



Project Profiles for Monroe Region



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ICONS/ACRONYMS FOR MONROE REGION



Project location



Project owner



Approximate cost

Acronym	
ft	Feet
IMA	Intermunicipal Agreement
LF	Linear Feet
MCDES	Monroe County Department of Environmental Services
MCDOT	Monroe County Department of Transportation
MCWA	Monroe County Water Authority
NEC	National Electric Code
NTS	Not to Scale
NW	Nationwide
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
NYSDOT	New York State Department of Transportation
PER	Preliminary Engineering Report
REDI	Resiliency and Economic Development Initiative
RTS	Regional Transit Service
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
WMA	Wildlife Management Area
WWPS	Wastewater Pump Station
WWTP	Wastewater Treatment Plant

LAKESHORE SEPTIC SYSTEMS

Single family homes at the lake shore in the Town of Hamlin are located at an elevation close to that of the lake, and when lake levels rose to 2017 and 2019 flood levels, their individual on-site septic systems were flooded and non-functional. During the spring of 2019, many of the 324 residences in this community relied on portable toilets located along the streets.



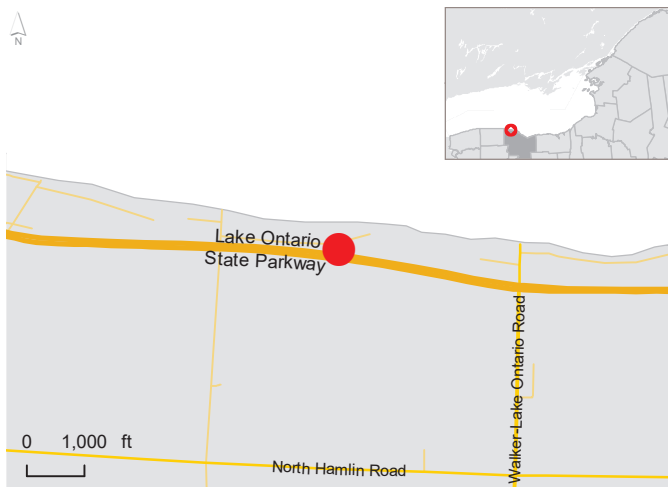
Town of Hamlin,
Monroe County



Town of Hamlin



7,900,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Grinder pumps located on each lot
- Conveyance of wastewater to an existing Monroe County interceptor sewer in the Town of Hamlin, and ultimately the Northwest Quadrant Wastewater Treatment Plant (WWTP) in the Town of Greece

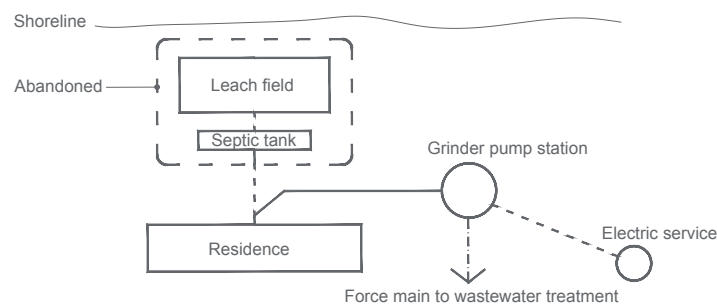
In 2019, the town completed a Preliminary Engineering Report (PER) that evaluated various collection system alternatives and recommended construction of a low-pressure sewer system to serve this area.

Public Support and Asset Owner

Public support is high. A preliminary engineering report has been completed, demonstrating stakeholder involvement and support in moving the project forward. The failed septic systems impact many homes and pose a potential health risk. The Town of Hamlin has been considering construction of a sewage collection system to serve this area for a number of years, and is prepared to move forward with a more detailed design and construction of the proposed collection sewers. The asset owner is public.

Permitting and Feasibility

This project is considered highly feasible considering alternatives have already been developed. The proposed pipeline route will cross archaeologically sensitive areas and wetlands requiring appropriate permits and routing evaluations prior to beginning final design. Multi-jurisdictional permit review is needed.



New sewage collection system (Principle sketch, NTS)

Benefits

Providing a functional sewer system would protect the public from health issues that could arise from contaminants and bacteria leaching out of subsurface individual septic systems.

Flexibility

The final design will include measures to provide a long-term solution to the immediate and expanded service area.

Durability

The proposed project components are well suited for the service proposed and will provide long-term benefits to the residences.

Economic Development Potential

The project will increase the property value of the homes along Lake Ontario and in the service area.

Environmental Considerations

The project will increase environmental health and reduce transfer of bacteria and nutrients into the lake. Flooding of the leach fields can result in discharge of partially treated wastewater into the environment. The proposed work will disturb approximately 18 acres of land during construction; however, the land use will be restored to its current state. The project will cross archaeologically sensitive areas, wetlands, naturally sensitive areas, and is mostly within the flood plain.

Alternatives Considered

No action; replacement of on-site septic systems.

BAY OUTLET SWING BRIDGE

A swing bridge spans the Irondequoit Bay Outlet and connects the Town of Irondequoit and Town of Webster. As the bridge is relatively low to the water, it is rotated out of the water during summer, with high boat traffic, and back into road traffic position during winter. The mechanisms that rotate the bridge are located in an open pit underneath the bridge and are subject to flooding.



Town of Irondequoit,
Monroe County



Monroe County



500,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Raising the elevation of the open mechanical pit and retrofitting the mechanical systems to be suitable for submerged conditions

Public Support and Asset Owner

Public support is high. There is a high level of support to construct a year-round solution to crossing the Irondequoit Bay outlet and efforts to create a robust system to keep the bridge in top working condition will be well received. The asset owner is public.

Permitting and Feasibility

The proposed project is feasible and there are no anticipated permitting issues.

Benefits

Completing this project will help ensure that the swing bridge is always operational, particularly in an emergency situation. Road and boat traffic will benefit from the bridge being operational under high water level conditions.

Flexibility

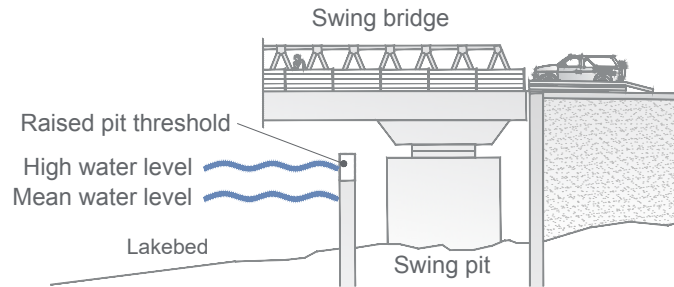
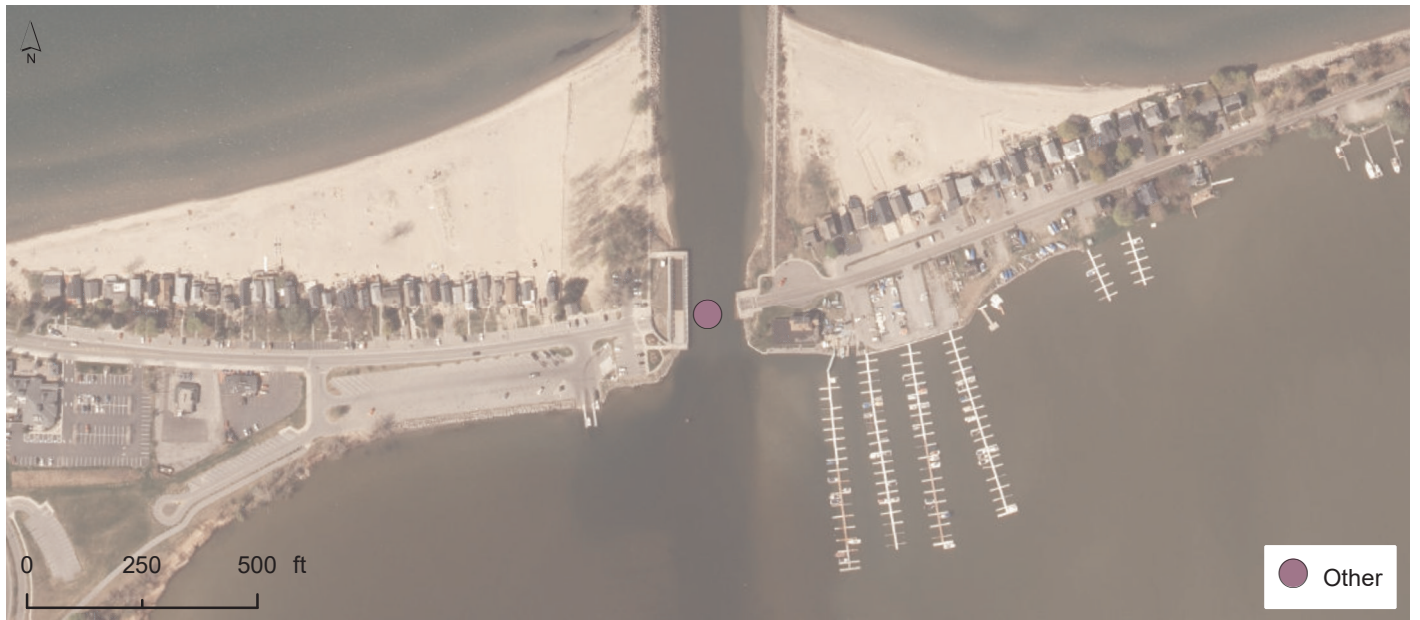
There is limited flexibility for this project as the infrastructure is in place.

Durability

The bridge improvements will be designed and constructed in accordance with Monroe County DOT and NYSDOT standards and expected to last for 20-30 years.

Economic Development Potential

When the bridge is out of service, local businesses and the shoreline are inaccessible, decreasing their profitability. Additionally, flooding and water damage can negatively affect property values.



Raised elevation of open mechanical pit (Principle sketch, NTS)

Environmental Considerations

None identified.

Alternatives Considered

No action; replacing the bridge with a permanent fixed or moving bridge (not cost effective).

WEST SIDE OF GENESEE RIVER BUSINESSES

This project will address persistent and ongoing flooding and shoreline erosion along a city-owned and maintained dock area and public promenade in the Port of Rochester.



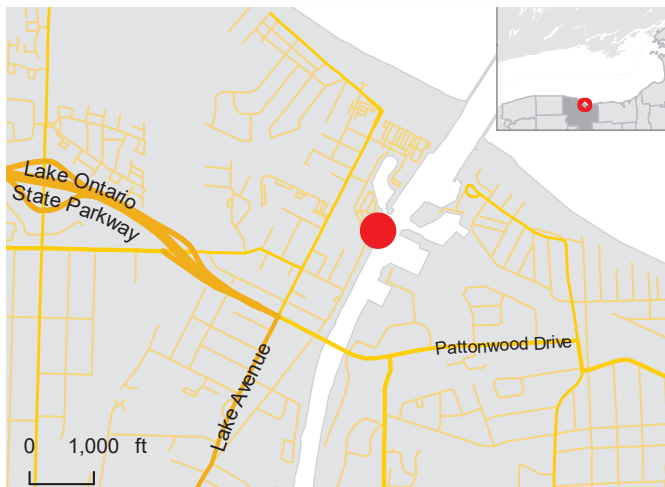
City of Rochester,
Monroe County



City of Rochester



2,225,000



Mitigation Measures

Selected measures will ensure continuous flood and erosion protection to ensure the stability and usability of the adjacent public facility and dockage. Work will include:

- Installation of shoreline stabilization measures along the 3,900 ft shoreline

Public Support and Asset Owner

Public support is high. All property directly affected is publicly owned and developed with extensive public input.

Permitting and Feasibility

The project is highly feasible as the materials and methods proposed are typical for such applications. Multi-jurisdictional permit review is needed.

Benefits

The new shoreline stabilization measures will be designed to prevent landside flooding and further erosion.

Flexibility

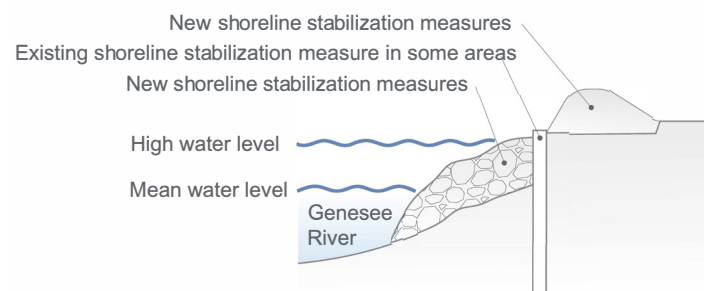
The materials and approach allow a flexibility of application and construction in design to adapt to existing site conditions.

Durability

The proposed design will utilize materials and methods that have been tested and proven durable and will provide a long-term solution (more than 30 years) to address flooding and erosion issues.

Economic Development Potential

The project may prevent and reduce flooding and erosion of the existing shoreline, and minimize hazards to the existing marina, restaurant, public promenade, and the future development of the historic train station.



New shoreline stabilization measure (Principle sketch, NTS)

Environmental Considerations

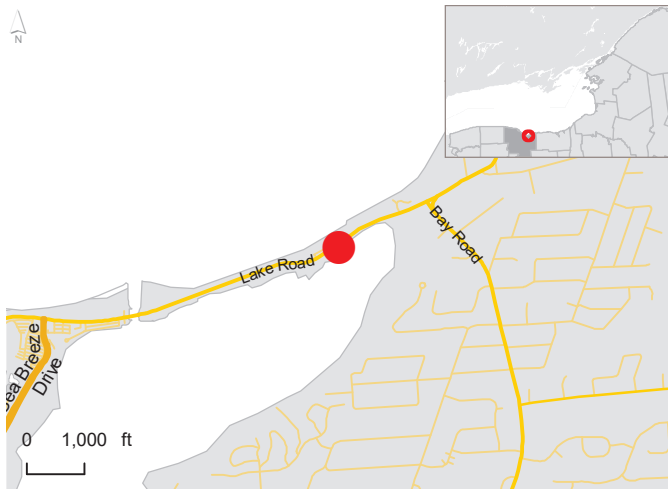
The proposed measures should be designed to prevent potential contaminants and sediments from entering the waterbody.

Alternatives Considered

No action; continued landside flooding and shoreline erosion. During design, consider feasibility of alternative shoreline treatments including nature-based features, habitat enhancement, or soft engineering designs.

SANDBAR WWPS

This project seeks to address flooding that occurs during high water events by protecting the building and contents at the Monroe County Department of Environmental Services (MCDES) Division of Engineering Sandbar WWPS. The pump station is submersible but the adjacent control building, including a standby generator, is constructed at grade and is vulnerable to water intrusion from Irondequoit Bay.



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Raising of all building openings at grade by a minimum of one foot
- Construction of a concrete perimeter wall surrounding the structure

Public Support and Asset Owner

Public support is high. The resiliency of the pump station is important to maintain public health and maintain water quality in Irondequoit Bay. The asset owner is public.

Permitting and Feasibility

The near-term solution to raise building openings above long-term flood elevations and construction of perimeter flood walls is common practice and feasible. Multi-jurisdictional permit review is needed.

 Monroe County

 Monroe County

 250,000



Benefits

Construction of protective walls around the pump station will keep water from directly flowing into the building and damaging electrical and mechanical equipment. Additional measures to waterproof the below-grade structures is also recommended.

Flexibility

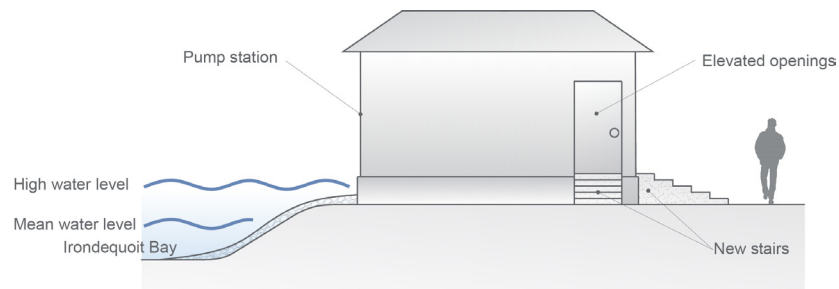
There is substantial flexibility in the layout and configuration of the proposed protective features.

Durability

The proposed solution is robust and common practice for similar systems.

Economic Development Potential

While there is no direct economic development potential with this project, reliable wastewater collection will help stabilize property values in the area.



Elevation of building openings (Principle sketch, NTS)

Environmental Considerations

The project will protect the pump station control building from water intrusion.

Alternatives Considered

No action.

TOWN OF PARMA SEPTIC SYSTEMS

Single-family residences along the lakeshore in the Town of Parma rely on individual on-site septic systems for treatment of wastewater. Most of these residences are located close to the water and at an elevation close to that of the lake, and when lake levels rise to 2017 and 2019 flood elevations, the septic systems are flooded and non-functional.



Town of Parma,
Monroe County



Town of Parma



5,860,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Installation of a low-pressure sewer and conveyance system, to connect to the regional Northwest Quadrant WWTP in the Town of Greece

Public Support and Asset Owner

Public support is high. The failed septic systems impact many homes and pose a potential health risk for the public. The Town of Parma has been considering construction of a sewage collection system to serve this area for a number of years, and the flooding events of 2019 brought this project to the forefront. The Town of Parma is prepared to move forward with completion of a preliminary engineering report for this project. The asset owner is public.

Permitting and Feasibility

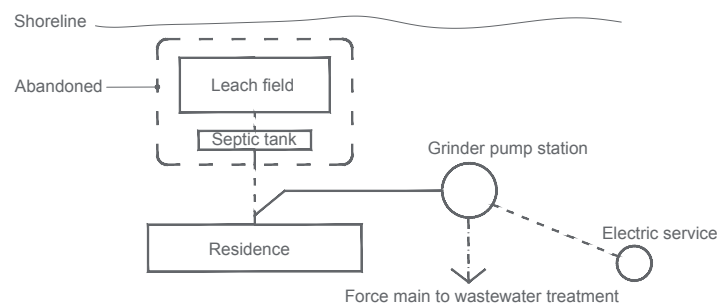
This project is considered highly feasible although it is in the early planning phases and alternatives have been considered. The proposed sewers could cross archaeologically sensitive areas and wetlands, requiring appropriate permits and routing evaluations prior to beginning final design. Additionally, a sewer district will need to be formed and some level of property procurement required. Multi-jurisdictional permit review is needed.

Benefits

Providing a functional sewer system would protect the public from health issues that could arise from contaminants and bacteria leaching out of subsurface septic systems and protect nearby waterbodies.

Flexibility

The final design will include measures to provide a long-term solution to the immediate and expanded service area.



New sewage collection system (Principle sketch, NTS)

Durability

The proposed project components are well-suited for the service proposed and will provide long-term benefit to residences.

Economic Development Potential

The project will increase the property value of the homes along Lake Ontario in the service area. Potential expansion of the service area in the future will further enhance property values in the area.

Environmental Considerations

The project will increase environmental health and reduce transfer of bacteria and nutrients into the lake. Flooding of the leach fields can result in discharge of partially treated wastewater into the environment. The proposed work will disturb several acres of land during construction; however, land use will be restored to its current state. The project may cross archaeologically sensitive areas, wetlands, naturally sensitive areas, and some areas may be located within the flood plain.

Alternatives Considered

No action; replacement of on-site septic systems.

BAY VILLAGE PUMP STATION

This project seeks to replace the existing Bay Village WWPS. The Bay Village WWPS serves the Bay Village residents only. The pumping station is relatively deep and the pumping equipment, electrical, and controls are below grade and subject to flooding and substantial damage.



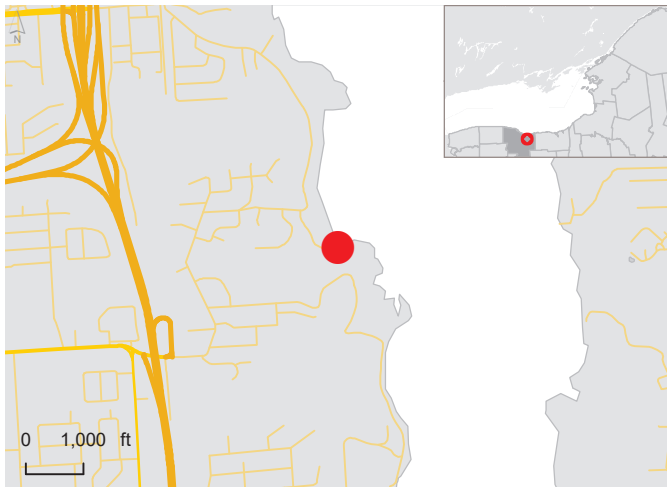
Town of Irondequoit,
Monroe County



Town of Irondequoit



1,208,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Construction of a new submersible WWPS adjacent to the existing station

Public Support and Asset Owner

Public support is high. The resiliency of the pump station is important to maintain public health and water quality in Irondequoit Bay. The asset owner is public.

Permitting and Feasibility

The near-term solution to replace the pumping station is highly feasible and typical construction. The work would not affect the local waterways. Multi-jurisdictional permit review is needed.

Benefits

Replacement of the pumping station with a system designed specifically for submerged service will provide protection against damage due to high water levels.

Flexibility

Designing the pumping station to be flexible for expansion of the service area is recommended and can be accommodated with the proposed design.

Durability

The proposed solution is robust and common practice for similar systems.

Economic Development Potential

While there is no direct economic development potential with this project, reliable wastewater collection will help stabilize property values in the area.



Environmental Considerations

The project will reduce the amount of sanitary sewage backflow into storm sewers and eventual discharge into Irondequoit Bay.

Alternatives Considered

No action.

LAKE SHORE DR. STORM SEWERS

Homes on Lake Shore Dr. are subject to flooding, as they do not have adequate protection against high water conditions. Storm sewers along Lake Shore Dr. are inadequate as they do not convey water away from homes during high water conditions, resulting in ponding water and basement intrusion. This project seeks to correct the aging stormwater and wastewater infrastructure on Lake Shore Dr.



Town of Greece,
Monroe County



Town of Greece



2,060,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Replacing the existing stormwater system with larger diameter piping
- Construction of new storm sewer outlets with control valves
- Larger catch basins sized for use with portable pumps
- Installation of a new storm lateral for residence
- Sliplining the existing sanitary sewers and manholes to reduce infiltration and inflow

Public Support and Asset Owner

Public support is high. This asset was substantially impacted by flooding in 2017 and 2019 and has support of local elected officials. The asset owner is public.

Permitting and Feasibility

Required permits include: Town of Greece (roads and sewers) and New York State Department of Environmental Conservation (NYSDEC) (wastewater infrastructure). It is anticipated that a Nationwide (NW) 14 permit will be required for construction of the stormwater outfalls. This project is highly feasible as the proposed improvements are in-kind replacement with appropriately sized pipes and repair of existing infrastructure in place.

Benefits

Implementation of this proposed project will provide protection of existing residences against stormwater intrusion. The new infrastructure will also provide the facilities necessary for residences to disconnect sump pumps from sanitary sewers, further protecting the infrastructure from flood damage.



Flexibility

Location, size, and configuration of the storm sewer infrastructure will be further evaluated during detailed design.

Durability

The storm sewer system will be designed and constructed for a project life of 40 years.

Economic Development Potential

Lake Shore Dr. is a dead end street and no additional development is anticipated. Current assessed value of properties on this street are in excess of \$19.7 million, and preserving the values of these homes is important for residents, as well as for tax revenues generated for the town.

Environmental Considerations

As most homes were constructed prior to regulations requiring separate storm and sanitary sewer connections, many residences along Lake Shore Dr. have direct connections of sumps to the sanitary sewers. By constructing this project, sanitary sewer overflows into the adjacent lake and ponds will be reduced, protecting the water quality of surrounding waterbodies.

Alternatives Considered

Large-scale permanent stormwater pump stations (not economically feasible).

LAKE RD. (WEST END)

Lake Rd. is located on a sand spit on the western edge of the Town of Webster and connects to the Town of Irondequoit via the swing bridge when the bridge is in service (Nov 1 through May 1). The elevation of Lake Rd. is estimated at 250 ft to 251 ft and often floods during periods of high water in Irondequoit Bay.



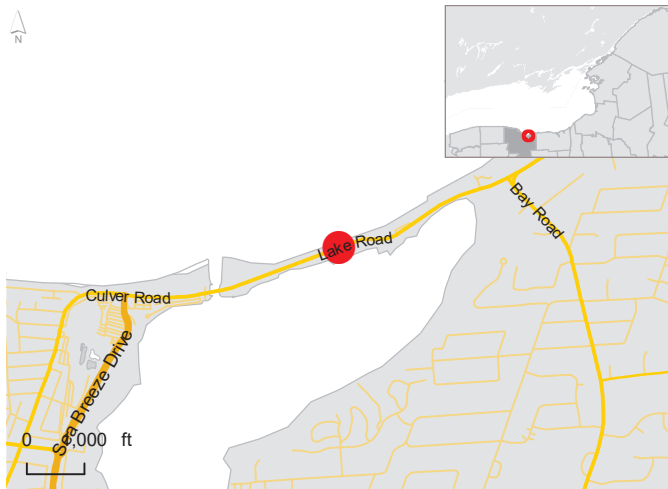
Town of Webster,
Monroe County



Town of Webster



1,500,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Raising approximately 500 LF of the road by 1-2 ft to protect the road against flooding

Public Support and Asset Owner

Public support is high. This road has flooded numerous times in the past making it dangerous to utilize. Additionally, Lake Rd. is designated as an emergency evacuation route from Webster heading west and must always be usable. Implementing this project will also enhance emergency response. The asset owner is public.

Permitting and Feasibility

Increasing the height of the roadway will create a larger surface area impacted by the project and may require obtaining additional property to support the project. The project is considered highly feasible

and the selected improvement less intrusive and will result in less long-term maintenance than other options. Multi-jurisdictional permit review is needed.

Benefits

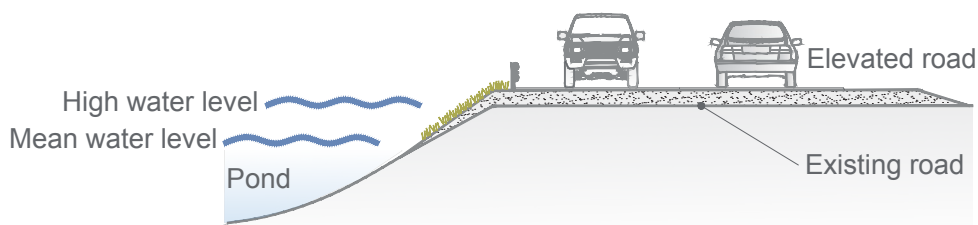
Raising Lake Rd. will protect the roadway from flooding.

Flexibility

There is limited flexibility for this project as the current road alignment is fixed. Final elevation of the road will be based on design flood elevation.

Durability

The roadway will be designed and constructed in accordance with MCDOT and NYSDOT standards and will be expected to last for 20-30 years. Consideration will be given to the impact of high water levels on the upstream side of the road that could pond and impact the road subbase.



Elevation of road (Principle sketch, NTS)

Economic Development Potential

When Lake Rd. is flooded, local businesses and the shoreline are inaccessible, decreasing their profitability. Additionally, flooding and water damage can negatively affect property values.

Environmental Considerations

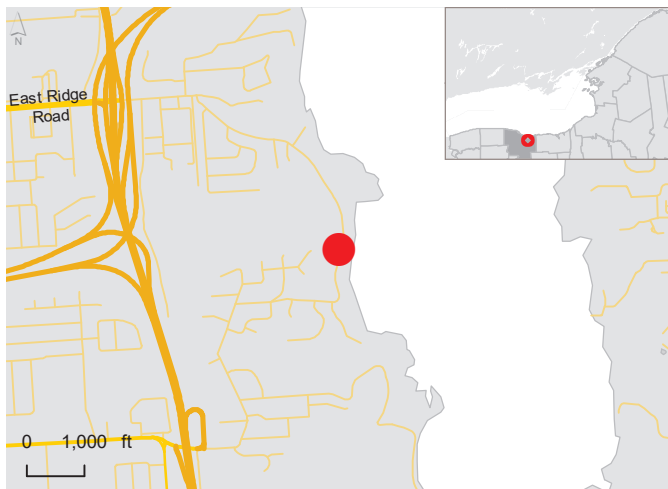
While the project will avoid adverse impacts to the environment, a water runoff evaluation will need to be completed to ensure that raising the road the designed amount does not cause ponding or flooding in another area.

Alternatives Considered

No action; regrading surrounding area, particularly adjacent to Irondequoit Bay.

BAY SHORE BLVD.

Single-family residences on Bay Shore Blvd. along the western shore of Irondequoit Bay rely on individual on-site septic systems for treatment of wastewater. These homes are located directly on the water and approximately 15 ft below the roadway. Due to proximity to the water, leach fields are non-functional when the water level is high and partially treated wastewater flows directly to the bay.



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Installation of a low-pressure sewer and conveyance system to the existing town system at the Bay Village complex, approximately 1000 LF to the south where flows would combine and be conveyed to the Monroe County collection system

Public Support and Asset Owner

Public support is high. The failed septic systems impact many homes and pose a potential health risk for the public. The Town of Irondequoit has been monitoring this area for a number of years and has been considering a project to provide sewage collection and treatment for this street. The asset owner is public.



Town of Irondequoit,
Monroe County



Town of Irondequoit



1,874,000



Permitting and Feasibility

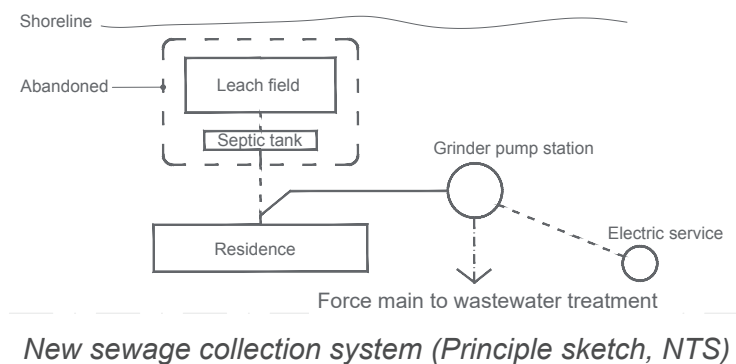
This project is considered highly feasible although in the early planning phases. The proposed sewers would be installed in existing lawn areas and within the limits of existing roads. Additionally, a sewer district will need to be formed and some level of property procurement required. Multi-jurisdictional permit review is needed.

Benefits

Providing a functional sewer system would protect the public from health issues that could arise from contaminants and bacteria leaching out of subsurface septic systems.

Flexibility

The final design will include measures to provide a long-term solution to the immediate and expanded service area.



Durability

The proposed project components are well suited for the service proposed and will provide long-term benefit to residences.

Economic Development Potential

The project will help stabilize the property value of homes along Bay Shore Blvd. However, these homes are directly on the water and may be subject to inefficient flood protection that could be addressed through another project.

Environmental Considerations

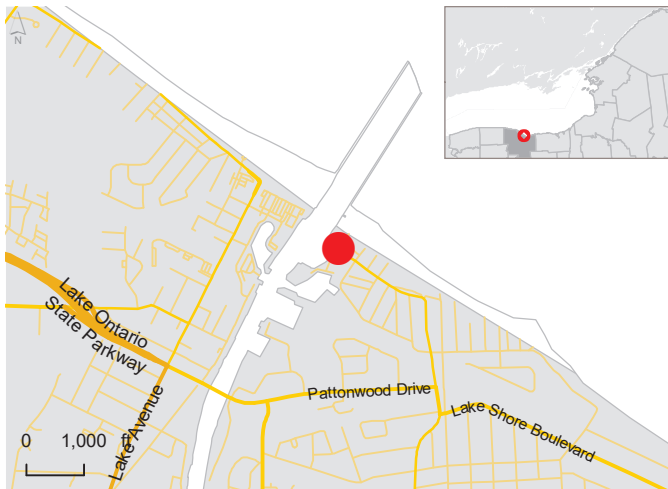
The project will increase environmental health and reduce transfer of bacteria and nutrients into Irondequoit Bay. As the project will likely be completed within previously disturbed areas it is likely that existing sensitive areas will not be disturbed.

Alternatives Considered

No action; replacement of on-site septic systems.

ST. PAUL TERMINUS

This project addresses the flooding inundating areas at the termination of St. Paul Blvd. At this location, access roads feed the Westage condominiums, Monroe County Sheriff's Maritime Station, U.S. Coast Guard (USCG) Station, and several businesses. This area is bordered by the Genesee River and the adjacent seawall includes several breaks allowing for water to flow inland, as well as back through storm piping.



Mitigation Measures

Selected measures will ensure for continuous handling of storm and floodwaters in the St. Paul Terminus area, including access by emergency services. Work under this project includes the following protective measures:

- Modifications to existing shoreline stabilization measures to create a continuous barrier
- Permanent check valves to control storm drain discharge into the river
- New stormwater pump station to convey stormwater to the river
- Modifications to the existing wastewater pump station (WWPS) to handle more flow and be flood proof
- Modifications to the boat ramp and storm drains at the USCG station



Town of Irondequoit/City of Rochester, Monroe County



Monroe County



1,770,000



Portable dam protecting St. Paul Terminus

Public Support and Asset Owner

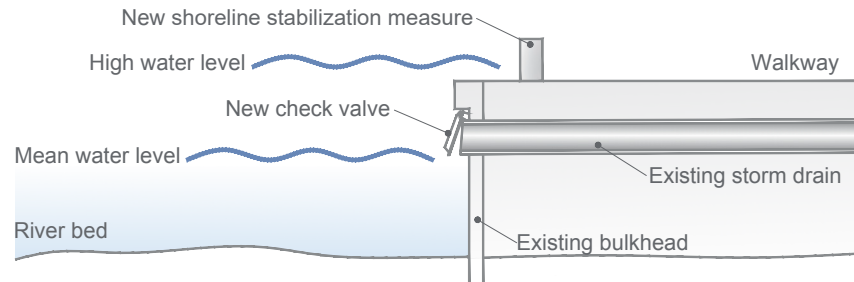
Public support is high. The road provides access to the Monroe County Sheriff's Station, USCG regional station, Westage Condominiums, and several businesses. The St. Paul Terminus is also a stop on the local municipal bus (Regional Transit Service (RTS)) circuit. The asset owners are public and private.

Permitting and Feasibility

Multi-jurisdictional permit review is needed.

Benefits

A fully functional road will provide benefits to the community for emergency access and access to local businesses. The Monroe County Sheriff's Station and USCG station require 24-hour access. Public health will also be protected by the optimal operation of the WWPS.



New shoreline stabilization measure and check valve principle (Principle sketch, NTS)

Flexibility

Modifications to the storm and sanitary collection and conveyance system will have room for flexibility in the design to allow for long-term expandability. There is also flexibility relative to selection of materials and construction approach.

Durability

Long-term goals of this project include development of a solution that will provide a long-term (more than 30-years) solution to flooding issues in the area of the St. Paul Terminus.

Economic Development Potential

The project will reduce flooding impacts on the roadway, allowing for access to local seasonal businesses, many of which are inaccessible and inoperable during flood conditions. For example, flooding in 2017 and 2019 resulted in Silk O'Loughlins closing for most of the summer, a period that represents 70 percent of its annual business.

Environmental Considerations

Modifications to the Summerville WWPS will enhance sewage conveyance in the area reducing the potential for backups into basements of nearby homes.

Alternatives Considered

No action; continued use of portable dams and emergency pumping.

IRONDEQUOIT BAY STATE MARINE PARK

This project seeks to address the reoccurring flooding of the boat launch and parking area of Irondequoit Bay State Marine Park. In addition to repairing the parking area, modifications to the boat launch dock system are needed to support higher water levels, and to provide a launch area for emergency personnel at all times. Irondequoit Bay State Marine Park is operated and maintained by Town of Irondequoit.



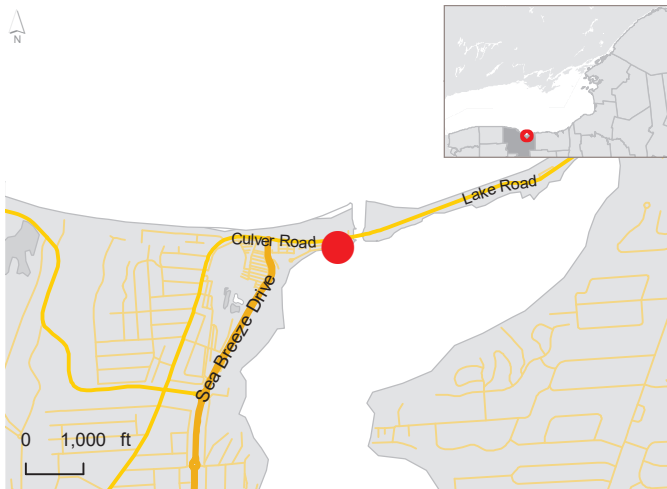
Town of Irondequoit,
Monroe County



Town of Irondequoit



2,670,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Raising the boat launch and installing new docks
- Installing shoreline stabilization from the existing boat launch west to the edge of the parking lot
- Resurfacing the parking lot, as water has compromised the sub-base
- Installing new stormwater infrastructure to convey water from the parking area to the bay

Public Support and Asset Owner

Public support is high. Multiple stakeholders are engaged and input was obtained. Public support exists for this project due to the interest in recreational use of the park and the fact that the boat launch is necessary, as it is the only access to the northwest corner of the bay. The asset owner is public.

Permitting and Feasibility

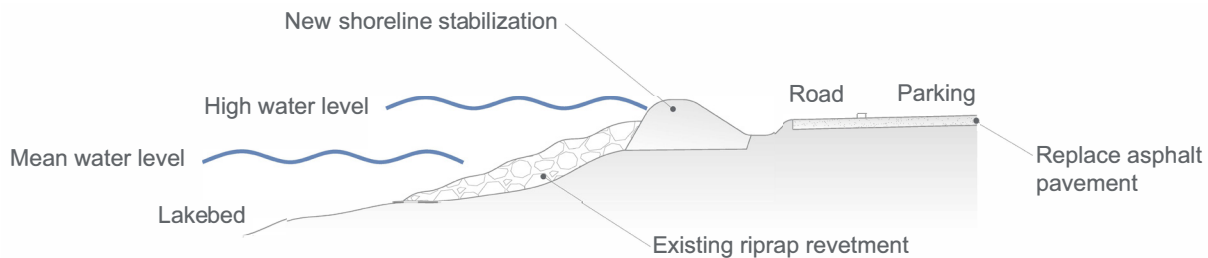
This project is considered highly feasible as it includes widely acceptable practices that have been proven successful. Multi-jurisdictional permit review is needed.

Benefits

The new shoreline stabilization measures will protect the marine park from increased water level and storm surge. This will protect the public by allowing access to the area during storm events for emergency crews.

Flexibility

The alignment and type of shoreline stabilization can be easily adjusted, including height, length, and materials based upon additional review of natural and nature-based alternatives. The remaining project elements can be adjusted to meet project budget and community needs. In addition, green infrastructure can be evaluated during the design phase.



New shoreline stabilization measure (Principle sketch, NTS)

Durability

The construction of shoreline stabilization measures will provide durability to the park as lake level rises occur. This allows the park to reopen following high water level events in a shorter time frame.

Economic Development Potential

Irondequoit Bay is a prime boating area for the Monroe region. Maintaining the boat launch for year-round use is important as revenue is generated to local businesses and restaurants by the boating community. If the project is constructed, economic development could be expanded through future projects, including new transient docks with minor dredging, construction of pavilion(s), passive recreation such as boardwalks for environmental education, canoe and kayak launch, etc. Revenues to the town for boat launch fees were down 70 to 80 percent annually in 2017 and 2019 due to the limited use of the boat launch (\$6,000-\$8,000 versus \$26,000). Additional dockage could increase revenue to local businesses as docks would provide boaters direct access to local establishments.

Addressing reoccurring flooding issues of the boat launch and parking areas could bolster local tourism, which represented \$1.1 billion spending for Monroe County in 2017. Any additional dock usage can generate about \$15,000 in tourism spending per year. Conservatively, the presence of a park increases surrounding home values by five percent, representing more than a \$2 million value for the entire community.

Environmental Considerations

The project will avoid adverse impacts to existing infrastructure. Installation of shoreline stabilization measures will stabilize shoreline and prevent erosion.

Alternatives Considered

No action; modify boat launch/docks for safe access only.

OLD EDGEMERE DR. SEWERS

The goal of this project is to control storm and sanitary sewer surcharge during high water periods by upgrading existing sewer infrastructure and providing residents with an adequate means of discharging floodwaters. The town previously installed 6 control valves in this area, and Monroe County is proposing to install additional valves.



Town of Greece,
Monroe County



Town of Greece



2,927,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Installation of 7,200 LF of storm sewer main, 13 deep-sump catch basins, and 206 lateral connections
- Elimination of three of the four existing outlets
- Protection of existing sanitary sewers from infiltration by slip-lining 9,200 LF of pipe
- Sealing of 49 sanitary manholes against groundwater and surface water infiltration
- Raising and armoring two sanitary pump stations

Public Support and Asset Owner

Public support is high. The community has experienced flooding in the past and is at high risk for future flooding. The asset owner is public.

Permitting and Feasibility

This project is highly feasible. Increasing the capacity of storm sewers and protecting sanitary sewers against infiltration are widely acceptable practices that have been proven successful in mitigating stormwater and sanitary sewer overflows. All construction would be located inland and the improvements being to existing infrastructure. Multi-jurisdictional permit review is needed.

Benefits

This project will relieve both stormwater flooding and the risk of sanitary sewer overflows. The vulnerable infrastructure being addressed by this project services 840 households and the Braddock Bay Park and Public Marina. Emergency response is compromised by road flooding, when it is most often needed. The mitigation of flooding would allow for the safe passage of emergency vehicles.

Furthermore, when stormwater outlets have become a source of flooding, residents have resorted to discharging their sumps into the sanitary sewer and



the town has been forced to bypass the sanitary system to avoid a system failure and related public health and environmental consequences.

Flexibility

There is flexibility in materials and methods of construction for the project. The design will take these into consideration to provide the most sustainable and resilient solution as economically possible.

Durability

The project will provide a robust sewer system for the community. The improved stormwater system will keep flooded waters from deteriorating the roadway and adjacent properties. The project will also increase the capacity of the sanitary sewer system and prevent overflows.

Economic Development Potential

By providing a reliable sewer system and preventing flooding, property values will be improved for this

community. This asset services 840 households and the Braddock Bay Park and Public Marina.

Environmental Considerations

The project will improve environmental health by reducing the risk of exposure to bacteria and contaminants. Construction will avoid adverse impacts to the environment and be completed to control sediment transfer to waterways.

Alternatives Considered

No action.

CRESCENT BEACH RD. SEWERS

The goal of this project is to control storm and sanitary sewer surcharge during high water periods by upgrading existing sewer infrastructure and providing residents with an adequate means of discharging floodwaters. Crescent Beach Rd. and the homes along it are at high risk of flooding as they are located below the base flood elevation of 250 ft. In 2017, floodwaters approached 249 ft, and in 2019, exceeded 249 ft.



Town of Greece,
Monroe County



Town of Greece



1,160,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Installation of control valves in certain storm sewer outlet locations
- Installation of 900 LF of storm sewer main, 6 sump catch basins, and 142 lateral connections
- Protection of existing sanitary sewers from infiltration by slip-lining 4,800 LF of pipe
- Sealing of 19 sanitary manholes against groundwater and surface water infiltration
- Raising and armoring the Crescent Beach Rd. sanitary pump station

Public Support and Asset Owner

Public support is high. This issue was included in the Town of Greece Engineering Report and public support is high as the community has experienced

flooding in the past and is at high risk for future flooding. The asset owner is public.

Permitting and Feasibility

This project is considered highly feasible. Increasing the capacity of storm sewers and protecting sanitary sewers against infiltration are widely acceptable practices that have proven successful in mitigating stormwater and sanitary sewer overflows. Construction would be located inland and the improvements made to existing infrastructure. Multi-jurisdictional permit review is needed.

Benefits

The project will protect 142 homes and waterfront businesses along Crescent Beach Rd. During storm events in 2017 and 2019, the stormwater outlets backed up and became a source of flooding. Residents resorted to discharging their sumps into the sanitary sewer, and the town was forced to bypass the sanitary system to avoid a system failure and the resulting public health and environmental



consequences. This project will relieve both stormwater flooding and the risk of sanitary sewer overflows. Additionally, the mitigation of flooding will protect area residents by allowing the safe passage of cars and emergency vehicles.

Flexibility

There is flexibility in which materials and methods are used for the project. The design will take these into consideration and will aim to provide the most sustainable and resilient solution as economically possible.

Durability

The project will provide a robust sewer system for the community. The improved stormwater system will keep flooded waters from deteriorating the roadway and adjacent properties. The project will also increase the capacity of the sanitary sewer system and prevent overflows.

Economic Development Potential

By providing a reliable sewer system and preventing flooding, property values will be improved for this community. The assessed value of affected properties is \$21,574,333.

Environmental Considerations

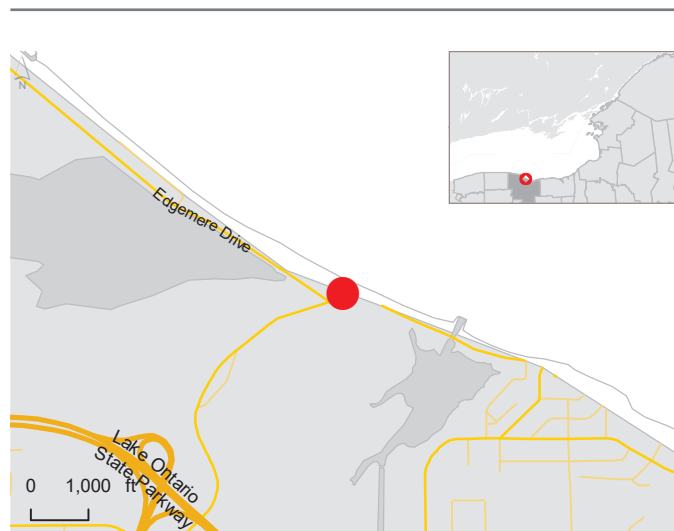
The project will improve environmental health by reducing the risk of exposure to bacteria and contaminants. Construction will avoid adverse impacts to the environment and will be completed in a way that controls sediment transfer to waterways.

Alternatives Considered

No action.

EDGEMERE DR./ISLAND COTTAGE TO CRESCENT BEACH

The segment of Edgemere Dr. from Island Cottage to Crescent Beach is bordered by ponds to the south and Lake Ontario to the north, making it vulnerable to flooding and erosion from both directions. The intersection of Edgemere and Island Cottage is lower than the adjacent roadways and the businesses at the intersection are prone to flooding.



Mitigation Measures

Proposed mitigation measures in the project will primarily consist of:

- Replacing the storm sewer system and installing check valves to prevent backflows
- Construction of a stormwater pumping station
- Raising the elevation of the roadway in selected low spots

The enlarged storm sewer will include provisions for pumping out collected water to promote continuous drainage. Increased storm drainage capacity will also provide the means to eliminate cross-connections to the storm system and reduce environmental damage through discharge of sewage to waterways.

Public Support and Asset Owner

Public support is high. This area has been a focal point for flood control for several years and



Town of Greece,
Monroe County



Town of Greece



850,000



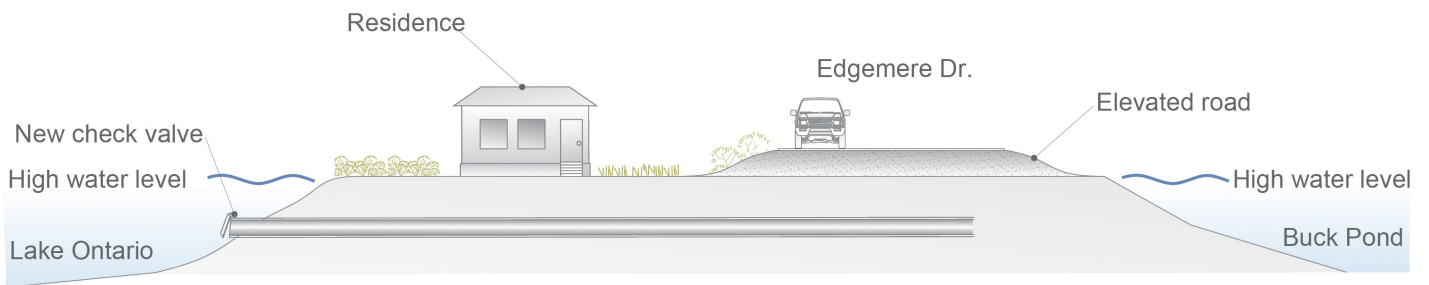
enhancing emergency access to the residents and reducing sewage flows to the environment is a high priority to the community. This asset owner is public.

Permitting and Feasibility

The project is considered highly feasible. While it would require temporary traffic mitigation, the duration of the project and cost of the project are both reasonable. Local permits for traffic control and construction of storm sewers will be required.

Benefits

The proposed stormwater system, coupled with raising low spots in the roadway, will provide substantial protection to the residents from flooding. Residents will be responsible for eliminating cross-connections to the sanitary sewer. Additionally, by correcting the low spots, it would protect the owners by eliminating flooding, keeping the road open for any emergency response.



Elevation of road (Principle sketch, NTS)

Flexibility

This project is considered relatively flexible in that it can be done in sections in order to minimize road closures during construction. Additionally, because various options for flood prevention are being implemented, it allows for flexibility during design and construction.

Durability

The capacity of the new storm sewers will be greater than the existing and this would extend the lifespan of the drainage system. Construction materials for the proposed sewers would be selected based on a minimum design life of 30 years. All roadway work will be in accordance with MCDOT and NYSDOT standards.

Economic Development Potential

The road is a major access route to numerous residences and local businesses, including two highly visible restaurants (CharBroil and Schallers), both of which are difficult to access during flood

conditions. Flooding can impact property value, as well as result in severe traffic and reduce productivity if the road becomes impassable.

Environmental Considerations

While the project will benefit the environment by reducing sanitary sewage overflows into adjacent waterways, additional stormwater will be introduced into Buck Pond requiring an evaluation to determine if there are any adverse impacts.

Alternatives Considered

No action.

WWPS ON LAKE RD. AND WATER WELLS

The Town of Webster owns a WWPS on Lake Rd. serving the residents and businesses located on the sand bar. The pump station is located close to water's edge and the floor elevation is approximately 250 ft. The pump station is overwhelmed during periods of high water. Adjacent to the WWPS are abandoned drinking water wells located near flood elevation that need to be properly capped to protect the aquifer.



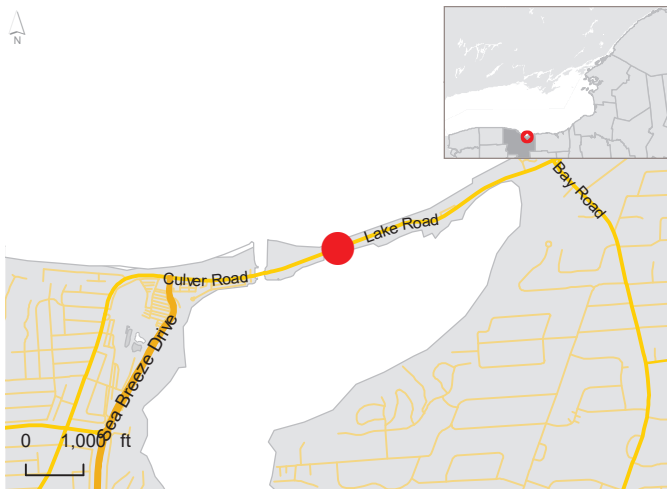
Town of Webster,
Monroe County



Town of Webster



501,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Replacing the present wastewater pumping system with larger submersible pumps
- Raising the structure and electrical elements to a safe elevation
- Capping abandoned drinking water well heads

Public Support and Asset Owner

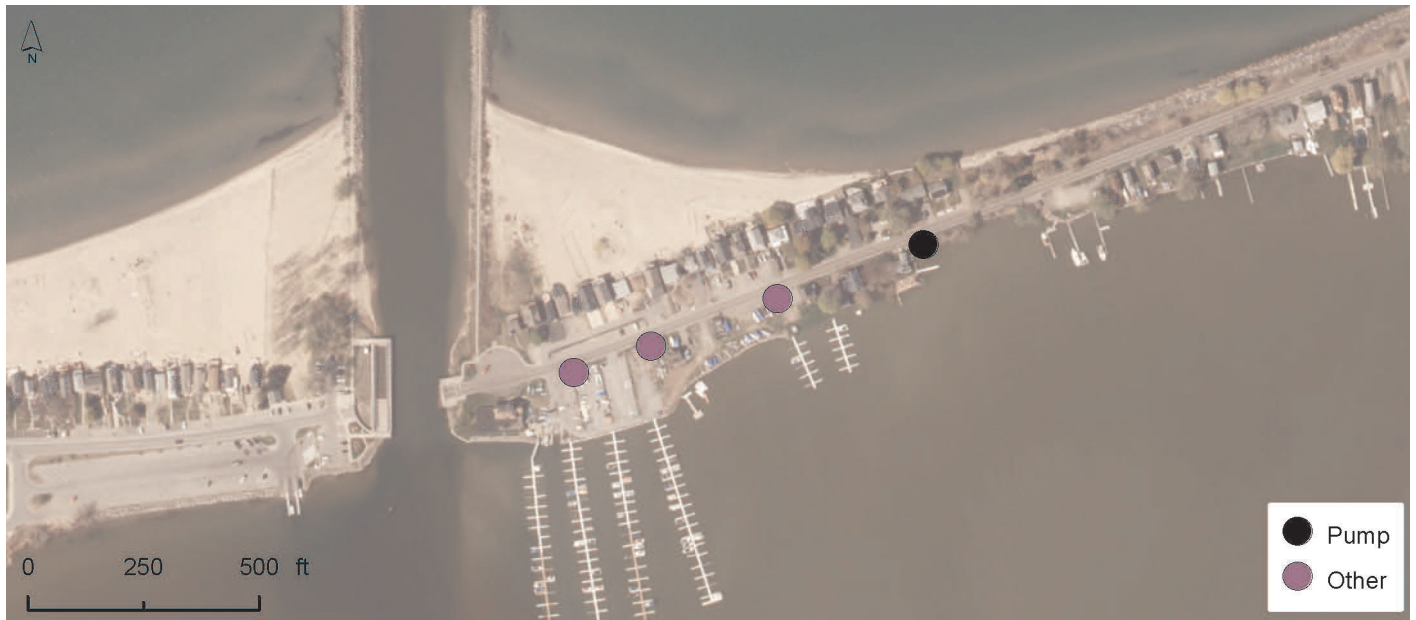
Public support is high. Modifying the pump stations will protect local waterways from sanitary sewage spills and capping the abandoned wells will protect the aquifer. The asset owner is public.

Permitting and Feasibility

The identified project components are not unique and can be implemented with minimal impact to the environment. As no change to the topography or work within the water is anticipated, the permits will be limited to local construction and NYSDEC permission to construct sewerage works and New York State Department of Health (NYSDOH) inspections of well head closure.

Benefits

Pump station improvements will protect sanitary sewer system function and ensure reliable operations for the community. Public health will be protected by the minimization of overflows into the waterways.



Flexibility

The proposed pumping system will be expandable as service area flows increase over time. The level of flood protection for the structure and electrical systems will be developed based on design guidelines proposed for the project. Considerations will be given to elevation of electrical equipment, permanent standby power, etc.

Durability

This proposed improvements are industry standard for long-term robust pump station construction and are expected to provide 20 years of service.

Economic Development Potential

There is no direct economic development potential for this project. However, reliable sewage service is expected to stabilize property values.

Environmental Considerations

This project will avoid adverse impacts to the environment due to construction in the existing footprint of the pumping station. The adverse impacts on the environment caused by pump station overflows will be mitigated.

Alternatives Considered

No action; plug drains; emergency pumping.

WWPS ON EMPIRE BLVD.

This project seeks to address the risk of flooding during high water events at two WWPS on Empire Blvd. The stations are at risk of being overwhelmed during high water conditions due to inflow and infiltration caused by a higher water table. The pump stations are above-grade systems with all mechanical and electrical equipment above the wet well.



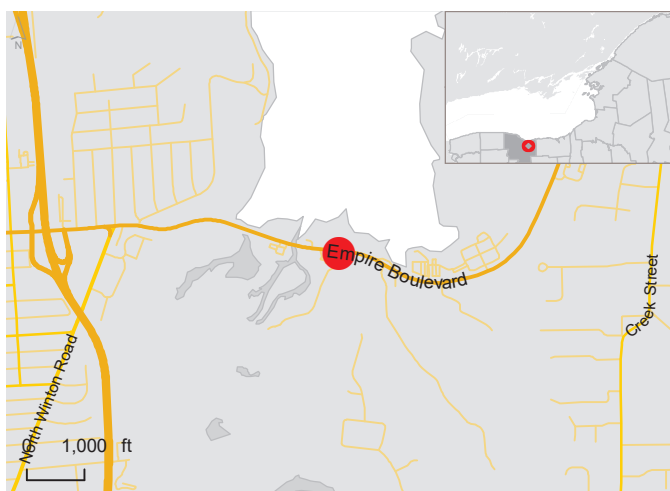
Town of Penfield,
Monroe County



Town of Penfield



125,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Construction of a concrete wall surrounding each pump station; the walls will be constructed to allow for removable stop logs for access and maintenance

Public Support and Asset Owner

Public support is high. The resiliency of the pump stations is important to maintain public health and maintain water quality in Irondequoit Bay. The asset owner is public.

Permitting and Feasibility

The near-term solution to construct waterproof walls around the pump stations is highly feasible and typical construction. Permits will be limited to local construction permits.

Benefits

Construction of protective walls around the pump stations will keep water from directly flowing into the pump stations and overwhelming the existing pumping systems.

Flexibility

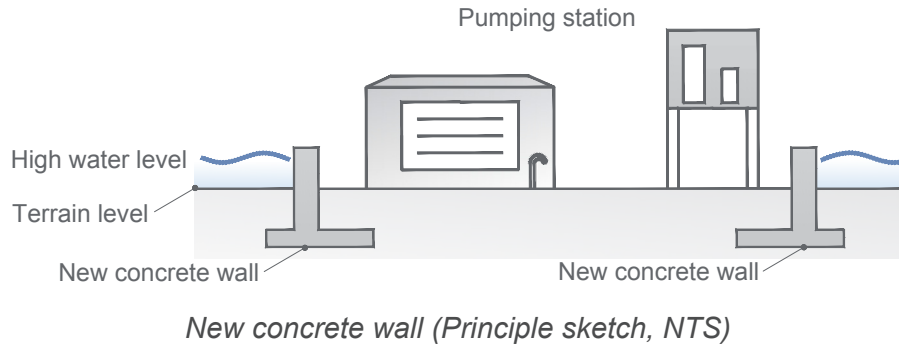
There is substantial flexibility in the layout and configuration of the proposed protective features.

Durability

The proposed solution is robust and common practice for similar systems.

Economic Development Potential

While there is no direct economic development potential with this project, reliable wastewater collection will help stabilize area property values.



Environmental Considerations

The project will reduce the amount of floodwater that could enter the pump stations.

Alternatives Considered

No action.

CULVER RD. STORM SEWERS

This project seeks to reduce flood risk by making improvements to storm sewers. Culver Rd. is located at the entrance to Irondequoit Bay State Marine Park. The existing storm sewer system is inadequate and the area is subject to flooding during high water events. When flooding occurs, there are public safety and economic impacts.



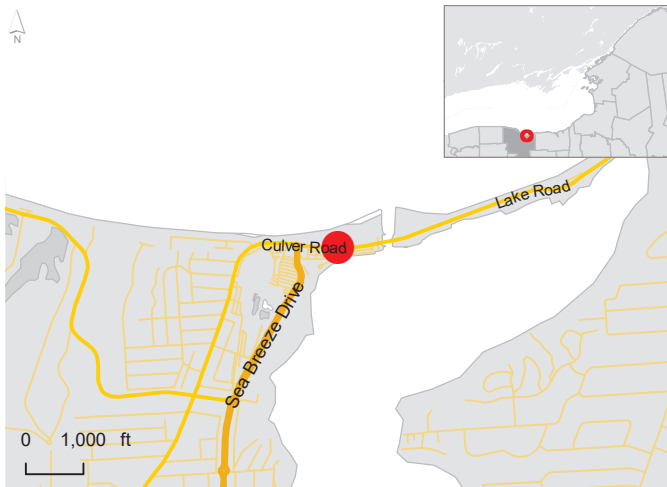
Town of Irondequoit,
Monroe County



Monroe County Department of
Transportation (MCDOT)



500,000



Culver Rd.

Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Modifications to the existing storm drains
- Installation of check valves
- Permanent connections for temporary pumps if needed

Public Support and Asset Owner

Public support is high. Culver Rd. is a primary road in Irondequoit and allows for direct travel from Irondequoit to Webster over the bay outlet when the swing bridge is positioned for travel. Maintaining continuous flow of traffic on Culver Rd. is essential for public safety. The asset owner is public.

Permitting and Feasibility

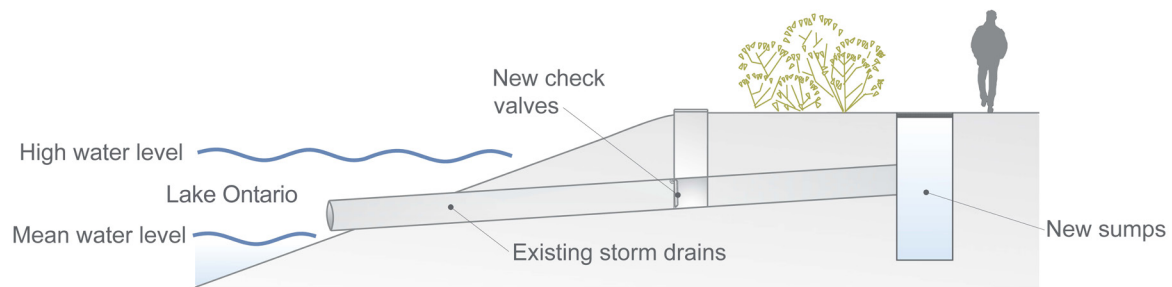
This project is considered highly feasible and includes relatively simple measures that have been proven successful. With all construction located inland and in previously disturbed areas, the permitting requirements will be minimal. Multi-jurisdictional permit review is needed.

Benefits

This project will protect public safety by maintaining emergency access routes. The project will also result in systems to convey floodwaters away from housing areas and decreasing the likelihood that homes will be flooded.

Flexibility

There is greater flexibility for future changes to the area by increasing the size of the storm sewer. The materials and methods used can be adjusted for the project to provide the most sustainable solution possible.



New storm sewer (Principle sketch, NTS)

Durability

The project will provide a more durable storm sewer system for the area and increase service life. This will keep floodwaters from deteriorating the roadway.

Economic Development Potential

Culver Rd. is an important access road for the marine park and local businesses. The road is essential to keep open for emergency access and to serve local businesses. If the local businesses are required to close due to access issues, the impact for each could be in the range of \$20,000 per week of revenue loss.

Environmental Considerations

Design and construction will avoid adverse impacts to the environment and will adhere to New York State (NYS) erosion and sediment control requirements.

Alternatives Considered

No action; portable emergency pumps only.

EDGEMERE DR./CRANBERRY RD.

Edgemere Rd. is bordered by ponds to the south and Lake Ontario to the north, making it vulnerable to flooding and erosion. Private residences are located along the shoreline of the lake, along the roadway. During storm events, the road floods in multiple locations due to low spots and flooding makes it difficult to reach residences.



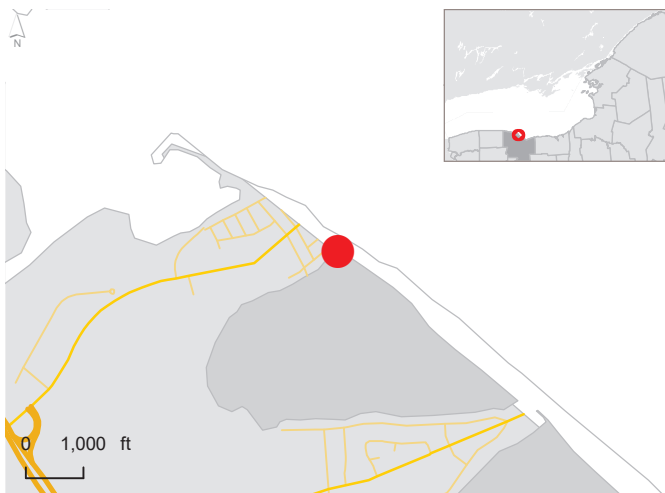
Town of Greece,
Monroe County



Town of Greece



150,000



Edgemere Dr./Cranberry Rd.

Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Installation of new storm sewers with the ability to pump stormwater into the Cranberry Pond
- Installation of shoreline stabilization measures along a portion of the pond to reduce water overflowing onto the road

Public Support and Asset Owner

Public support is high. The road provides access to homes and is essential for residents to visit local businesses and receive emergency response. The asset owner is public.

Permitting and Feasibility

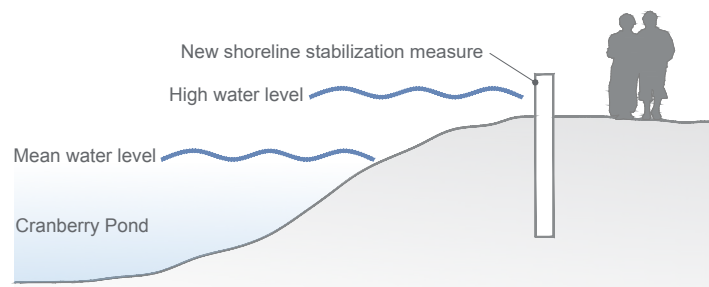
The project is considered highly feasible. While it would require temporary traffic mitigation, the duration and cost of the project are relatively low. Flood reduction would also prevent erosion and result in lower maintenance.

Benefits

Installing new storm sewers with the ability to pump into a neighboring pond and a wall to reduce overflow onto the road would greatly reduce flooding, protecting the road and the residences on the other side from water damage. Additionally, this would allow the road to remain open for emergency responders.

Flexibility

The project involves the flexibility to pump stormwater into Cranberry Pond, which would further aid in flood reduction.



New shoreline stabilization measure (Principle sketch, NTS)

Durability

The capacity of the new storm drains will be greater than the existing system, which would extend the lifespan of the drainage system while greatly reducing flooding and wear on the road. Pump equipment selected during design would be robust and durable.

Economic Development Potential

The road is a major access route to numerous residences and local businesses. Flooding can impact property value, as well as result in severe traffic disruptions and reduce productivity if the road becomes impassable.

Environmental Considerations

The project will avoid adverse impacts to the environment. Multi-jurisdictional permit review is needed.

Alternatives Considered

No action; raising the road at low spots.

ROUND POND/EDGEMERE DR. BERM

This project will address the recurring flooding of Edgemere Dr. during high water periods. This portion of Edgewood Dr. is located between Lake Ontario and Round Pond, and is susceptible to flooding from the south or west due to waves driven from Round Pond, and from the north or east due to waves driven from Lake Ontario.



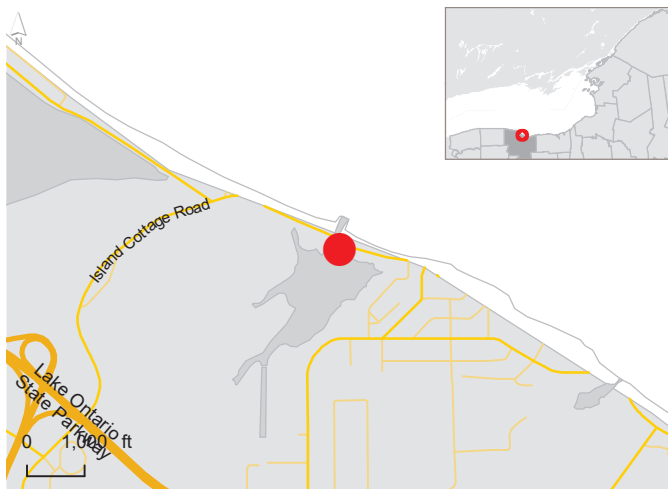
Town of Greece,
Monroe County



Town of Greece



143,000



Round Pond/Edgemere Dr. berm

Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Extending the existing berm along Round Pond and its outlet

Public Support and Asset Owner

Public support is high. This road is critical infrastructure that was submerged for over 100 days in 2017, leaving residents without ready access to emergency responders. The asset owner is public.

Permitting and Feasibility

This project is considered highly feasible due to stakeholder support and minimal activities required to implement improvements. The project consists of installing infrastructure that is widely used and will require little maintenance. Multi-jurisdictional permit review is needed.

Benefits

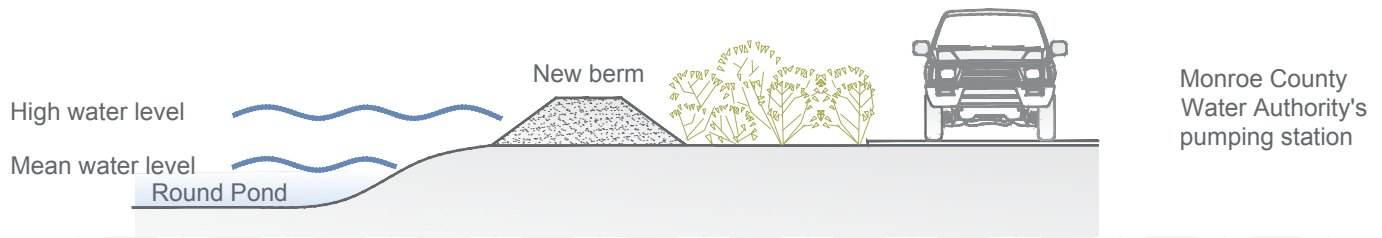
This project will protect the Monroe County Water Authority's (MCWA) pumping station and prevent flooding of Edgemere Dr. and provide greater protection for homeowners. By protecting access to the neighboring communities, the property value of those communities would remain more stable.

Flexibility

The project will include earthen materials that are readily available and the shape of the berm can be tailored to meet various ground conditions.

Durability

Properly designed and constructed berms will provide a long-term solution.



New berm (Principle sketch, NTS)

Economic Development Potential

By implementing this project, Edgemere Dr. and the adjacent MCWA pumping station will be protected, stabilizing the property values. Total assessed value of affected properties is \$11,924,800.

Environmental Considerations

This project has no known environmental considerations.

Alternatives Considered

No action; construction of a concrete wall.

SANDBAR PARK

The Town of Webster Sandbar Park consists of property on both sides of Lake Rd. and borders Lake Ontario on the North and Irondequoit Bay on the South. A new project will substantially modify the park by improving Lake Rd. alignment and correcting flooding issues from Irondequoit Bay.



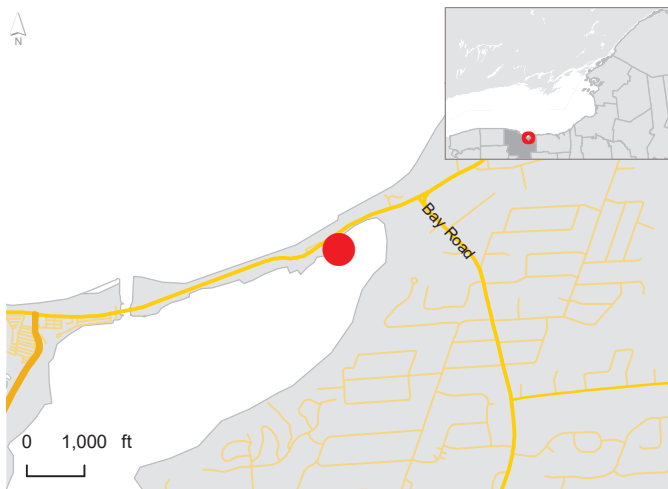
Town of Webster,
Monroe County



Town of Webster



748,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Construction of a berm along the waters edge
- Installation of a new piping system for removal of ponded water

Public Support and Asset Owner

Locally supported, the project is part of the Town of Webster's long- term plan to improve Sandbar Park. The asset owner is public.

Permitting and Feasibility

The town has completed a substantial engineering effort toward improving the park property and anticipates moving forward in 2019. The waters' edge is within or adjacent to NYSDEC and federal wetlands, requiring a NW permit for construction.

Benefits

The proposed berm will reduce flooding potential from the south and allow for removal of water via portable pumps that collect in this zone.

Flexibility

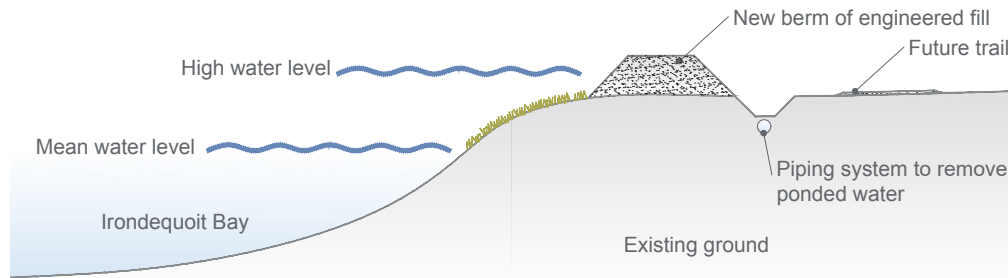
The flood control features will be coordinated with the park master plan and can be located to provide the most benefit for flood protection, as well as increasing the function of the park.

Durability

The proposed project will have a design life of more than 30 years.

Economic Development Potential

When completed, this project will protect the property values of the adjacent park and homes.



New berm and piping system (Principle sketch, NTS)

Environmental Considerations

The project will avoid adverse environmental impacts. However, it is likely that some work will take place within wetlands and/or waters.

Alternatives Considered

No action.

EDGEMERE DR. STORM SEWERS

Edgemere Dr. is a county road located between a variety of ponds and Lake Ontario. Homes are located along the shore of the lake, while the road travels along the rims of the ponds. During storm events, the road floods due to the current undersized storm sewer system.



Town of Greece,
Monroe County



Monroe County



1,500,000



Mitigation Measures

Proposed mitigation measures in the project along Edgemere Dr. will consist of:

- Replacement of the existing storm sewers and installing additional drain inlets from Manitou Rd. to Crescent Beach Rd.
- Installation of control valves to isolate sewers from water courses
- Installation of a connection for temporary pumps to transfer stormwater into the ponds

Public Support and Asset Owner

Public support is high. The road is vital to homes along the road for emergency access and transportation to local businesses. The asset owner is public.

Permitting and Feasibility

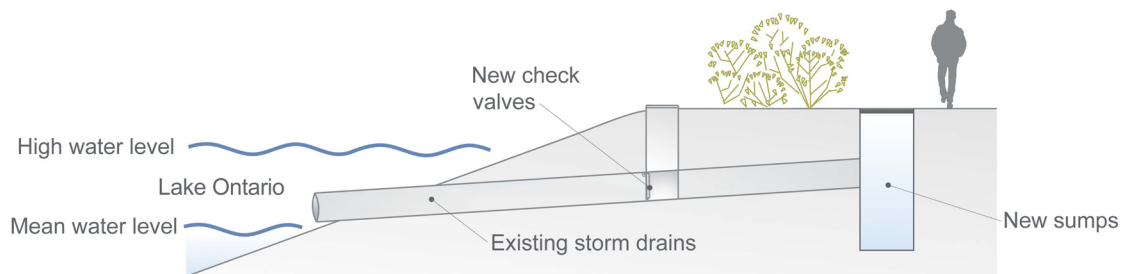
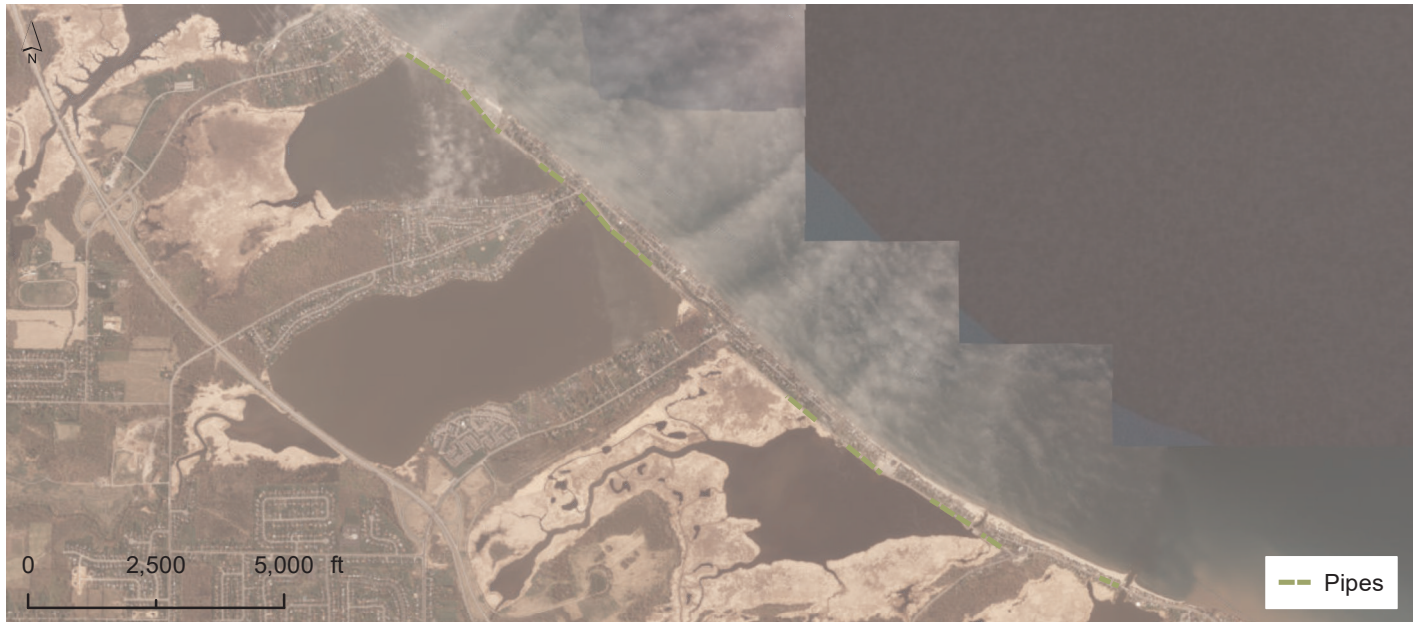
The project is highly feasible since most of the infrastructure will be replaced in its current location. Multi-jurisdictional permit review is needed.

Benefits

All homes along the road are affected by excess stormwater and highly vulnerable. This project will enhance access for emergency vehicles during high water conditions and reduce damage to local residences. Property values will also be protected by the decrease in home damage caused by flood events.

Flexibility

There is a flexibility in the design to size, location, and materials used. The project is also dependent on additional projects on the same road and how those mitigation factors may affect this area.



New storm sewer (Principle sketch, NTS)

Durability

The increased size of the storm sewer will allow for a more durable system to handle storm events. Additionally, the roadway will be further protected from saturation, resulting in a longer lifespan.

Economic Development Potential

This project will protect the property values of homes along the road, allowing for equitable resale value. The road is a major local road that is utilized for transportation to many local businesses.

Environmental Considerations

This project will strive to minimize adverse effects on the environment and utilize erosion and sediment control measures to minimize impact on Lake Ontario and the surrounding ponds. Impacts on the ponds from emergency pumping should be considered.

Alternatives Considered

No action; emergency pumping only.

FISHING ACCESS AT ST. PAUL

This project seeks to protect fishing access at St. Paul consisting of an asphalt paving area and a walkway along the river, supported by a steel sheet pile wall. This is the only public fishing access on the east side near the river outlet. A continuous portable dam was installed in spring 2019, to hold back water from entering the park and affecting the park and adjacent assets.



Town of Irondequoit,
Monroe County



Monroe County



326,000



Fishing access at St. Paul

Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Construction of new and modified concrete walls above grade on the existing concrete deck
- Installation of storm sewer check valves to eliminate back flow through the existing storm sewers
- Openings with removable stop logs strategically placed to allow for pedestrian access

The wall would be constructed along the west and south edges of the park and integrate existing berms and concrete walls to create a continuous barrier against flooding.

Public Support and Asset Owner

Public support is moderate. Multiple stakeholders are engaged and input was obtained. The asset owner is public.

Permitting and Feasibility

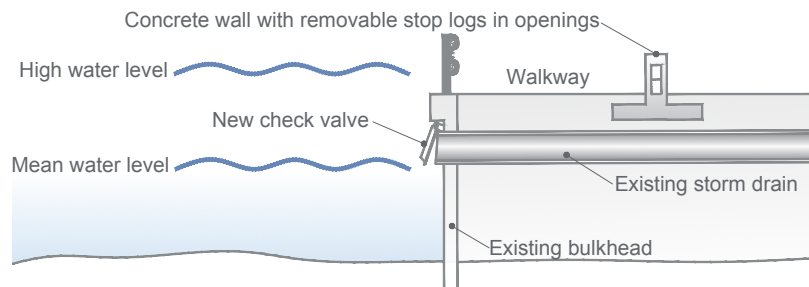
This project is considered highly feasible due to limited construction impacts and the benefit that the additional protection for adjacent assets will be provided through this project.

Benefits

Installation of a barrier wall will reduce water intrusion inland from the Genesee River. Other assets, businesses, and residences immediately east of the park will benefit from the project.

Flexibility

The proposed features, when installed, will be fixed in place and design height will be determined during final design. There will be some level of flexibility in developing the improvements to blend into the environment and be expandable in the future if the water level rises higher.



New concrete wall and check valve principle (Principle sketch, NTS)

Durability

The proposed barriers will be constructed of concrete and provide decades of protection.

Economic Development Potential

While there is little economic development associated with protecting this individual asset, completing this project will protect contiguous assets comprising emergency protection facilities (Monroe County Sheriff's Station), USCG and local businesses resulting in preservation of property values. It is also an asset that is open and free to the public to use and serves as a recreational fishing area throughout the season.

Environmental Considerations

The project will avoid adverse environmental impacts and most work will be above grade.

Alternatives Considered

No action; installation of temporary flood protection as needed.

WEST WEBSTER FIRE BOAT ACCESS/DOCKS

The West Webster Fire Department maintains a dock at Meyers Marina on Lake Rd. in Webster. This access is a critical asset for the fire department to perform rescues on Irondequoit Bay and Lake Ontario. This project seeks to provide a dedicated dock and launch facility. The current facility is affected by high water levels and is inaccessible during flood conditions.



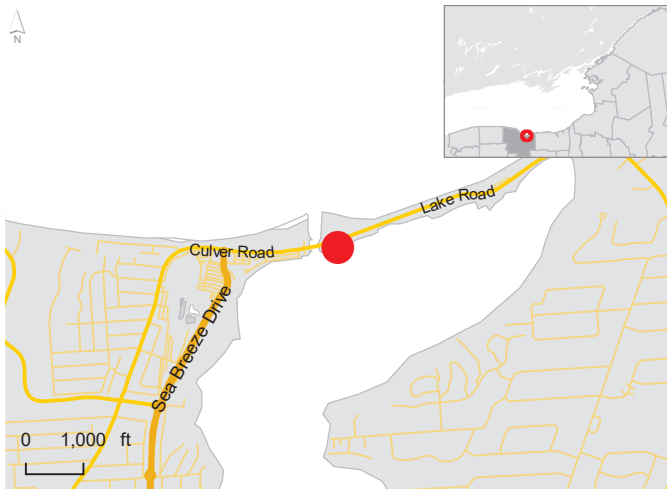
Town of Webster,
Monroe County



Town of Webster



77,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Construction of a floating dock and launch facility to provide uninterrupted access at all times or relocated nearby to support operation at high water levels

Public Support and Asset Owner

Public support is high. The project will enhance emergency services. The asset owner is public.

Permitting and Feasibility

A local construction permit will be required depending on selected location for the new dockage and boat launch. Property may need to be procured. Multi-jurisdictional permit review is needed.

Benefits

Maintaining a dedicated dock for use by the West Webster Fire Department is paramount to the emergency operations at the north end of the bay. The dock is for use by the fire department and other agencies for launching boats and retrieving injured boaters.

Flexibility

The proposed new dock will be a floating structure and can be relocated or positioned at nearly any location. Consideration will be given to accessing the docks under high and low water conditions.

Durability

Floating docks have a limited life. A lifespan of 30 years is expected.

Economic Development Potential

None identified.



Environmental Considerations

Construction of a dock and dedicated boat launch area will require some disturbance to the shoreline. Disturbance should be minimized to the maximum extent possible and repaired as necessary.

Alternatives Considered

Continued use of temporary dockage, subject to high waters.

BRADDOCK RD. SEWERS

This project seeks to eliminate flood risk by making improvements to storm sewers. Braddock Rd. is located along the shore of Braddock Bay. The roadway and homes alongside it are at high risk of flooding as they are located below the base flood elevation of 250 ft. In 2017, floodwaters approached 249 ft, and in 2019, exceeded 249 ft.



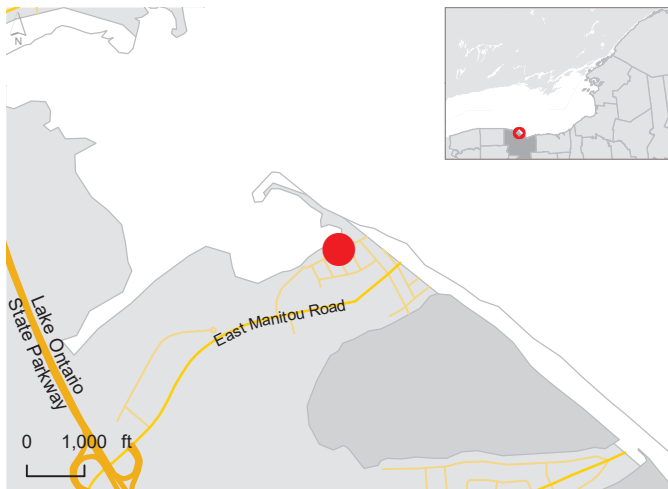
Town of Greece,
Monroe County



Town of Greece



250,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Eliminating 2 of 3 existing outlets
- Replacing the remaining outlets, installing a control valve, and upsizing 1,050 LF of storm sewer and 22 lateral services
- Raising Braddock Rd. Sanitary Pump Station to an appropriate elevation

Public Support and Asset Owner

Public support is high. This issue is included in the Town of Greece Engineering Report and the community is at high risk for flooding. The asset owner is public.

Permitting and Feasibility

This project is considered highly feasible. The project includes widely acceptable practices that have been proven successful. Construction would be located inland. Multi-jurisdictional permit review is needed.

Benefits

The project will protect properties from the impact of sewer overflows, as well as protect residents from the associated health risks.

Flexibility

The upsizing of sewers will allow for greater capacity, which provides flexibility for future changes to the neighborhood. There is also flexibility in which materials and methods are used for the project. The design will take these into consideration and will aim to provide the most sustainable and resilient solution as economically possible.



Durability

The project will provide a durable sewer system for the community. Upsizing the sewers and protecting the pump station from flooding will allow for Braddock Rd. to be more resilient against future flooding. This will keep flooded waters from deteriorating the roadway and improve the durability of adjacent properties.

Economic Development Potential

By providing a reliable sewer system and preventing flooding, property values will be improved for this community.

Environmental Considerations

The project will improve the environmental health by reducing exposure of bacteria and contaminants. Construction will avoid adverse impacts to the environment and will be completed to control sediment transfer to waterways.

Alternatives Considered

No action.

SHORELINE ROADS, STORM SEWERS

This project seeks to enhance the removal of floodwaters from roadways located adjacent to the lake. Approximately 8,000 LF of roads within the Town of Parma are adjacent to Lake Ontario. Some of these roads are at elevations similar to the lake and are flooded when lake levels are high.



Town of Parma,
Monroe County



Town of Parma



400,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Installation of check valves on approximately 15 storm drains
- Construction of sumps for the purpose of installing temporary pumps to transfer water into adjacent ponds

Public Support and Asset Owner

Public support is moderate. This project has local support. The asset owner is public.

Permitting and Feasibility

A majority of the work will take place within existing right-of-way for the roads with some work on the pipe discharges outside of the right-of-way and adjacent to waterways. Multi-jurisdictional permit review is needed.

Benefits

The proposed storm sewer improvements will provide the means for draining water away from roadways.

Flexibility

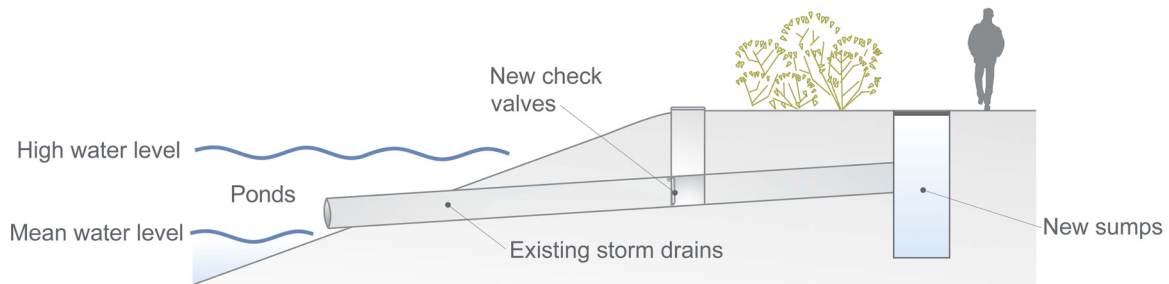
The size, location and overall features of the stormwater collection system are fully scalable and easy to modify as the water management requirements in the area evolve over time.

Durability

The proposed project will have a design life of more than 30 years.

Economic Development Potential

When completed, this project will protect the property values of adjacent homes.



New storm sewer (Principle sketch, NTS)

Environmental Considerations

The project will avoid adverse environmental impact. However, it is likely that some work will take place within wetlands and/or waters.

Alternatives Considered

No action.

GERMAN VILLAGE PUMP STATION

This project seeks to increase capacity of the German Village WWPS during high water events. The German Village WWPS serves Point Pleasant Estates and Bayfront North Lane. When water levels are elevated, additional inflow and infiltration due to high groundwater and influence of residential sumps results in excess flow to the pumping station.



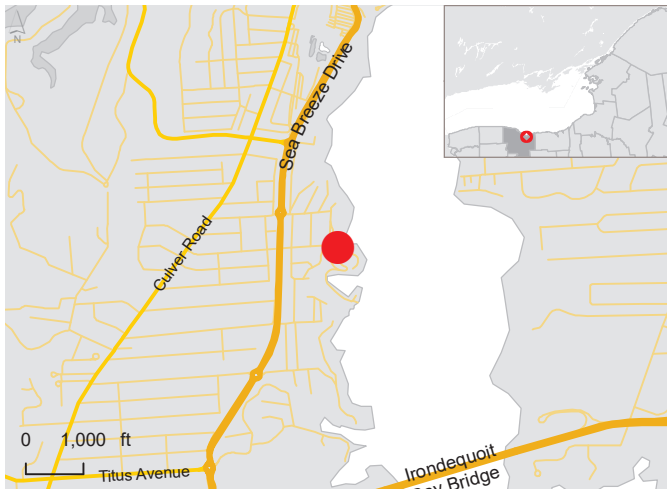
Town of Irondequoit,
Monroe County



Town of Irondequoit



150,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Replacement of pumps with a higher capacity system and floodproofing the entire pump station

Public Support and Asset Owner

Public support is high. The resiliency of the pump station is important to maintain public health and water quality in local waterways. The asset owner is public.

Permitting and Feasibility

Near-term solutions for flood protection are highly feasible due to the impact on public health and support for improving performance. The replacement of pumps is also highly feasible should no large upstream or downstream system be affected. Multi-jurisdictional permit review is needed.



Benefits

The floodproofing of the existing pump station will protect the infrastructure from future damage. Upstream drain backups can also be mitigated due to pump replacement.

Flexibility

Flood protection measures and redesigning the pump station facility will allow for improved flexibility. Flood protection measures can be designed as modular and easily adjustable.

Durability

Without additional improvements to the upstream discharge of water during high rain events, the pump station will continue to experience high wet weather event flows.



Economic Development Potential

While there is no direct economic development potential with this project, reliable wastewater collection will help stabilize property values in the area.

Environmental Considerations

The project will reduce the amount of sanitary sewage backflow into storm sewers and eventual discharge into Irondequoit Bay.

Alternatives Considered

No action; relocate pump station.

WAUTOMA BEACH RD.

Wautoma Beach Rd. runs adjacent to Lake Ontario on the southern shore in the Town of Hamlin. Homes are located on both sides of the road and most homes on the lakeshore are protected with a seawall or heavy rocks. Among the homes is a public beach right-of-way with no protection against waves and high water providing an avenue for water to inundate the roadway and area residences.



Town of Hamlin,
Monroe County



Town of Hamlin



488,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Construction of a 200 LF breakwater in front of the right-of-way access point and to raise the elevation of the beach property to protect the area from flood intrusion

Public Support and Asset Owner

Public support is high. There is a high amount of stakeholder support for this project. Flooding of Wautoma Beach Rd. prevents emergency vehicles from accessing homes on this dead-end road. Limiting flood intrusion will also protect the homes from further damage. The asset owner is public.

Permitting and Feasibility

This project is considered highly feasible. The mitigation measures proposed are widely acceptable and have proven effective for similar projects. Multi-jurisdictional permit review is required.

Benefits

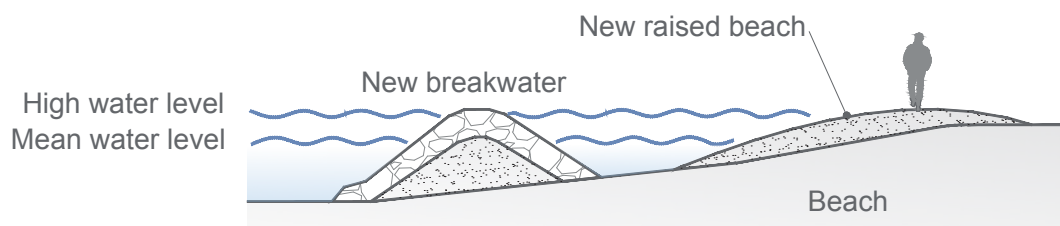
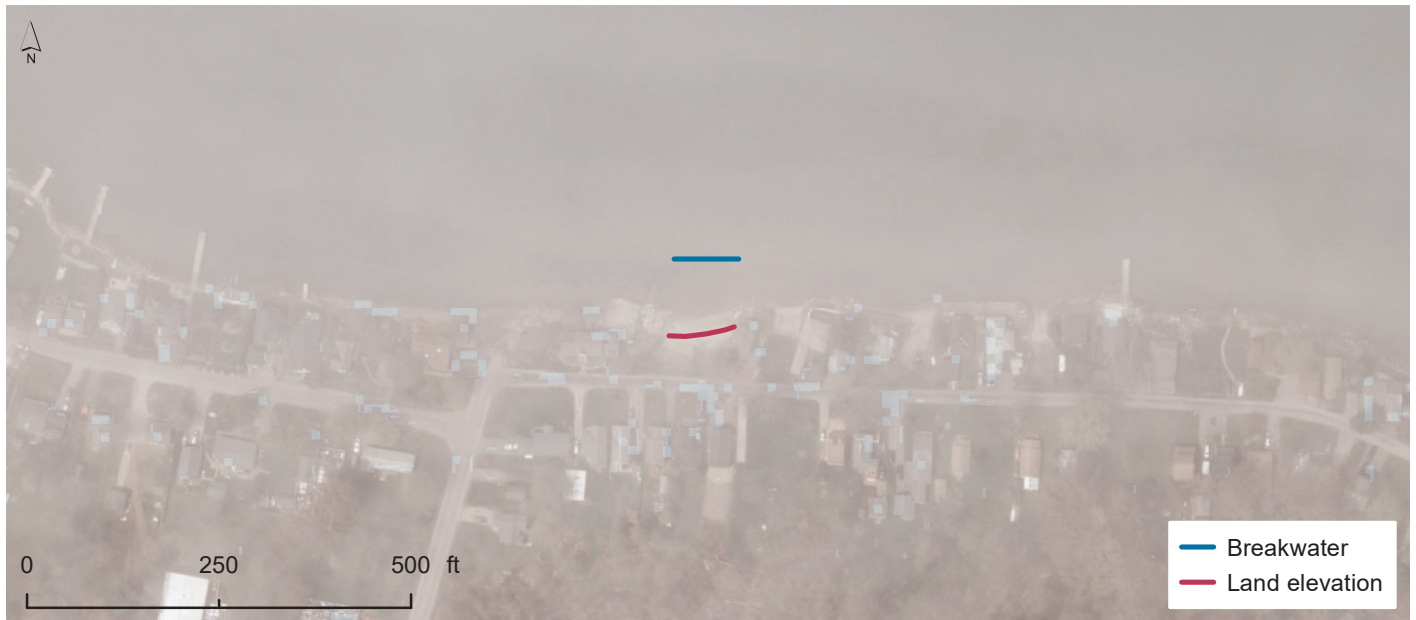
The project protects residents along Wautoma Beach Rd. by providing access to emergency vehicles. The lakefront properties are also protected from eroding shoreline, reducing their exposure to flooding and reducing their risk to deteriorating or unstable foundations.

Flexibility

The design of the breakwater will take into account use of sustainable materials and configurations that will provide maximum protection from wave action from various directions.

Durability

The project will improve the durability of Wautoma Beach Rd. by reducing the exposure of the base and pavement to flooding. Adjacent homes will be protected from flooding due to raising the elevation of the beach property to reduce overland water travel.



New breakwater and raised beach (Principle sketch, NTS)

Economic Development Potential

The project will protect the property value of the houses located on Wautoma Beach Rd.

Environmental Considerations

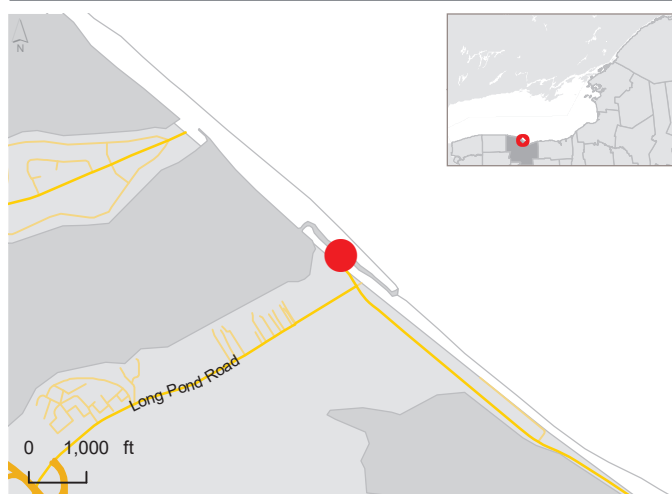
The design and construction of the project will avoid adverse effects to the environment. The breakwater and shoreline stabilization measures may impact natural habitats but will aim to reduce those effects. The land use will not change from this project.

Alternatives Considered

No action; riprap slope protection.

LONG POND OUTLET (CHANNEL PARK)

Channel Park is a neighborhood park serving 300 homes. The Lake Shore Fire District maintains a boat launch for emergency calls in the immediate nearshore of Lake Ontario. The majority of Channel Park is susceptible to flooding during high water periods. Residents cannot use the park, and the Fire District boat launch becomes unusable. To address these problems, it is recommended that shoreline stabilization measures be installed along the south shore of Long Pond Outlet to protect the park and boat launch.



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Installation of shoreline stabilization measures along the south shore of Long Pond Outlet to protect the park and boat launch

Public Support and Asset Owner

Public support is high. This park is a staple for the neighboring community and public support to maintain it is high. Additionally, protecting the boat launch used by the Fire District is a safety requirement to respond to distress calls along the nearshore of Lake Ontario. The asset owner is public.



Town of Greece,
Monroe County



Town of Greece



1,929,000



Permitting and Feasibility

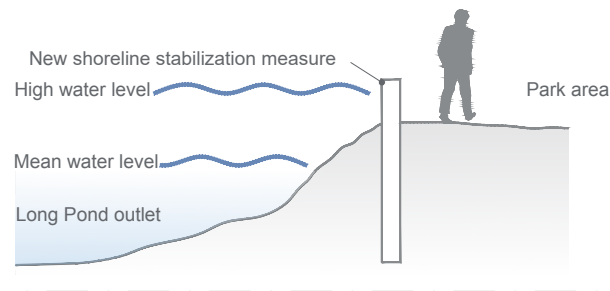
Protection of habitat and wetlands will need to be considered during development of the proposed shoreline stabilization. Multi-jurisdictional permit review is needed.

Benefits

Installing the stabilization measure will protect the shoreline of the park from flooding and erosion. Provisions will be required at the boat launch site to ensure that the barrier configuration will allow for continuous access to the launch site at all times.

Flexibility

Design of the barrier will be based on numerous factors to allow the feature to blend into the park setting while providing the intended function of flood protection. Provisions will also be necessary to expand the barrier height for future water conditions as the lake level changes.



New shoreline stabilization measure (Principle sketch, NTS)

Durability

Several types of shoreline stabilization measures are suitable for installation and will provide decades of service if maintained properly. Shoreline stabilization consisting of earthen features, gabions, and rocks, or a combination thereof, are commonly constructed in a similar manner at locations where minimal environmental disturbance is desired.

Economic Development Potential

Data indicates that a nearby park can increase home values by five percent. Protecting the park will maintain/increase property value in the surrounding area.

Environmental Considerations

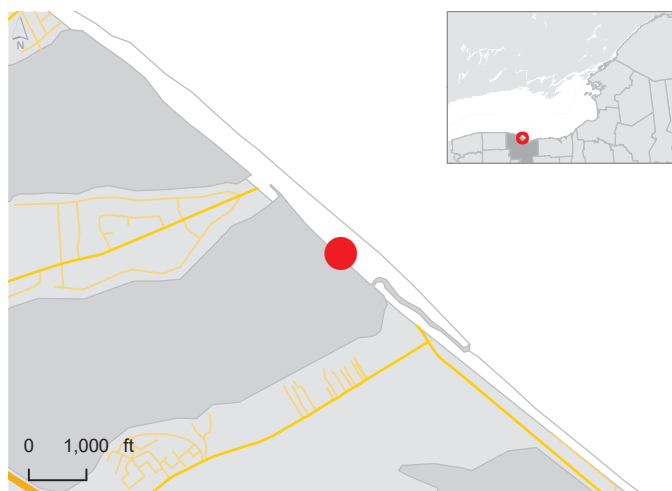
Protection of aquatic habitat and ecology will be an important facet of this project and careful consideration will be required for development of a flood barrier that will not impact existing habitats. Alternative natural and nature-based solutions were identified and are under consideration.

Alternatives Considered

No action; relocation of boat launch; addition of stormwater modifications and temporary pumping systems.

EDGEMERE DR.

Edgemere Dr. is a county road located between multiple ponds on one side and Lake Ontario on the other. Private residences are located along the shoreline of the lake, along the roadway. During high lake levels, the road floods due to a low spot, allowing for the water from the ponds to travel across the road into residences. Flooding of the road makes it difficult to reach these residences.



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Raising the elevation of approximately 2,000 LF of Edgemere Dr. 1 to 2 ft (above present level)

Public Support and Asset Owner

Public support is high. Problematic flooding has been corrected over the years and the conditions are a high priority for the community. Reducing the flooding impact will also enhance emergency response. The asset is publicly owned, but private properties will be impacted by the project.

Permitting and Feasibility

Increasing the height of the roadway will create a larger surface area impacted by the project and may require obtaining additional property to support the project. The project is considered highly feasible



Town of Greece,
Monroe County



Town of Greece



650,000



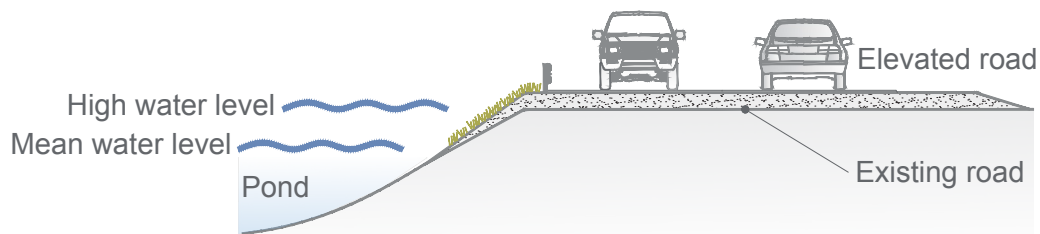
and the selected improvement less intrusive and will result in less long-term maintenance than other options.

Benefits

Raising Edgemere Dr. at the low spot would protect the residences from potential flooding or water damage from the ponds. Additionally, by correcting the low spot, it would protect the owners by eliminating flooding, keeping the road open for any emergency response.

Flexibility

This project is relatively flexible in that it can be done in sections to minimize the road closures during construction. Additionally, the exact height the road needs to be raised can be increased or decreased depending on the actual conditions experienced during design and construction.



Elevation of road (Principle sketch, NTS)

Durability

The roadway will be designed and constructed in accordance with MCDOT and NYSDOT standards and expected to last for 20-30 years. Consideration will be given to the impact of high water levels on the upstream side of the road that could come into contact with water.

Economic Development Potential

When Edgemere Dr. is flooded, local businesses and shoreline are inaccessible, decreasing their profitability. Additionally, flooding and water damage can negatively affect property values.

Environmental Considerations

While the project will avoid adverse impacts to the environment, a water runoff evaluation will need to be completed to ensure that by raising the road, the designed amount does not cause ponding or flooding in another area. Multi-jurisdictional permit review is needed.

Alternatives Considered

No action; regrading surrounding area, particularly around the ponds; re-sloping of the road to gutter/stormwater catch basin.

SEA BREEZE WWPS

This project seeks to address flooding that occurs at the Sea Breeze wastewater pump station (WWPS) during high water events. The station is currently overwhelmed during high water conditions due to inflow and infiltration caused by a higher water table and influence from residential sump pumps.



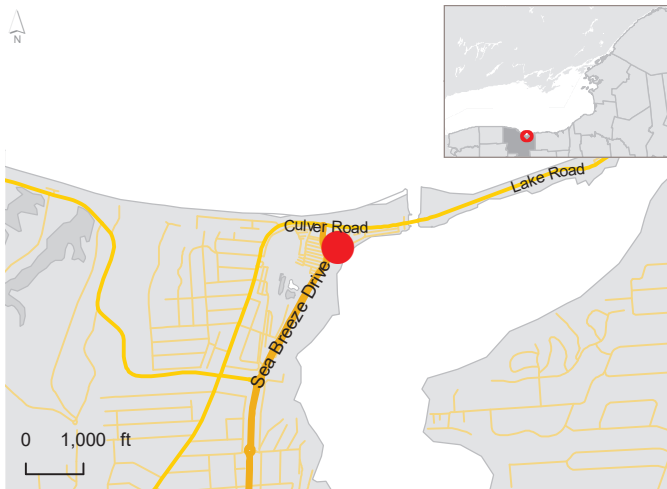
Town of Irondequoit,
Monroe County



Town of Irondequoit



150,000



Mitigation Measures

Proposed mitigation measures in the project will consist of:

- Replacement of pumps with a higher capacity system and floodproofing the entire pump station

Public Support and Asset Owner

Public support is high. The resiliency of the pump station is important to maintain public health and maintain water quality in local waterways. The asset owner is public.

Permitting and Feasibility

The near-term solutions for flood protection are highly feasible due to the impact on public health and support for improving performance. As the work will be internal to the pump station, local permits will be required.

Benefits

Floodproofing the existing pump station will protect the infrastructure from future damage. Upstream drain backups can also be mitigated due to increased pump capacity.

Flexibility

Modifications to the pumping station will focus on long-term flexibility of the system, and pump selections will be scalable for future growth.

Durability

The proposed improvements are typical of WWPS's and will provide a design life of 20 years.

Economic Development Potential

While there is no direct economic development potential with this project, reliable wastewater collection will help stabilize property values in the area.



Environmental Considerations

The project will reduce the amount of sanitary sewage backflow into storm sewers and eventual discharge into Irondequoit Bay.

Alternatives Considered

No action; pump station relocation.

PUBLICLY OWNED REGIONAL DOCKS AND BOAT LAUNCHES

Towns of Greece and Irondequoit; City of Rochester

Mitigation Measures

Proposed mitigation measures for these projects will require some or all of the following improvements:

- Replacement of fixed elevation docks with floating docks and slips, inclusive of anchorage and posts to restrict horizontal dock movement
- Relocation of fuel pumps and fuel tanks to a higher elevation to protect against rising lake levels
- Modification of dock electrical services in tandem with floating docks and/or relocation of facility infrastructure affected by rising water levels
- Raising of elevation of permanent structures close to the waters' edge and at elevations below anticipated high water levels
- Installation of shoreline stabilization measures at waters' edge, in some cases, extending height of existing infrastructure to higher elevation


The attached table summarizes projects located in the Monroe region.

Public Support and Asset Owner


Public support is high. These facilities provide substantial impact to the area in the form of jobs, tax revenue, recreation, and tourism. In many shoreline communities, these assets are at the core of community identity. The asset owners are public.

Permitting and Feasibility


These projects are considered moderately to highly feasible due to the type of improvements. Work will only be conducted in areas that have already been improved. Multi-jurisdictional permit review is needed.



Monroe County



Public



1,776,000

Benefits

Proposed shoreline stabilization measures will be designed to protect the localized infrastructure from flooding and damage due to debris, ice, and waves experienced under current conditions. Relocating marine fueling facilities to a higher elevation will further reduce the potential of spillage into waterways.

Flexibility

The final project components will be determined during design and tailored for each facility. All electrical work will be completed in accordance with National Electric Code (NEC), building modifications in accordance with local building code and shoreline stabilization measures constructed of materials locally available and in alignment with project funding.

Durability

Infrastructure improvements will be in accordance with national and local codes and generally will have a 30-year design life. Shoreline stabilization measures will be based on the selected site-specific design guidance and will typically last 30-40 years and be low maintenance.

Economic Development Potential

Recreational boating is of high value to Monroe County, and per 2014 data results in an approximate annual direct spending of \$16.3 million for slip rental, launch lanes, and charter boats. Translated into 2019 dollars, this value likely exceeds \$18 million when inflation, fuel sales, boat repairs, and restaurants are included.

Monroe County Mitigating Projects – Publicly Owned Regional Docks and Boat Launches				
County	Municipality	Asset	Quantity of Slips	Total Project Cost
Monroe	City of Rochester	Gibbs Marina	215	\$1,064,000
Monroe	Town of Greece	Westpoint Marina	300	\$479,000
Monroe	Town of Irondequoit	Sutter's Marina	160	\$233,000
				\$1,776,000

Environmental Considerations

Projects will avoid causing harm to adjacent properties through careful design of shoreline stabilization measures. Construction will follow appropriate standards and permit requirements.

Alternatives Considered

Designs should consider adjacent publicly funded projects.

