

Project Profiles for Wayne Region



NEW YORK STATE OF OPPORTUNITY.

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ICONS/ACRONYMS FOR WAYNE REGION

Project location
Project owner
Approximate cost

Acronym	
ft	Feet
LF	Linear Feet
NTS	Not to Scale
NYSDEC	New York State Department of Environmental Conservation
NYSDOS	New York State Department of State
NYSOGS	New York State Office of General Services
REDI	Resiliency and Economic Development Initiative
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
WWPS	Wastewater Pumping Station

References

F-E-S Associates. 2014. Regional Dredging Management Plan Update - Final Report. Prepared for the NYSDOS Division of Coastal Resources.

CRESCENT BEACH

This project seeks to address multiple barrier bar breaches at Crescent Beach and Charles Point barrier bar that have led to damages to the ecosystem of Sodus Bay and potential hazards to public and private property. Septic systems on Crescent Beach and Charles Point are located at an elevation not adequate for high water events.





Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Evaluating Crescent Beach for long-term management solutions to prevent future breaches
- Short-term: repairing existing breaches with stabilization materials
- Long-term: installation of 7,200 ft of natural and nature-based shoreline stabilization

Public Support and Asset Owner

Public support is high. Multiple stakeholders are engaged and their input was obtained. Support by Wayne County is high. Residents of Crescent Beach have sent 19 letters to local representatives supporting this project. Impacts to private property may be a potential issue. The asset owner are public and private.



Permitting and Feasibility

This project is considered moderately to highly feasible. Project synergies may exist with a comprehensive dredge management plan and joint funding program for the shoreline communities. The protection of Sodus Bay and all the residences is contingent on developing mitigative measures that are coordinated with Crescent Beach property owners. Multi-jurisdictional permit review is needed.

Benefits

Crescent Beach protects the bay from debris, ice, and waves entering the bay unimpeded, causing damage to structures and erosion along the shoreline. More than 80 homes on Crescent Beach and Charles Point that are at risk of being lost if stabilization is not done. The barrier protects critical habitats for endangered species. Sodus Bay is also the home of a United States Coast Guard (USCG) station and a Sheriff's Office.



Natural or nature-based shoreline stabilization with reinforced core (Principle sketch, NTS)

Flexibility

The shoreline stabilization strategy is still being developed. A more natural approach is encouraged, which would involve strategically placing dredged material to supplement the barrier bar. It may be beneficial to target dredging with a coarser grain size so that the drift material is more robust.

Durability

A natural or nature-based stabilization will be strengthened over time, as planted and recruited vegetation increase establishment. Long-term maintenance requirements are expected to decrease over time. If action is not taken at the existing breaches, the scale of work to repair the barrier bar will greatly increase.

Economic Development Potential

The proposed solution to stabilize the barrier bar will protect approximately 21 miles of shoreline, including public and private properties, more than 1,000 homes, and more than 1,200 boat slips from property damage caused by Lake Ontario's wave energy, ice flows, and debris entering the bay. The economic activity associated with recreational boating for Sodus Bay has been estimated to be more than \$12.7 million annually, supporting more than 115 jobs.

Environmental Considerations

The proposed project will avoid adverse impacts to the environment, including littoral drift, sensitive riparian habitats, and changes to the aquatic ecosystem within the bay.

Alternatives Considered

An offshore reef approach was evaluated about four years ago; however, the solution failed to gain support from the NYSDOS and NYSDEC. Additional protective features may be recommended on the interior side of the bar, as previous attempts at hardening the lake side of the bar have been unsuccessful.

BLIND SODUS BAY

This Blind Sodus Bay project seeks to address the barrier bar and the bay bluff, by addressing shoreline erosion on Blind Sodus Bay due to the degradation of the barrier bar previously protecting the bay. The degradation of the barrier bar has also changed the bay's aquatic ecosystem, creating potential hazards to public and private owners.

 Town of Wolcott, Wayne County
 Wayne County Soil and Water Conservation District
 12,170,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Stabilization of 800 ft of bluff along Blind Sodus Bay Rd.
- Reconstruction of 3,700 ft of natural and naturebased shoreline stabilization

Public Support and Asset Owner

Public support is high. Multiple stakeholders are engaged and their input was obtained. Public support exists for this project. The asset owners are public and private.

Permitting and Feasibility

The bay bluff project is considered highly feasible. The 200-ft bluff stabilization has already been designed and funded to biddable document level with permits in place. Construction during fall 2019 is



anticipated. Significant analysis of alternatives and permitting is anticipated for barrier bar construction and slope stabilization. Permits will be required from NYSDEC, NYSDOS, and USACE.

Benefits

The stabilization of the bluff will reduce erosion, protecting the critical infrastructure and property owners. Shoreline stabilization reduces debris, ice, and waves entering the bay, which can cause property damage to structures and erosion to shorelines.

Flexibility

The stabilization of the shoreline along the bluff can be modified through increasing the height and length of structures. The plan for the shoreline stabilization measure is a natural approach, which may involve strategically placing dredged material to supplement the barrier bar.



Left: slope stabilization; Right: natural or nature-based stabilization (Principle sketch, NTS)

The natural or nature-based stabilization will strengthen over time, as planted and recruited vegetation increases establishment. Although maintenance may be required in the near term following construction (when the protective functionality is lowest), long-term maintenance requirements are expected to decrease over time.

Economic Development Potential

The proposed solution for the bluff will protect critical infrastructure endangered by erosion. The mitigating project will address threats to public health and safety, property loss, and the tax base. The proposed solution for the barrier bar will protect the public and private properties, including more than 100 boat slips. The economic activity associated with recreational boating for the bay has been estimated to be more than \$900,000 annually, supporting more than 11 jobs (F-E-S Associates, 2014).

Environmental Considerations

No threatened or endangered species, no critical habitats, nor fish hatcheries were identified nearby. The project will also take measures to avoid disturbing breeding areas for various Birds of Conservation Concern. The repair of the barrier bar may also prevent changes to the aquatic ecology of the bay.

Alternatives Considered

The emergency mitigation project considered for the bluff is an approximate 800-ft slope stabilization. Four other alternatives were previously proposed to address 200 ft of slope stabilization, but these were deemed less preferable based on feedback from permitting agencies. Alternatives considered for the barrier bar included limited sediment management, adaptive management, and infrastructure protection measures.

PORT BAY

This project will address occurring breaches along a barrier bar that divides Port Bay and Lake Ontario while maintaining a balance of natural coastal features and processes, protection of habitat, property, and infrastructure, as well as ensuring recreational access and public health and safety.

 Towns of Wolcott and Huron, Wayne County
 Wayne County Soil and Water Conservation District
 3,340,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- East Port Bay-installation of natural or naturebased shoreline stabilization measures
- West Port Bay–repair of approximately 750 linear feet (LF) of public access roadway to the New York State Department of Environmental Conservation (NYSDEC) boat launch
- Port Bay Inlet Channel-repair of approximately 600 LF of shoreline stabilization measures on the side of the navigational channel

Public Support and Asset Owner

Public support is high. Multiple stakeholders are engaged and their input was obtained. Public support exists for this project to maintain roadway access to the boat launch and public beach; and maintain the navigational channel for ingress and egress. The asset owner is public.



Permitting and Feasibility

This project is considered moderately to highly feasible due to improved access, low maintenance, and support and funding for natural restoration techniques. Permitting would include permits from NYSDEC, New York State Department of State (NYSDOS) and the U.S. Army Corps of Engineers (USACE).

Benefits

Both the east and west barrier bar protect Port Bay, which is bordered by seasonal and year-round homes. When breached, debris, ice, and waves can enter the bay unimpeded, causing property damage and shoreline erosion. The shoreline stabilization would reduce the potential for future breaches.

Flexibility

Mitigation measures can be easily adjusted, including height, length, material composition, position, and addition or subtraction of project elements. This project can also serve as a basis for adaptive management should long-term management goals be unmet, requiring an increased level of protection and accompanying justification.



East Port Bay barrier bar (Principle sketch, NTS)

The East Port Bay barrier bar restoration is a natural or nature-based shoreline stabilization that will be strengthened over time, as planted and recruited establishment. vegetation increases Although maintenance may be required in the near term following construction, long-term maintenance requirements are expected to decrease over time. The West Port Bay barrier bar needs rebuilding of the current access road and installation of shoreline stabilization measures. Occasional maintenance of the access road will provide assurance that the barrier bar stays intact for years. Port Bay navigational channel shoreline stabilization measures need repair, as it is currently failing and will prevent boat access if not repaired.

Economic Development Potential

This project will support recreational and water-based businesses requiring use of the channel, and avoid

significant repair costs after each breach. The proposed solution for the Port Bay barrier bars will protect public and private properties, including more than 380 boat slips from property damage. The economic activity associated with recreational boating for Port Bay has been estimated to be more than \$4.5 million, supporting more than 60 jobs (F-E-S Associates, 2014).

Environmental Considerations

The proposed project will avoid adverse impacts to the environment, including littoral drift, sensitive riparian habitats, and changes to the aquatic ecosystem within the bay.

Alternatives Considered

No action; limited sediment management; adaptive management; infrastructure protection measures. Evaluate system-wide resilience and breaches in that context and benefits of breaches.

WICKHAM BLVD. AND GREIG ST.

This project seeks to address recurring flooding in the Village of Sodus Point that occurs during high water events, particularly on Wickham Blvd. and Greig St. A multi-purpose conceptual design for flood protection will include a bench sitting area along the road for recreational opportunities.





Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Conveying flood and stormwater to existing and proposed outlets and providing tide gates on all stormwater outlets
- A multi-purpose conceptual design for shoreline stabilization measures

Public Support and Asset Owner

Public support is high. Greig St. is an economic driver in Sodus Point due to its bayfront businesses. Wickham Blvd. leads to the town park and public beach, which are both staples in the community. The asset owner is public.

Permitting and Feasibility

This project is considered moderately to highly feasible due to the importance of the affected



areas to the community, the low maintenance of the proposed solution, and support and funding for shoreline protection. Multi-jurisdictional permit review is needed.

Benefits

This project will protect the public areas, including parks, beaches, and restaurants on the bayfront, as well as the private residences on either side of Greig St., from flooding. Additionally, the proposed measures will protect the shoreline from continued erosion. Co-benefits will include a bench sitting area along the road for recreational opportunities.

Flexibility

The elements of this project can be easily adjusted, including height, length, material composition, position, and addition or subtraction of project elements. This project can also serve as a basis for adaptive management should long-term management goals be unmet, requiring an increased level of protection and accompanying justification.



New shoreline stabilization and stormwater collection (Principle sketch, NTS)

Tide gates installed on the existing and proposed outlets are relatively simple pieces of equipment that are meant to last decades. While annual inspections are recommended to ensure the gate is functioning properly, there is minimal maintenance associated with this equipment. The shoreline stabilization is anticipated to last a number of decades. Regular inspections of the stabilization material will allow for minor cracks/wear to be repaired before causing significant damage to the structure.

Economic Development Potential

This project would preserve property values and support recreational and water-based businesses on Greig St., which is an economic driver for the Village of Sodus Point and Wickham Blvd., while also maintaining tourist sites and foot traffic to the town park and beach.

Environmental Considerations

The project will reduce adverse impacts to littoral and riparian habitats caused by excessive erosion of the shoreline.

Alternatives Considered

No action; partial construction of shoreline stabilization (*i.e.*, reduce length to most critical areas); infrastructure protection measures.

ONTARIO MAIN WWPS

This project seeks to address the risk of flooding at the Ontario main wastewater pumping station (WWPS), which, if compromised, would disable wastewater service for 6,000 residents in the Town of Ontario, local industries, and the nuclear power plant. Additionally, it could risk introducing raw sewage directly into the lake and the surrounding area, resulting in a public health concern.



Mitigation Measures

Proposed mitigation measures in the project will consist of:

 Constructing flood protection measures around the pump station; associated accessories for access would be designed so that operators can still access the pump station as needed.

Public Support and Asset Owner

Public support is high. The Town of Ontario is engaged and supportive of the project and realizes the risk if action is not taken. The project is wellreceived by the public, as they understand that no action could result in a disruption in sewage service. The asset owner is public.

Permitting and Feasibility

This project is considered moderately to highly feasible. The construction of flood protection measures is feasible. Multi-jurisdictional permit review is needed.





Benefits

The proposed flood protection measures will protect the pump station, including the pumps and generator, from flooding, reducing the risk of interrupted wastewater service for the town and preventing disruptions. The benefits include reducing the risk of the pump station flooding and damaging the pumps and generator, which would disrupt service to 6,000 residents, businesses, and the Robert Emmett (R.E.) Ginna Nuclear Power Plant. This would also potentially introduce raw sewage into Lake Ontario and Bear Creek Harbor.

Flexibility

The elements of this project can be adjusted, including height, length, material composition, and position of the stabilization measure depending on conditions at the site.





Flood protection (Principle sketch, NTS)

The flood protection will likely be constructed of concrete, masonry, or a combination of both, and is therefore more resistant to erosion than a structure made from compacted earth, such as a berm or levee. As a result, such measures will provide a long-term solution to the identified problem. The proposed stabilization measures are relatively low maintenance but require periodic inspections to ensure the integrity of the stabilization measures has not been compromised.

Economic Development Potential

Protecting the wastewater collection system by preserving the integrity of the pump station and generator is vital to maintaining continuous wastewater service to residents and businesses of the Town of Ontario. This provides a fundamental public health service and basis for further economic development.

Environmental Considerations

Minimal environmental impacts have been identified for this project as it is located above the water line in a previously disturbed area.

Alternatives Considered

No action; levee; relocation of the pump station.

WILLIAMSON WATER INTAKE

This project seeks to address the risk of impacts to the Williamson water intake system at the Williamson Water Supply facility. The facility services approximately 2,800 residents in the Williamson area, and provides water to Sodus, Ontario, and Wayne County. During high water events, the raw water wet well and 20-inch overflow pipe do not function as designed. This project includes upgrades to the plant.





Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Installation of a 20-inch check valve on the overflow pipe
- Construction of an elevated wall around the raw water wet well

Public Support and Asset Owner

Public support is high. The Town of Williamson is engaged and supportive of the project. They realize the risk if action is not taken. The project is wellreceived by the public, as they understand that no action could result in a disruption in water service. The asset owner is public.



Permitting and Feasibility

This project is considered highly feasible due to its importance to residents and businesses. Additionally, the cost of the proposed solution, as compared to the cost of a potential disruption in water service, is relatively low. Multi-jurisdictional permit review is needed.

Benefits

Plant upgrades will reduce maintenance actions that have to be taken during high water events and reduce the possibility of a disruption in service to residents and businesses in Wayne County.

Flexibility

Elements of this project can be easily adjusted during design development, including height, length, material composition, and position depending on conditions at the site.





New check valve (Principle sketch, NTS)

The wall will likely be constructed of concrete, masonry, or a combination of both, and is anticipated to last decades. The check value is a relatively simple piece of equipment meant to last decades with minimal associated maintenance.

Economic Development Potential

This project would maintain continuous water service to the residents and businesses of Wayne County. The total gross water revenue for the town in 2018 was \$1.9 million.

Environmental Considerations

Minimal environmental considerations have been identified for this project, as this proposed project is above the water line inside a building or in an area that has been previously disturbed.

Alternatives Considered

No action; temporary plugs for overflow pipe during high water.

WHITE BIRCH CAMPGROUND WASTEWATER INFRASTRUCTURE

This project seeks to address erosion encroaching on an eight-inch sewer line at the White Birch Campground in the Village of Sodus Point. The campground has direct exposure to the lake and continued erosion would expose the eight-inch sewer line that serves approximately 200 residences.



Mitigation Measures

Proposed mitigation measures in the project will consist of:

• Installing approximately 1,000 ft of shoreline stabilization

Public Support and Asset Owner

Public support is high. The Village of Sodus Point is engaged and supportive of the project and realizes the environmental and public health risks if action is not taken and the eight-inch sewer line breaks. The project is well-received by the public, as they understand that no action could result in a disruption in sewer service and loss of property. The asset owner is private.

Permitting and Feasibility

This project is considered moderately to highly feasible due to the importance of the affected areas to the community, the low maintenance of the proposed solution, and the success of previously





completed similar projects. Additionally, the cost of the proposed solution as compared to the cost of potential disruption in sewer service is relatively low. Multi-jurisdictional permit review is needed.

Benefits

The shoreline stabilization will protect the wastewater infrastructure and campground that serves approximately 200 temporary and semipermanent camp locations. Additionally, these stabilization measures will protect the shoreline from continued erosion.

Flexibility

The elements of this project can be easily adjusted during detailed design, including height, length, material composition, position, and addition or subtraction of project elements depending on conditions at the site. The limits of the stabilization can also be modified during construction and in the future to include additional shoreline to the east and west.





New shoreline stabilization (Principle sketch, NTS)

Shoreline stabilization measures would be designed to withstand wave action and ice forces experienced at this location. The varying water surface elevation of Lake Ontario would be considered to develop a robust design.

Economic Development Potential

This project would preserve the integrity of the wastewater infrastructure to maintain continuous wastewater service to the residents west of the Village of Sodus Point. These residents pay local taxes for this service and continued provision of reliable sewer service is a fundamental public health need.

Environmental Considerations

Minimal environmental impacts have been identified for this project as riprap currently exists in this location. Protection of the shoreline and the sewer infrastructure will decrease the risk of a sewer system failure and unintended discharge of raw sewage to Lake Ontario.

Alternatives Considered

An alternative would be a concrete wall. This option was eliminated due to its higher construction cost and permitting limitations.

LAKESTONES DR.

This project seeks to address erosion and protect wastewater infrastructure west of and along Lakestones Dr. in the Village of Sodus Point. Currently two homes with wastewater mains across the properties are at risk of being damaged if erosion is not controlled. There is also a sewer manhole several feet from the lakeshore.





Mitigation Measures

Proposed mitigation measures in the project will consist of:

 Repairing and improving approximately 700 ft of existing shoreline stabilization previously installed

Public Support and Asset Owner

Public support is high. The Village of Sodus Point is engaged and supportive of the project and realizes the risk to its sewer infrastructure and environment if action is not taken. The project is well-received by the public, as they understand that no action could result in a disruption in their sewer service and loss of property. The asset owner is private.

Permitting and Feasibility

The project is considered moderately to highly feasible due to the importance of the affected areas to the community, the low maintenance of the



proposed solution, and previously successful similar projects. Additionally, the cost of the proposed solution as compared to the cost of a potential disruption in sewer service is relatively low. Multijurisdictional permit review is needed.

Benefits

The shoreline stabilization material will protect the properties and wastewater infrastructure along Lakestones Dr. Additionally, these stabilization measures will protect the shoreline from continued erosion.

Flexibility

The elements of this project can be adjusted during detailed design, including height, length, and material composition. The limits of the stabilization can also be modified during construction and in the future to include additional shoreline to the east and west.





New shoreline stabilization (Principle sketch, NTS)

The repair of the shoreline stabilization would be designed to withstand wave action and ice forces experienced at this location. The varying water surface elevation of Lake Ontario would be considered to develop a robust design.

Economic Development Potential

This project would preserve the integrity of the wastewater infrastructure to maintain continuous wastewater service to the residents west of the Village of Sodus Point. These residents pay local taxes for this service and continued provision of reliable sewer service is a fundamental public health need.

Environmental Considerations

Minimal environmental impacts have been identified for this project, as shoreline stabilization measures currently exist in this location. Protection of the shoreline and the sewer infrastructure will decrease the risk of a sewer system failure and unintended discharge of raw sewage to Lake Ontario.

Alternatives Considered

No action.

ONTARIO DR. STORMWATER OUTLETS

This project seeks to reduce the risk of erosion of the shoreline near approximately 50 private homes and six stormwater outfalls adjacent to Ontario Dr. Approximately 50 percent of homes have some form of shoreline protection in various conditions. Erosion is happening in areas where shoreline protection is not in place and causing damage to the stormwater outfalls.





Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Repairing existing shoreline protection and installing 4,200 ft of shoreline stabilization where none is currently installed to reduce erosion
- Installing shoreline stabilization measures along severely eroded portions of shoreline along Ontario Dr.; use of plantings could provide a natural project element

Public Support and Asset Owner

Public support is high. The Town of Ontario is engaged and supportive of the project and realizes the risk if action is not taken. The project is wellreceived by the public, as they understand that no action could result in a damage to the stormwater system, loss of property, including damage to homes and/or property value. The asset owner is private.



Permitting and Feasibility

This project is considered moderately to highly feasible due to public project support, the low maintenance of the proposed solution, previous success of similar projects, and support by property owners. Permitting would include permits from NYSDEC, NYSDOS, and USACE.

Benefits

The shoreline stabilization material will protect the properties and stormwater outfalls along Ontario Dr., which will therefore manage risk of potentially abandoning, condemning, and demolishing homes due to the structural integrity of foundations. Additionally, these stabilization measures will protect the shoreline from continued erosion.





New shoreline stabilization (Principle sketch, NTS)

Flexibility

The elements of this project can be easily adjusted during detailed design, including height, length, material composition, position, and addition or subtraction of project elements depending on conditions at the site. The limits of the stabilization can also be modified during construction and in the future to include additional shoreline to the east and west.

Durability

The proposed stabilization would be designed to withstand wave action and ice forces experienced at this location. The varying water surface elevation of Lake Ontario would be considered to develop a robust design.

Economic Development Potential

Homes and property protected by the project are owned by people that contribute to the economy of Wayne County and the Town of Ontario through property taxes and purchase of local goods and services. Protection of the Ontario Dr. homes would support the residential character of the local community and provide assurance to neighboring property owners that their property is not at risk.

Environmental Considerations

Minimal environmental impacts have been identified for this project as shoreline stabilization already exists within the extents of the proposed project. Impacts will be further evaluated during the permitting process.

Alternatives Considered

An alternative would be a concrete wall. This option was eliminated due to its higher construction cost and permitting limitations.

SODUS POINT BEACH

This project seeks to address loss of beachfront from erosion and flooding of private residences and streets adjacent to Sodus Point Beach. The beach is exposed directly to the lake, including wave action, and is susceptible to flooding during high water events, limiting the use of the beach area for residents and tourists visiting Sodus Point.





Mitigation Measures

Proposed mitigation measures in the project will consist of establishing a protective dune system via nature-based shoreline restoration. This entails placing sand along approximately 1,800 ft of impacted shoreline.

Public Support and Asset Owner

Public support is high. The public beach is a staple to the community. Public support exists for this project due to the project's ability to reduce flooding while maintaining natural features of the beach and roadway access to adjacent streets. Reduction of flooding will result in a decreased likelihood of residential damage. The asset owners are public and private.

Permitting and Feasibility

This project is considered moderately feasible due to importance of the affected areas to the community, the low maintenance of the proposed solution, and requirements of obtaining access agreements from



21 property owners. Currently, Hart Environmental Science & Planning is working with the Village of Sodus Point to complete a design for the shoreline stabilization measure. Multi-jurisdictional permit review is needed.

Benefits

The dune system would provide increased protection and reduced flooding risk of approximately 21 private residences and 1st St. through 8th St. adjacent to Sodus Point Beach. During 2019, the lake level did not exceed the land elevation of private residences and streets. However, winds and wave action pushed water throughout homes and into the streets, requiring protective barriers of sandbags and aquadams to be installed to mitigate the effects. The elevated dune would function similar to the temporary flood protection systems installed during the 2019 high water event, but would be a permanent solution instead of a temporary fix with less maintenance. This project would support opportunities for recreational activity and tourism at the beach.





New shoreline stabilization (Principle sketch, NTS)

Flexibility

The shoreline restoration strategy is still being developed. The source and type of sand is contingent on an analysis of grain size and material suitability for intended construction.

Durability

The shoreline stabilization measure's integrity would be enhanced by dune grass planting and other vegetation behind the dunes where practical.

Economic Development Potential

This project would support opportunities for recreational activity, and support tourism at the beach. The 21 homes and properties that would be protected by project implementation are owned by people that contribute to the economy of Wayne County and the Village of Sodus Point through property taxes and the purchase of local goods and services.

Environmental Considerations

Minimal environmental considerations have been identified for this project.

Alternatives Considered

No action; soft shoreline restoration; sand source from shoal near coast guard station; sand source from nearshore; import of sand from off-site commercial sand operations.