slips and 10 transient slips all with electric and water. Able to accommodate vessels up to 60' for seasonal dockage and up to 200' on a transient basis. Rates range from \$1,500 to \$2,400 per season and from \$1.50 to \$2 per foot per day for transient dockage. Other amenities include a 12 ton fixed hoist, gas and diesel, pumpout, a mechanic on duty, showers, a ships store, laundry, a fish cleaning station, a tow boat and a gin pole. Marina is located on the river behind the Port Authority so wave action is not a direct concern in the event of breakwater failure; however the harbor is the source of most business for the marina so a breakwater failure and damage to harbor would be detrimental economically.



**16. Oswego Port Authority:** Port authority with ownership of the East and West terminals of the Port of Oswego. West Terminal run by Essroc, Lafarge and Sprague corporations. East Terminal handles less than 1 million tons of freight per year, with an estimated value of about \$5 million. Structures and facilities include a 100,000 square foot warehouse, 3 domes capable of storing 35,000 tons each, a 100,000 ton capacity barrel building, 1,200' slips, dockside rail with mainline service by CSX, 400,000 square feet of open storage space, 25 ton to 600 ton cranes and mobile conveyors with a total capacity in excess of 30,000 bushels per hour. The port authority employs 11 full time employees and between 2 and 30 longshoremen, as needed. Primary commodities received are agricultural, including corn and soy beans, pot ash, aluminum, salt and specialty cargo such as transformers, windmills and rebar. Incoming shipments predominantly arrive by boat from Ontario, other parts of Canada and worldwide. Outgoing shipments are handled by rail, truck and boat primarily destined for local markets. The port has seen a dramatic increase in agricultural products, while pot ash shipments have remained steady and salt shipments have increased slightly. The breakwaters are key to port operations, and breakwater failure and inundation would be detrimental to port shipments and activity. Additionally, the CSX rail spur serving the port runs north out of the port and then east along the lakeshore. Breakwater failure would cause increased wave action acting upon the railway, resulting in limits to use and damage.





**17. Fort Ontario Historic Site:** War of 1812 era fort maintained by the New York State Office of Parks, Recreation and Historic Preservation. Fort is built on a bluff overlooking the lake, so the effects of breakwater failure would be minimal.



**18. City of Oswego Eastside Wastewater Treatment Plant:** 5.5 million gallon per day activated sludge wastewater treatment facility build in 1970 at a cost of \$8 million. Serves the east side of the City of Oswego and the Town of Scriba. Plant serves a population of about 12,000 people. Plant discharges through a 1,200' long, 24" diameter pipe into the lake. The plant lies to the east of the breakwaters, and would not be affected by breakwater deterioration.



**19. Oswego Lighthouse:** Municipally owned lighthouse constructed in 1934. The City of Oswego would like to investigate the structure under the lighthouse, and would like to work with the Corps to gain pedestrian access along the breakwaters to the lighthouse.





**Potential Impact Area:** The following graphic displays property parcels that could be impacted within various zones defined by different setbacks from the shoreline behind existing Federal coastal structures. Values are based on real property tax assessments from these parcels, and don't reflect any detailed coastal zone damage assessments. Figures simply reflect property values at various setbacks.

