



LIVINGSTON COUNTY WATER & SEWER AUTHORITY

Leicester/Mt. Morris Outbound Sewer Pump Station Improvements

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1 Executive Summary

The Livingston County Water and Sewer Authority (Authority) recently performed a complete evaluation on all of the sanitary sewer pump stations in their public sewer collection system. The majority of these stations surround the east and west side of Conesus Lake. Outside of this area, the Authority also owns and operates multiple pump stations in the County, known as the 'outbound' pump stations.

Following the assessment of the outbound pump stations, the Authority identified notable defects in the pump stations and has prepared reports for multiple areas of the sewer system to address the needs of the pump stations. Alternatives including upgrades and improvements versus complete replacement of the pump stations have been considered and are presented in this report for the four pump stations located in the Leicester/Mount Morris area.

The alternatives were assessed based on cost, longevity, and the ability to provide reliable sewer collection and transmission to the customers of the Authority. It is recommended that the Authority seek funding to complete an improvement project that upgrades the existing equipment in the pump stations. This report will outline the defects, recommendations and cost implications for the Leicester and Mount Morris pump stations.

2 Definition of the Problem

The (Authority) is a public benefit corporation that was established in 1995 by an act of the State Legislature. As outlined in its enabling legislation, the Authority was created “for the benefit of the people of the county and the state, for the improvement of their health, welfare and prosperity, and that such purposes are public purposes, and that the authority is and will be performing an essential governmental function in the exercise of the powers conferred upon it”.

The Authority currently operates and maintains: three (3) wastewater treatment plants, approximately 55 miles of sanitary sewer collection and conveyance piping, and 45 sewage pump stations. The Authority is providing sewer services to approximately 3,530 sewer accounts. The Authority's sewer customers are located within the Village of Livonia and portions of the Towns of Livonia, Conesus, Avon, Groveland, Leicester, Mt. Morris, Sparta, and Springwater.

The sewer pump stations are an instrumental part of the public sewer system, and due to the topography of the County the pump stations are required to convey wastewater to the wastewater treatment facilities. Each pump station includes a wet well, pumps, and controls, with variations depending on the period they were constructed. Most of the pump stations also include a generator to ensure operation during power outages. The condition of the pump stations could be considered poor to good with issues including corroded piping, aging pumps, outdated controls, degraded wet wells, and some with capacity concerns.

In 2019 the Authority completed a comprehensive evaluation of each pump station in the system, with the intent of developing a plan to rehabilitate or replace the pump stations. Each pump station was evaluated by a team made up of civil and electrical engineers, for:

- Building condition: Visually inspected the exterior, interior, and roof of the building or enclosure for physical or structural issues and recorded any defects.
- Pumps, Motors, and Appurtenances: Recorded the pump capacity in gallons per minute (GPM), the design head in feet (ft), type of pump station, pump manufacturer, motor model, and motor horsepower. The site inspections provided an opportunity to observe any vibrations/sounds and odors of concern.
- Wet Well/Dry Well: Visually inspected for overall condition and any structural defects.
- Electrical System Components: Recorded main service feed including incoming voltage/amps, automatic transfer switches, lighting, branch circuits, and auxiliary/backup power.
- HVAC: Examined intakes, screens, ducting, vents, and fans.
- Remote Telemetry Unit (RTU) and System Control and Data Acquisition (SCADA)

The primary concern identified in the evaluation was the age and condition of the 26 pump stations that were constructed in 1968 around Conesus Lake in the Towns of Livonia, Conesus, Geneseo, and Groveland, the oldest pump stations in the sewer system. The Authority applied for funding through the New York State Environmental Facilities Corporation (NYSEFC) and was initially awarded \$1.75M of Water Infrastructure Improvements Act (WIIA) grant funding. An additional \$2.5M of Bipartisan Infrastructure Law (BIL) grant funding was awarded in 2023. The total project cost is estimated to be \$8.75M, with the remainder being interest free financing from NYS Clean Water Revolving Loan Fund to complete the project.

With the 26 pump stations around Conesus Lake being addressed, the Authority shifted focus to the remaining 19 pump stations, known as the “outbound” pump stations. The outbound pump stations

serve smaller population bases and were constructed in conjunction with sanitary sewer districts between 1997 and 2007. They include:

- 2 pump stations in the Lakeville service area consisting of wet wells, fiberglass enclosures, and suction lift pumps.
- 1 pump station in the East Avon service area consisting of a wet well, fiberglass enclosure, and suction lift pumps.
- 1 pump station in the Livonia Center service area consisting of a wet well, fiberglass enclosure, and suction lift pumps.
- 5 pump stations in the Hemlock service area consisting of wet wells, fiberglass and block enclosures, and suction lift pumps.
- 4 pump stations in the Conesus service area consisting of wet wells, wooden enclosures, and suction lift pumps.
- 2 pump stations in the Leicester service area consisting of wet wells, fiberglass enclosures, and suction lift pumps.
- 2 pump stations in the Mt. Morris service area consisting of wet wells, block enclosures, and suction lift pumps.
- 2 pump stations in the Groveland Station service area consisting of wet wells, wooden enclosures, and suction lift pumps.

This report will describe, analyze, and evaluate the pump stations in Leicester and Mount Morris in the Authority service area that feed towards the Village of Mount Morris WWTF. This report will also recommend improvements that can be made to these pumping facilities and appurtenances to achieve long-term sustainability and will recommend a timeline for implementing these recommended improvements.

2.1 HEALTH & SANITATION

Public sewer service is crucial in any community, as untreated or inadequately treated wastewater can lead to significant public health and environmental issues. Several pump stations have experienced failure in the past resulting in raw sewage spills. Many other pump stations are showing signs of deterioration, which could result in failures in the future.

Sewage overflows can contain harmful bacteria, viruses, and parasites that can cause diseases such as gastroenteritis, hepatitis, and others, and in extreme situations lead to death. People may encounter these pathogens through direct contact with the overflow, by accidentally ingesting contaminated water, or via contact with contaminated objects. Further, overflows can contaminate local water sources, affecting both drinking water and recreational water bodies, and leading to environmental degradation. The nutrient overload from sewage can cause eutrophication in water bodies, leading to algal blooms that harm aquatic life and ecosystem balance.

2.2 AGING INFRASTRUCTURE

Aging sewer pump stations present significant challenges to municipalities and utilities, as these critical infrastructure components are essential for the effective management of wastewater. Over time, the mechanical and structural elements of pump stations can deteriorate due to constant exposure to corrosive substances, high operational demands, and environmental factors. Components such as pumps, motors, and control systems may become less efficient, leading to increased energy consumption, frequent breakdowns, and higher maintenance costs. Additionally, the structural integrity of wet wells and piping can be compromised by corrosion, causing leaks and potential environmental contamination.

The consequences of neglecting aging pump stations include increased risk of system failures, sewage overflows, and environmental pollution, which can lead to public health issues and regulatory fines. Upgrading or rehabilitating these facilities involves assessing the current condition, prioritizing critical repairs, and implementing modern technologies to improve efficiency and reliability. Retrofitting pump stations with more durable materials, advanced monitoring systems, and energy-efficient equipment can extend their service life and ensure they meet current and future demands. Proactive maintenance and regular inspections are also crucial to identify and address issues before they escalate into major problems. Investing in the modernization of aging sewer pump stations is essential for maintaining the integrity and functionality of public sewer systems.

2.3 CORROSION

Corrosion from sewer gases, particularly hydrogen sulfide (H_2S), is a significant issue in wastewater infrastructure. When H_2S gas is present in sewers, it can dissolve in the water to form sulfuric acid (H_2SO_4). This acid is highly corrosive, especially to concrete and metal pipes, leading to structural degradation over time. The process typically starts with the microbial conversion of sulfate to sulfide under anaerobic conditions, followed by the release of H_2S gas. Once in contact with moist surfaces, the H_2S is oxidized to sulfuric acid by certain bacteria. The acidic environment accelerates the deterioration of the sewer materials, causing extensive damage, reducing the lifespan of the infrastructure, and leading to costly repairs and maintenance.

Portions of the Authority sewer collection system are showing signs of corrosion resulting from high levels of H_2S gas. Several wet wells are showing signs of concrete spalling, which can lead to inflow and in a worst-case scenario, complete failure. The piping in most of the wet wells is ductile iron with varying levels of corrosion, some severe with pipe failures occurring in the past.

2.4 SCADA

The 4 pump stations associated with the Leicester and Mt. Morris systems do not have SCADA systems and simply rely upon the “neighbor” notification system, where a neighbor noticed a local alarm light and call the Authority. This method can lead to sewer overflows due to the likelihood that the notification is hours or days after the actual failure.

Sewer pump stations play a critical role in managing wastewater by transporting it from lower to higher elevations, ensuring efficient flow to treatment facilities. Integrating SCADA (Supervisory Control and Data Acquisition) systems into these stations significantly enhances their operational performance. From a data collection and analysis standpoint, SCADA enables real-time monitoring of key parameters such as pump run times, flow rates, and wet well levels, providing valuable insights into system performance and trends. This data facilitates predictive maintenance, optimizes pump usage, and helps identify inefficiencies or emerging issues before they escalate. From a service responsiveness perspective, SCADA's alarm capabilities alert operators to abnormal conditions, such as high wet well levels or pump failures, allowing for swift, targeted response and minimizing the risk of overflows or environmental harm. Overall, SCADA transforms sewer pump station management into a more proactive, data-driven process, enhancing both reliability and efficiency.

2.5 SAFETY

The enclosures related to the outbound sewer pump stations vary by type and condition. While a few of the enclosures meet current standards for safety with proper HVAC, ample space for operators to maintain the equipment, and condition. The 2 pump stations associated with the Leicester systems utilize “calf hut” style enclosures with dimensions approximately 6'x6' and 4' tall. These huts do not provide the required space for safe operation and in some cases need to be removed during

maintenance. The 2 pump stations located in Mt. Morris feature full structures to protect the pump station

In addition to infrastructure degradation, the H₂S gas in the system poses a significant risk to the safety of the operators. Low concentration can cause irritation of the eyes, nose, and throat, headaches, dizziness, nausea. High concentrations, in extreme cases, can be fatal.

2.6 REDUNDANCY & RESILIENCY

Redundancy and resiliency in sewer pump stations are crucial for ensuring continuous and reliable operation, particularly in the face of mechanical failures, extreme weather events, or other unexpected disruptions. These concepts are fundamental to maintaining the integrity and functionality of wastewater management systems.

Redundancy involves incorporating multiple backup systems and components within the pump station. This can include:

- **Multiple Pumps:** These standby pumps automatically activate during a failure, preventing interruptions in sewage conveyance.
- **Power Backup:** Equipping pump stations with backup power sources such as generators or battery systems to maintain operation during power outages.
- **Parallel Systems:** Designing the infrastructure so that multiple pump stations can work in tandem, allowing one station to compensate if another goes offline.

Resiliency refers to the pump station's ability to recover quickly from disruptions and continue functioning under adverse conditions. Key strategies include:

- **Robust Design:** Using durable materials and construction techniques to withstand environmental stresses, such as flooding or seismic activity.
- **Advanced Monitoring and Control Systems:** Implementing sensors and automated controls to detect and respond to issues swiftly, minimizing downtime and damage.
- **Regular Maintenance and Upgrades:** Conducting frequent inspections and proactive maintenance to identify and address potential problems before they lead to failures. Upgrading outdated equipment with modern, more resilient technology is also essential.
- **Emergency Response Plans:** Developing and practicing comprehensive emergency response plans to ensure quick and effective action during incidents.

By integrating redundancy and resiliency into sewer pump station design and operation, municipalities and utilities can significantly reduce the risk of system failures, protect public health, and ensure the reliable conveyance and treatment of wastewater. This proactive approach is vital for adapting to increasing demands and environmental challenges.

2.7 ENERGY EFFICIENCY

Enhancing energy efficiency reduces the demand for energy production, which in turn decreases greenhouse gas emissions and the environmental impact associated with energy generation, particularly from fossil fuels. This contributes significantly to efforts aimed at mitigating climate change and improving air quality.

In the context of buildings, energy efficiency can be achieved through measures such as better insulation, LED lighting, and high-efficiency heating and cooling systems. In industrial processes, adopting advanced technologies, optimizing production methods, and regular maintenance can significantly cut energy use.

Specific items related to the outbound sewer pump stations that will improve energy efficiency include replacement of lighting with LED, upgrades to the HVAC systems, replacement of the motors with high efficiency motors, and evaluation of operational levels.

3 Project Background and History

3.1 SITE INFORMATION

Location

The identified sewer pump stations are located within the Towns of Leicester and Mount Morris, as shown in Figure 1. The pump stations are described below:

Shaker Pump Station – Known as SM-PS1, this pump station is located in the Town of Mt. Morris on Mt. Morris-Geneseo Road. The pump station serves both commercial and residential customers in the Towns of Mt. Morris and Groveland. Wastewater is conveyed to the Village of Mt. Morris Wastewater Treatment Facility.

Cipriano Pump Station – Known as SM-PS2, this pump station is located in the Town of Mt. Morris on Mt. Morris-Geneseo Road. The pump station primarily serves commercial customers. Wastewater is conveyed to the Village of Mt. Morris Wastewater Treatment Facility.

Brians Diner Pump Station – Known as SM-PS3, this pump station is located in the Town of Leicester on River Road. The pump station primarily serves residential customers. Wastewater is conveyed to the Village of Mt. Morris Wastewater Treatment Facility.

Seneca Foods Pump Station – Known as SM-PS4, this pump station is located in the Town of Leicester on Mt. Morris Road. The pump station primarily serves commercial customers. Wastewater is conveyed to the Village of Mt. Morris Wastewater Treatment Facility.

Geologic Conditions

The project area, being part of the Finger Lakes region in western New York State, is characterized by a geological history that spans hundreds of millions of years and has shaped its unique landscape and soil conditions. Here are some key geological characteristics:

1. **Glacial History:** The Finger Lakes, including Hemlock and Conesus Lakes, were carved by glacial activity during the Pleistocene Epoch, about two million years ago. Glaciers scoured and deepened river valleys, creating long, narrow lakes. The retreat of these glaciers left behind a rich and diverse mix of soils, with glacial till and outwash being predominant. These soils are often stony, well-drained and excellent for agriculture, but also pose challenges for construction and infrastructure due to their composition and variable drainage characteristics.
2. **Bedrock:** The bedrock in this region is primarily sedimentary, with layers of limestone, shale, and sandstone that were laid down in a shallow sea environment over 350 million years ago during the Devonian period. This bedrock often appears at the surface in gorges, cliffs, and other escarpments, and it influences the area's topography and groundwater conditions.
3. **Topography:** The topography in the region is characterized by rolling hills and deep valleys. The terrain, shaped by the glacial activity and the underlying bedrock, can impact site design, runoff, and erosion, and it plays a role in where infrastructure can be feasibly built. See (Figure 2) for a USGS Topo maps of the area.
4. **Groundwater and Aquifers:** The interaction of the soils, bedrock, and topography create conditions for both unconfined and confined aquifers, which are significant for the area's water

supply. These groundwater resources are recharged by precipitation and interact with the region's lakes and streams.

While this provides a general picture of the geologic conditions in the project area, specific geological and soil investigations would typically be carried out at the actual site of any proposed infrastructure work. This ensures that any unique site conditions are fully understood and that designs can appropriately manage any potential geological challenges or hazards. See (Figure 3) for USDA soil maps of the project locations.

Environmental Resources Present

The project area, spread across multiple Towns in Livingston County, is an area known for its wealth of natural and environmental resources. The region has a rich and diverse landscape with various resources that contribute to its unique character and ecological value. Here are some of the notable environmental resources in the project area:

1. **Genesee River:** The Genesee River is a prominent waterway in the northeastern United States, flowing northward from its source in northern Pennsylvania through western New York before emptying into Lake Ontario at Rochester. Spanning approximately 157 miles, the river carves a striking path through the landscape, including the dramatic gorge and waterfalls in Letchworth State Park, often referred to as the "Grand Canyon of the East." It is a valuable natural resource, supporting diverse ecosystems and offering recreational opportunities such as hiking, fishing, and kayaking.
2. **Letchworth State Park:** Letchworth State Park, often called the "Grand Canyon of the East," is one of New York State's most stunning natural attractions. Located along the Genesee River in western New York, the park features cliffs, forests, and three major waterfalls—Upper, Middle, and Lower Falls—set within a deep gorge that is 600 feet in places. Covering over 14,000 acres, Letchworth offers a wide range of outdoor activities, including hiking, camping, whitewater rafting, and hot air ballooning.
3. **Farmland:** The area around Hemlock is characterized by agricultural land, contributing to the local economy and landscape. This farmland not only supports crop production but also provides habitat for various wildlife species. See (Figure 4) for Livingston County Agricultural District map.
4. **Wetlands:** The region is interspersed with wetlands, which play a critical role in filtering and purifying water, providing wildlife habitats, and storing floodwater. See (Figure 5) for State wetlands map and (Figure 6) for federal wetlands map.
5. **Wildlife:** The forests, fields, wetlands, and water bodies in the project area provide habitat for a diverse range of wildlife, including various species of birds, mammals, amphibians, and fish.
6. **Streams and Rivers:** Numerous smaller water bodies are in the project area, including streams and rivers, which play a vital role in the region's water cycle and serve as habitat for various aquatic life.
7. **Flora:** The region is abundant with a variety of trees, plants, and flowers, adding to the biodiversity of the region.

Floodplain Considerations

When planning or designing projects in areas near bodies of water, understanding floodplain considerations is essential for the safety of the community and the long-term success of the project. Some key floodplain considerations relevant to the project areas are provided below:

Floodplain Maps: The Federal Emergency Management Agency (FEMA) produces Flood Insurance Rate Maps (FIRMs) that identify the 100-year and 500-year floodplains. These maps are crucial for understanding the flood risk at a specific location. The 100-year floodplain, also known as the Special Flood Hazard Area (SFHA), is the area that has a 1% chance of being inundated by floodwater in any given year. Any construction or substantial improvements in these areas must adhere to local, state, and federal regulations to reduce flood risk.

Regulatory Requirements: In general, construction in floodplains is regulated to minimize potential flood damage and to preserve the natural flood-carrying capacity of waterways. The National Flood Insurance Program (NFIP), administered by FEMA, has established minimum building standards for construction in floodplains. Local communities may also have additional floodplain management regulations.

Floodway and Flood Fringe: The floodplain is typically divided into the floodway and the flood fringe. The floodway is the channel of a river and the adjacent land areas that must be reserved to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. New development is generally discouraged in the floodway. The flood fringe is the portion of the flood plain outside of the floodway which could still be covered by floodwaters during the base flood. Development can occur within the flood fringe but must be done in a manner that minimizes potential flood damage.

Flood-Resilient Design: For any infrastructure improvements or new construction within or near a floodplain, it's crucial to incorporate flood-resilient design principles. This could include elevating structures or critical equipment above the base flood elevation, utilizing flood-resistant materials, and ensuring adequate site drainage and erosion control.

In the context of the sewer pump station improvements, it's essential to understand how the proposed upgrades to the pump stations and other infrastructure would interact with local floodplain conditions. Given the vital nature of this infrastructure for community health and safety, ensuring that it can withstand potential flood events is a key consideration in the design process. Floodplain considerations also directly tie into environmental review processes, potential permitting needs, and funding or grant eligibility. Floodplain mapping for the project areas is shown in Figure 7.

Environmental Justice

Environmental Justice (EJ) refers to the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. It's about ensuring that all communities, especially minority and low-income communities, are not disproportionately affected by negative environmental impacts. See (Figure 8) for the environmental justice area map of the area.

Based on the mapping, environmental justice areas are located adjacent to the project locations.

Based on the scope of the proposed project, it is primarily focused on improvements to existing infrastructure rather than new development. Therefore, the project will have overall positive impacts for local residents by improving the reliability and efficiency of the sewer system, reducing the risk of overflows, and potentially improving local water quality.

3.2 OWNERSHIP AND SERVICE AREA

Areas Served

The pump stations can be broken down into two separate categories, one being the district or services area they serve, and the other being the wastewater treatment plant they convey flow to. All four of the pump stations convey wastewater to the Mt. Morris WWTF (SPDES #0030741), but there are two sewer districts, based on the location of the stations.

District or Service Area

1. ARS - Constructed in 2005 as part of a sewer district extension project to provide public sewer to the area known as Hampton Corners in the Towns of Mt. Morris and Groveland.
 - a. Shaker Pump Station
 - b. Cipriano Pump Station
2. Leicester - Constructed in 2002 as part of a sewer district extension project to provide public sewer to the southern portion of the Town of Leicester along NYS Route 36.
 - a. Seneca Foods Pump Station
 - b. Brians Diner Pump Station

While the pump stations were constructed at different times, they have many similar attributes. The primary commonality is the use of Gorman-Rupp suction lift pump stations. Gorman-Rupp is a significant vendor in the industry, known for their reliability, durability, and efficiency as well as the ready availability of replacement parts. Each pump station includes a wet well, an enclosure (varies in type and size), and controls (varies in functionality). Currently these 4 pump stations are the only pump stations, of the 45, that do not have SCADA monitoring and alarming, leaving these areas vulnerable.

Population Trends

Historical and projected population data for each Town were obtained from the Genesee/Finger Lakes Regional Planning Council (G/FLRPC) and the U.S. Census Bureau. The historical population (1960-2010) and population projections by the G/FLRPC (2020-2040) are shown in the following table.

Table 1: Population Data

Municipality	Total Population					Projected Population				Change (2020-2050)	
	1980	1990	2000	2010	2017	2020	2030	2040	2050	Number	%
Leicester (T)	1,426	1,818	1,818	1,732	1,675	1,923	1,963	1,998	2,028	105.0	5.3%
Mount Morris (T)	1,439	1,531	1,301	1,479	1,829	1,323	1,332	1,339	1,346	23.0	1.7%
Groveland (T)	2,140	3,190	3,853	3,249	3,202	3,418	3,252	3,107	2,978	440.0	-14.8%
Livingston County	57,006	62,372	64,328	65,393	64,373	66,179	66,887	67,501	68,043	1,864	2.79%

This project will not impact the entire population of each of the municipalities listed in the table above. The population is projected to be stable throughout the area over the project design period (20 years). It's crucial to continue monitoring any potential shifts, as significant population changes can impact the capacity requirements of the sewer system and overall infrastructure needs. The area primarily consists of residential and commercial properties, contributing to a steady demand for the sewer system. Based on historic population trends, any future growth trends, which could be influenced by factors such as economic opportunities, housing developments, or zoning changes, have been considered in the continued maintenance and potential upgrading of the system.

Financial Status of Existing Facilities

The current sewer usage charge for Authority customers vary based on the location of treatment. Units are assigned by the number of dwellings for residential properties and the size of water meter for commercial properties.

- Customers with treatment at the Mt. Morris WWTF is \$110 per unit per quarter per customer. One unit is allowed to discharge 12,000 gallons of sewer per quarter. Any volume above 13,000 gallons of discharge is charged \$7.25/1,000 gallons.

The Authority sewer rate structure can be found in Appendix 3. In addition, the Annual Report for the Authority can be found in Appendix 1 and the Consolidated Budget for the Authority can be found in Appendix 2.

3.3 EXISTING FACILITIES AND PRESENT CONDITION

Beginning in 2019 there have been several evaluations of the pump stations with the purpose of developing a capital improvement plan and eventually implementing improvements to the pump stations.

In 2019 the Authority hired CPL to complete an evaluation of all 45 pump stations operated by the Authority. The evaluations included a review of the electrical systems, SCADA, mechanical, and structural components. Portions of the resulting study were used to obtain funding from the NYSEFC for the rehabilitation of the 26 pump stations around Conesus Lake.

In 2022 the Authority was selected by the NYSDEC to participate in the State Asset Management Program (the "Program") complete the development of an asset management plan. The program is a collaboration between the NYSEFC and the NYSDEC which provides a unique opportunity to develop an asset management program. The resulting plan includes components like consequence of failure, likelihood of failure, and risk analysis for major components. The results of the evaluation help local officials identify necessary projects to improve the reliability of their sewer systems and reduce potential risks to public health and the environment. Scoring for each asset is based on the following:

- Consequence of Failure – Scoring from 1-10, with 10 being severe, considering four categories including worker safety, potential for violations, financial impact, and ability to operate with the asset. Each of these categories was scored from 1-10, then a weighted average calculated for an overall Consequence of Failure score.
- Likelihood of Failure - Scoring from 1-10, with 10 being more likely to fail. The score is based on the service life of the asset and the remaining useful life.
- Risk Analysis – A score calculated by multiplying the Consequence of Failure score by the Likelihood of Failure score, with score between 1 (lowest risk) and 100 (highest risk).

On March 13, 2024, a team consisting of staff from the Authority and CPL completed a site visit at 14 of the 19 outbound pump stations with the purpose of evaluating the major components. Visual inspections were completed of the enclosures, pumps, mechanical components, wet wells, and sites. Input was provided by the Authority Director of Operations, providing insight into the historical maintenance, repairs, and system failures.

The following sections discuss the findings of the evaluations completed above, broken down by each of the sewer pump stations.

Shaker Pump Station

The Shaker Pump Station (SM-PS1) is located on NYS Route 408 in the Town of Mt. Morris. The pump station contains two suction lift pumps housed in a concrete block building with sheet metal cladding on the outside. The pump station was installed in 2005. The pump station receives flow via gravity from commercial and residential properties and the Livingston County complex. Flows are conveyed to the Cipriano Pump Station, with flow treated at the Mt. Morris WWTF. Design information is as follows:

Pump Capacity	Pump Head	Pump Type	Pump Model	Motor Size	Generator Size	FM Size
200 gpm	25'	Suction Lift	T4A3-B	7.5 HP	NA	6 in

The recent evaluation indicated the following:

- Consider the replacement of the pony motor with an ATS and electrical generator.
- Consider the replacement of the valves, motors, and pumps due to age and condition.
- The controls are outdated and unreliable and need replacement.
- The building, basic electrical components, and HVAC components are in good condition.
- Consider adding wet well ventilation to reduce corrosion concerns.
- The overall capacity of the pump station is not a concern.
- Consider adding pump station controls to the Authority's SCADA system.

The result of the risk assessment analysis for the pump station is as follows:

Asset Description	Likelihood of Failure Score	Consequence of Failure Score	Risk Score
Control Panel	10	9	94.0
Station Heater	8	7	57.2
Thermostat for Building Exhaust Vent	8	7	57.2
Fluorescent Light Fixtures	3	7	22.2
Transfer Switch	3	7	22.2
Electric Service Meter and Disconnect	10	9	94.0
12' X 15' Enclosure	1	3	2.8
8' Diameter Wet Well	1	7	7.0
(2) 4" Suction Pipes	10	7	70.0
Plug Valves	10	7	70.0
Motor #1	7	9	56.1
Motor #2	7	9	56.1
Pump #1	7	9	59.5
Pump #2	7	9	59.5
Driveway	10	2	16.0
6" Diameter Inlet Pipe	1	7	7.3
6" Diameter Forcemain	1	7	7.3

Pictures of the pump station can be found in Appendix 4.

Cipriano Pump Station

The Cipriano Pump Station (SM-PS2) is located at 3098 Mt. Morris Geneseo Rd (NYS Route 408) in the Town of Mt. Morris. The pump station contains two suction lift pumps housed in a concrete block building. The pump station was installed in 2005. The pump station receives flow via gravity from residences in the commercial properties and the Shaker Pump Station. Flows are conveyed to the Village of Mt. Morris collection system, with flow treated at the Mt. Morris WWTF. Design information is as follows:

Pump Capacity	Pump Head	Pump Type	Pump Model	Motor Size	Generator Size	FM Size
200 gpm	31'	Suction Lift	T4A3-B	7.5 HP	NA	4 in

The recent evaluation indicated the following:

- Consider the replacement of the pony motor with an ATS and electrical generator.
- Consider the replacement of the valves, motors, and pumps due to age and condition.
- The controls are outdated and unreliable and need replacement.
- The building, basic electrical components, and HVAC components are in good condition.
- The overall capacity of the pump station is not a concern.
- Consider adding pump station controls to the Authority's SCADA system.

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Control Panel	10	9	94.0
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Fluorescent Light Fixtures	3	7	22.2
Transfer Switch	3	7	22.2
Electric Service Meter and Disconnect	10	9	94.0
12' X 15' Enclosure	1	3	2.8
8' Diameter Wet Well	1	7	7.0
(2) 4" Suction Pipes	10	7	70.0
Plug Valves	10	7	70.0
Motor #1	7	9	56.1
Motor #2	7	9	56.1
Pump #1	7	9	59.5
Pump #2	7	9	59.5
Driveway	10	2	16.0
6" Diameter Inlet Pipe	1	7	7.3
6" Diameter Forcemain	1	7	7.3

Pictures of the pump station can be found in Appendix 4.

Seneca Foods Pump Station

The Seneca Foods Pump Station (SM-PS4) is located on Mt. Morris Road (NYS Route 36) in the Town of Leicester at the Seneca Foods facility. The pump station contains two suction lift pumps housed in a 6'x6' fiberglass enclosure. The pump station was installed in 2002. The pump station receives flow via gravity from Seneca Foods and the Brians Diner Pump Station. Flows are conveyed to the Village of Mt. Morris collection system, with flow treated at the Mt. Morris WWTF. Design information is as follows:

Pump Capacity	Pump Head	Pump Type	Pump Model	Motor Size	Generator Size	FM Size
200 gpm	27'	Suction Lift	T4A3-B	5 HP	35kW	6 in

The recent evaluation indicated the following:

- Consider the ATS due to age and condition.
- Consider the replacement of the valves, motors, and pumps due to age and condition.
- The controls are outdated and unreliable and need replacement.
- Consider the replacement of the fiberglass hut with a full-size enclosure due to safety and operational concerns.
- Consider the addition of a portable generator connection.
- The wet well is showing signs of corrosion and rehabilitation should be considered.
- The overall capacity of the pump station is not a concern.
- Consider adding pump station controls to the Authority's SCADA system.

The result of the risk assessment analysis for the pump station is as follows:

Asset Description	Likelihood of Failure Score	Consequence of Failure Score	Risk Score
Control Panel	10	9	94.0
Station Heater	8	7	57.2
Thermostat for Building Exhaust Vent	8	7	57.2
Fluorescent Light Fixtures	3	7	22.2
Transfer Switch	3	7	22.2
Electric Service Meter and Disconnect	10	9	94.0
Pump Station Enclosure	9	3	24.6
8' Diameter Wet Well	1	7	7.0
(2) 4" Suction Pipes	10	7	70.0
Plug Valves	10	7	70.0
Motor #1	7	9	56.1
Motor #2	7	9	56.1
Pump #1	7	9	59.5
Pump #2	7	9	59.5
Driveway	10	2	16.0
Gen Set	4	9	36.2
6" Diameter Inlet Pipe	1	7	7.3
6" Diameter Forcemain	1	8	8.3

Pictures of the pump station can be found in Appendix 4.

Brians Diner Station

The Brians Diner Pump Station (SM-PS3) is located at 5520 Mount Morris Road (NYS Route 36) in the Town of Leicester. The pump station contains two suction lift pumps housed in a 6'x6' fiberglass enclosure. The pump station was installed in 2002. The pump station receives flow via gravity from a local diner and mobile home park. Flows are conveyed to the Seneca Foods Pump Station, with flow treated at the Mt. Morris WWTF. Design information is as follows:

Pump Capacity	Pump Head	Pump Type	Pump Model	Motor Size	Generator Size	FM Size
110 gpm	34'	Suction Lift	T4A3-B	5 HP	35kW	4 in

The recent evaluation indicated the following:

- Consider the ATS due to age and condition.
- Consider the replacement of the valves, motors, and pumps due to age and condition.
- The controls are outdated and unreliable and need replacement.
- Consider the replacement of the fiberglass hut with a full-size enclosure due to safety and operational concerns.
- Consider the addition of a portable generator connection.
- The overall capacity of the pump station is not a concern.
- Consider adding pump station controls to the Authority's SCADA system.

The result of the risk assessment analysis for the pump station is as follows:

Asset Description	Likelihood of Failure Score	Consequence of Failure Score	Risk Score
Control Panel	10	9	94.0
Station Heater	8	7	57.2
Thermostat for Building Exhaust Vent	8	7	57.2
Fluorescent Light Fixtures	3	7	22.2
Transfer Switch	3	7	22.2
Electric Service Meter and Disconnect	10	9	94.0
Pump Station Enclosure	1	3	2.8
8' Diameter Wet Well	1	7	7.0
(2) 4" Suction Pipes	10	7	70.0
Plug Valves	10	7	70.0
Motor #1	7	9	56.1
Motor #2	7	9	56.1
Pump #1	7	9	59.5
Pump #2	7	9	59.5
Driveway	10	2	16.0
Gen Set	4	9	36.2
6" Diameter Inlet Pipe	1	7	7.3
6" Diameter Forcemain	1	8	8.3

Pictures of the pump station can be found in Appendix 4.

4 Alternatives Analysis

4.1 ALTERNATIVE 1 - IMPROVEMENTS, UPGRADES, AND PARTIAL REPLACEMENT

Description

Alternative 1 will involve minor and major upgrades to each of the sewer pump stations. The evaluations that were completed and described in Section 3 serve as the basis for the recommendations. In addition, the project needs identified in Section 2 will also be taken into consideration, including safety, energy efficiency, and redundancy.

There will be many commonalities between the work at each pump station including:

- Replacement of the pump and motors at each pump station.
- Replacement of the check valves and plug valves.
- Replacement of the controls and motor starters
- Installation of SCADA systems at each pump station.
- Installation of candy cane vents in each wet well for ventilation of sewer gases.
- Replacement of the suction piping in the wet wells with PVC to reduce the long-term effects of corrosion.
- Replacement of the pump station gauge assemblies.
- Replacement of pump station enclosures with “walk-in” style complete with HVAC and lights.
- Installation of portable generator plugs.

A brief scope of work at each station along with a cost estimate for the work at each pump station is provided below.

Shaker Pump Station

Deficiencies noted in the evaluation of the Shaker Pump Station include aging pumps, motors, and valves. The pump station does not include an emergency power supply in the form of a back-up generator.

A primary concern is the lack of a SCADA system and the condition of the controls. Most of the components are difficult to replace, as finding parts is difficult to impossible.

Improvements recommended to the Shaker Pump Station include the following:

- Complete replacement of the pump and motors.
- Replacement of the plug valves and check valves.
- Installation of a new generator and automatic transfer switch.
- Replacement of the pump station controls and addition of SCADA.
- Installation of a redundant portable generator connection and manual transfer switch.
- Replacement of the pump station gauge clusters.
- Replacement of the suction piping in the wet well.
- Miscellaneous site and electrical improvements.

The estimated construction cost is as follows:

Item	Description	QTY	Unit	Unit Price	Total
1	Selective Demolition	1	LS	\$25,000	\$25,000
2	Replacement of the Check Valves and Plug Valves	1	LS	\$15,000	\$15,000
3	Replacement of the Lighting	1	LS	\$2,500	\$2,500
4	Paint Candy Cane to the Wet Well	1	LS	\$400	\$400
5	Replacement of the Suction Piping in the Wet Well	1	LS	\$20,000	\$20,000
6	Replacement of Gauge Clusters	1	LS	\$2,000	\$2,000
7	Installation of New Generator and Automatic Transfer Switch	1	LS	\$70,000	\$70,000
8	Replace the T4 Pumps	2	EA	\$16,000	\$32,000
9	Replace the Existing Motors	2	EA	\$5,000	\$10,000
10	Installation of New SCADA Panel & Motor Control Panels	1	LS	\$65,000	\$65,000
11	Installation of New SCADA Communications	1	LS	\$25,000	\$25,000
12	Installation of Portable Generator Plug and Manual Transfer Switch	1	LS	\$12,000	\$12,000
13	Mobilization	1	LS	\$13,945	\$13,945

CONSTRUCTION SUBTOTAL \$292,845

Cipriano Pump Station

Deficiencies noted in the evaluation of the Cipriano Pump Station include aging pumps, motors, and valves. The pump station does not include an emergency power supply in the form of a back-up generator.

A primary concern is the lack of a SCADA system and the condition of the controls. Most of the components are difficult to replace, as finding parts is difficult to impossible.

Improvements recommended to the Cipriano Pump Station include the following:

- Complete replacement of the pump and motors.
- Replacement of the plug valves and check valves.
- Installation of a new generator and automatic transfer switch.
- Replacement of the pump station controls and addition of SCADA.
- Installation of a redundant portable generator connection and manual transfer switch.
- Replacement of the pump station gauge clusters.
- Replacement of the suction piping in the wet well and installation of wet well ventilation.
- Miscellaneous site and electrical improvements.

The estimated construction cost is as follows:

Item	Description	QTY	Unit	Unit Price	Total
1	Selective Demolition	1	LS	\$25,000	\$25,000
2	Replacement of the Check Valves and Plug Valves	1	LS	\$15,000	\$15,000
3	Replacement of the Lighting	1	LS	\$2,500	\$2,500
4	Paint Candy Cane to the Wet Well	1	LS	\$400	\$400
5	Replacement of the Suction Piping in the Wet Well	1	LS	\$20,000	\$20,000
6	Replacement of Gauge Clusters	1	LS	\$2,000	\$2,000
7	Installation of New Generator and Automatic Transfer Switch	1	LS	\$70,000	\$70,000
8	Replace the T4 Pumps	2	EA	\$16,000	\$32,000
9	Replace the Existing Motors	2	EA	\$5,000	\$10,000
10	Installation of New SCADA Panel & Motor Control Panels	1	LS	\$65,000	\$65,000
11	Installation of New SCADA Communications	1	LS	\$25,000	\$25,000
12	Installation of Portable Generator Plug and Manual Transfer Switch	1	LS	\$12,000	\$12,000
13	Rehabilitation of the Stone Driveway	1	LS	\$16,000	\$16,000
14	Mobilization	1	LS	\$14,745	\$14,745
CONSTRUCTION SUBTOTAL					\$309,645

Seneca Foods Pump Station

Deficiencies noted in the evaluation of the Seneca Foods Pump Station include aging pumps, motors, and valves. The 6x6 fiberglass enclosure does not provide room for maintenance, resulting in safety concerns for the operators. The pump station does not include an emergency power supply in the form of a back-up generator. The wet well is showing signs of corrosion.

A primary concern is the lack of a SCADA system and the condition of the controls. Most of the components are difficult to replace, as finding parts is difficult to impossible.

Improvements recommended to the Seneca Foods Pump Station include the following:

- Complete replacement of the pump and motors.
- Replacement of the plug valves and check valves.
- Replacement of the pump station controls and additional of SCADA.
- Installation of a redundant portable generator connection and manual transfer switch.
- Replacement of the pump station gauge clusters.
- Replacement of the suction piping in the wet well and installation of wet well ventilation.
- Replacement of the enclosure including metal siding, metal roof, interior FRP panel, HVAC, and lighting.
- Rehabilitation of the wet well.
- Miscellaneous site and electrical improvements.

The estimated construction cost is as follows:

Item	Description	QTY	Unit	Unit Price	Total
1	Selective Demolition	1	LS	\$25,000	\$25,000
2	Replacement of the Check Valves and Plug Valves	1	LS	\$15,000	\$15,000
3	Paint the Generator Enclosure Top	1	LS	\$3,000	\$3,000
4	Installation of Candy Cane to the Wet Well	1	LS	\$4,500	\$4,500
5	Replacement of the Suction Piping in the Wet Well	1	LS	\$20,000	\$20,000
6	Replacement of Gauge Clusters	1	LS	\$2,000	\$2,000
7	Replacement of the Automatic Transfer Switch	1	LS	\$12,000	\$12,000
8	Replace the T3 Pumps	2	EA	\$14,000	\$28,000
9	Replace the Existing Motors	2	EA	\$3,000	\$6,000
10	Installation of Portable Generator Plug and Manual Transfer Switch	1	LS	\$12,000	\$12,000
11	Installation of New SCADA Panel & Motor Control Panels	1	LS	\$65,000	\$65,000
12	Installation of New SCADA Communications	1	LS	\$25,000	\$25,000
13	New Enclosure Complete (Enclosure, Lights, Heating, Ventilation)	1	LS	\$55,000	\$55,000
14	Expand Concrete Pad	1	LS	\$10,000	\$10,000
15	By-Pass Pumping	1	LS	\$25,000	\$25,000
16	Rehabilitation of the Wet Well	1	LS	\$18,000	\$18,000
17	Mobilization	1	LS	\$16,275	\$16,275
CONSTRUCTION SUBTOTAL					\$341,775

Brians Diner Pump Station

Deficiencies noted in the evaluation of the Brians Diner Pump Station include aging pumps, motors, and valves. The 6x6 fiberglass enclosure does not provide room for maintenance, resulting in safety concerns for the operators. The pump station does not include an emergency power supply in the form of a back-up generator.

A primary concern is the lack of a SCADA system and the condition of the controls. Most of the components are difficult to replace, as finding parts is difficult to impossible.

Improvements recommended to the Brians Diner Pump Station include the following:

- Complete replacement of the pump and motors.
- Replacement of the plug valves and check valves.
- Replacement of the pump station controls and addition of SCADA.
- Installation of a redundant portable generator connection and manual transfer switch.
- Replacement of the pump station gauge clusters.
- Replacement of the suction piping in the wet well and installation of wet well ventilation.
- Replacement of the enclosure including metal siding, metal roof, interior FRP panel, HVAC, and lighting.
- Miscellaneous site and electrical improvements.

The estimated construction cost is as follows:

Item	Description	QTY	Unit	Unit Price	Total
1	Selective Demolition	1	LS	\$25,000	\$25,000
2	Replacement of the Check Valves and Plug Valves	1	LS	\$15,000	\$15,000
3	Paint the Generator Enclosure Top	1	LS	\$3,000	\$3,000
4	Installation of Candy Cane to the Wet Well	1	LS	\$4,500	\$4,500
5	Replacement of the Suction Piping in the Wet Well	1	LS	\$20,000	\$20,000
6	Replacement of Gauge Clusters	1	LS	\$2,000	\$2,000
7	Replacement of the Automatic Transfer Switch	1	LS	\$12,000	\$12,000
8	Replace the T3 Pumps	2	EA	\$14,000	\$28,000
9	Replace the Existing Motors	2	EA	\$3,000	\$6,000
10	Installation of New SCADA Panel & Motor Control Panels	1	LS	\$65,000	\$65,000
11	Installation of New SCADA Communications	1	LS	\$25,000	\$25,000
12	New Enclosure Complete (Enclosure, Lights, Heating, Ventilation)	1	LS	\$55,000	\$55,000
13	Expand Concrete Pad	1	LS	\$10,000	\$10,000
14	Installation of Portable Generator Plug and Manual Transfer Switch	1	LS	\$12,000	\$12,000
15	Mobilization	1	LS	\$14,125	\$14,125
CONSTRUCTION SUBTOTAL					\$296,625

Design Criteria

The recommended standards for wastewater facilities also known as the (Ten States Standards) and the New England Interstate Water Pollution Control Commission (NEIWPCC) TR-16 Guides are important guidelines and standards that pertain to the design, operation, and maintenance of water and wastewater facilities. They help ensure public health, environmental protection, and system efficiency. The pump stations would be brought up to these standards during an overhaul.

Environmental Impacts

Upgrading existing facilities often has less of an environmental impact compared to constructing new facilities for several reasons:

Use of Existing Infrastructure: By upgrading the current facilities, you avoid the environmental impact caused by constructing new buildings or structures, such as emissions from construction equipment and disturbance of new land.

Less Waste Generation: Renovations often produce less waste compared to building new, as some components can be reused or upgraded rather than replaced. Additionally, any waste that is produced can be managed more easily because the quantities are usually smaller.

Reduced Land Disturbance: Upgrading existing facilities minimizes land disturbance, preserving local ecosystems and minimizing potential erosion or runoff issues that could occur if new sites were developed.

Lower Energy Consumption: The energy used in the manufacturing of new materials for construction and the machinery involved in construction activities is significantly reduced when you're working with an existing facility.

Resource Efficiency: Overhauling allows for the reuse and repurposing of existing resources. This reduces the demand for new materials, leading to lower resource extraction and associated environmental impact.

In the context of the pump stations, the proposed upgrades, such as improved SCADA systems, better enclosures, and new energy-efficient equipment, will not only extend the life of the facilities but also enhance their efficiency and operational reliability. This in turn can lead to lower energy use and reduced potential for environmentally damaging events such as overflows.

However, even during an overhaul, it's important to implement best practices to minimize environmental impact. This includes proper waste management, use of environmentally friendly materials and practices where possible, minimizing disruption to local wildlife and ecosystems, and following local environmental regulations and guidelines. The project will also consider potential temporary impacts during the construction phase, such as noise, dust, and temporary changes in local traffic patterns, and plan to mitigate these as much as possible.

Land Requirements

One of the significant advantages of upgrading existing facilities is that it often does not require acquisition of additional land. In this case, all the properties where the pump stations are located are already under the control of the Authority. This eliminates the need for potentially lengthy and complex land acquisition processes, which can involve negotiations, legal considerations, and potential environmental impact studies for new land.

The proposed improvements to the pump stations will be carried out within the existing site boundaries. The modifications, such as replacing enclosures, updating SCADA and control systems,

and implementing pump skid improvements, are designed to fit within the footprint of the current facilities. Any expansions, such as those proposed for the concrete pads, will be within the existing property limits.

This not only simplifies the overhaul process, but also reduces potential environmental and social impacts. There's no need for new infrastructure like roads or utilities to support new sites, and there will be no impact on untouched land or habitats. Moreover, it avoids any potential community issues related to new land development, such as changes to local views or increases in traffic.

Potential Construction Problems

While overhauling existing facilities is generally less disruptive than building new ones, there are still several potential construction challenges that need to be addressed.

Bypass Pumping: During the overhaul of the pump stations, it may be necessary to bypass pump the sewage to allow for the safe and uninterrupted operation of the sewer system. This process involves temporarily diverting the flow of wastewater around the sections of the system being renovated or replaced. Bypass pumping can be challenging and requires careful planning to ensure that it doesn't cause service interruptions or, worse, sewer overflows. It's crucial to have the right equipment and contingency plans in place to handle unexpected situations such as pump failure or higher than expected wastewater flows.

Traffic Control: Construction activities may require the temporary closing or limiting access to roads and driveways. This can disrupt local traffic and affect residents, businesses, and emergency services. Communication with residents and businesses about expected disruptions and their duration will continue throughout the project.

Noise and Dust: Construction activities can generate noise and dust, which can be a nuisance to residents and businesses. Measures such as sound barriers, equipment mufflers, dust suppression methods, and limiting construction hours will be used to minimize this impact.

Community Relations: Keeping the local community informed about the construction schedule, expected impacts, and benefits of the project can help build understanding and acceptance of the temporary disruptions. Communication with local residents and businesses about the project will continue throughout the project.

Effective planning and communication can help manage these and other potential construction problems, ensuring that the overhaul of the pump stations proceeds smoothly and efficiently.

Sustainability Considerations

Sustainability considerations are increasingly important in infrastructure projects, and they can bring long-term environmental, economic, and social benefits. Here are some ways that sustainability will be incorporated into the upgrades of the pump stations.

Energy Efficiency: The project will include the installation of energy-efficient equipment, such as high-efficiency electrical motors and LED lighting, to reduce the stations' energy consumption. Efficient design of the stations, such as optimizing pump schedules and operations to match demand, will also contribute to energy savings. In addition, improvements to the wet wells will minimize the amount of inflow during rainfall events and in return reduce pump runtimes and energy use. These improvements should meet Green Projects Reserve elements.

Resiliency and Redundancy: Improvements to the pump stations will include the installation of portable pump connections outside the pump house for redundant pumping capabilities. This will

ensure that should a pump station experience a failure; a portable pump can provide adequate pump capacity to the force mains to continue operations and avoid overflows. Pump stations currently without a stand-by generator will have one installed to ensure continued operation during a power failure. In addition, portable generator connections will be provided at all pump stations as a 2nd line of defense during a power failure.

Incorporating these and other sustainability considerations into the overhaul design can make the pump stations more environmentally friendly, economically sound, and socially responsible.

Cost Estimate

The cost estimate for Alternative 1 is as follows:

Item	Description	Total
1	Shaker Pump Station	\$292,845
2	Cipriano Pump Station	\$309,645
3	Seneca Foods Pump Station	\$341,775
4	Brians Diner Pump Station	\$296,625
CONSTRUCTION SUBTOTAL		\$1,240,890
CONTINGENCY (30%)		\$372,267
LEGAL, ENGINEERING, & ADMINISTRATION (25%)		\$310,223
TOTAL PROJECT COST		\$1,923,380

4.2 ALTERNATIVE 2 – COMPLETE REPLACEMENT

Description

The complete replacement involves converting all 4 pump stations to submersible pump stations. Submersible pump stations require the addition of a valve vault and a building to house controls. This alternative will also include new wet wells, new control panels, and new SCADA.

Design Criteria

The design criteria for replacing the pump stations emphasize capacity, efficiency, reliability, control, safety, maintenance accessibility, environmental compliance, and cost-effectiveness. The new stations will handle current and projected wastewater flows and incorporate high-efficiency pumps.

Redundancy in key systems will ensure reliability, and Supervisory Control and Data Acquisition (SCADA) systems will facilitate remote monitoring and control. Safety and accessibility for maintenance will be integral to the design, along with compliance with environmental regulations.

Durability of materials and a focus on life cycle costs will help in achieving a long service life and cost-effectiveness, ensuring that the new pump stations serve the Authority efficiently and sustainably, now and in the future.

Environmental Impacts

During construction, there may be short-term impacts including noise, dust, and disruption to local habitats. However, proper planning and mitigation strategies can minimize these effects.

In operation, the new stations will be designed to minimize noise and odor emissions. The use of high-efficiency pumps will reduce energy consumption, thereby decreasing the associated carbon footprint.

Potential negative impacts such as accidental wastewater spills or leaks could pose a risk to local water sources. To mitigate this, the stations will include safety features and monitoring systems to detect and address issues promptly.

The project aims to strike a balance between improving infrastructure and minimizing environmental impacts, ensuring a sustainable approach to wastewater management.

Land Requirements

The replacement of the sewer pump stations will necessitate adequate land for the construction of new facilities. The land requirements will depend on the size and design of the new pump stations.

While the existing locations may offer sufficient space, it's possible that additional land acquisition could be needed, especially if the new designs are larger or if extra buffer space around the stations is required.

Any potential land acquisition would need to be carefully assessed considering factors like cost, environmental impact, and community response. This process could also add to the project timeline due to the need for negotiations, legal procedures, and possible zoning or land-use changes.

Potential Construction Problems

Potential construction problems for the replacement of the sewer pump stations could include unforeseen site conditions such as poor soil stability, hidden underground utilities, or groundwater issues. Additionally, coordinating the transition from old to new facilities without disrupting service could pose a significant challenge.

Sustainability Considerations

Sustainability considerations for this project include using energy-efficient pumps to reduce energy consumption, choosing durable materials to prolong lifespan and minimize maintenance, and implementing a SCADA system for efficient operation and monitoring. Environmental protection measures, such as noise and odor control, are also crucial for sustainable operation.

Cost Estimate

The cost estimate for Alternative 2 is as follows:

Item	Description	Total
1	Shaker Pump Station	\$750,000
2	Cipriano Pump Station	\$750,000
3	Seneca Foods Pump Station	\$700,000
4	Brians Diner Pump Station	\$700,000
CONSTRUCTION SUBTOTAL		\$2,900,000
CONTINGENCY (30%)		\$870,000
LEGAL, ENGINEERING, & ADMINISTRATION (25%)		\$725,000
TOTAL PROJECT COST		\$4,495,000

5 Summary and Comparison of Alternatives

5.1 LIFE CYCLE COST ANALYSIS

A comparison of the alternatives is provided below:

Alternative 1

Based on the given parameters:

- Initial Capital Cost: \$1,923,380
- Annual Operation & Maintenance (O&M) Costs: \$36,000 (estimated)
- Expected lifespan of the facility: 20 years
- Discount Rate (r): 0.4% or 0.004
- Salvage Value: \$0

The formula for the Life Cycle Present Worth Cost is:

$$\text{Life Cycle Present Worth Cost (PW)} = \text{Initial Capital Cost} + \sum [(\text{Annual O\&M Costs}) / (1 + r)^n]$$

We already know the Initial Capital Cost is \$1,923,380. The second part of the formula calculates the present worth of the future O&M costs over the 20-year life span.

The sum of these present worth O&M costs over the 20 years is approximately \$692,100.

Adding this to the initial capital cost (\$1,923,380) gives the Life Cycle Present Worth Cost:

$$\text{Life Cycle Present Worth Cost} = \text{Initial Capital Cost} + \sum \text{Present Worth O\&M Costs} = \$1,923,380 + \$692,100 = \$2,615,480.$$

The Life Cycle Present Worth Cost of the overhaul, given the provided assumptions, is approximately \$2,615,480.

Alternative 2

Based on the given parameters:

- Initial Capital Cost: \$4,495,000
- Annual Operation & Maintenance (O&M) Costs: \$36,000 (estimated)
- Expected lifespan of the facility: 20 years
- Discount Rate (r): 0.4% or 0.004
- Salvage Value: \$0
- Present Worth O&M cost over 20 years: \$692,100.

The Life Cycle Present Worth Cost of the overhaul, given the provided assumptions, is approximately \$5,187,100.

5.2 NON-MONETARY FACTORS

From a health perspective, mitigating sewer overflow is of utmost importance. Overflows can result in exposure to harmful pathogens including bacteria, viruses, and parasites, leading to severe public health risks such as cholera, dysentery, and infectious hepatitis. Upgrading the infrastructure and ensuring its proper maintenance would significantly reduce this risk, thereby protecting the

community's health by preserving local water quality. Moreover, the risk of sewage backups into homes or businesses - a direct consequence of an overtaxed or failing sewer system - would be minimized. Such backups pose immediate health threats to residents and entail costly cleanup efforts and potential temporary displacement.

Safety, too, is a significant factor. The proposed improvements aim to provide a safer working environment for the system operators by replacing the existing fiberglass enclosures with larger, wood-framed insulated structures, offering better lighting and HVAC. This allows for safer, more effective operations and facilitates emergency maintenance work. Furthermore, community safety is enhanced by reducing the risk of public exposure to untreated sewage and lowering the likelihood of unexpected system failures that could pose hazards.

The proposed updates to the SCADA and controls across all pump stations will also improve system monitoring and control, enabling early detection and mitigation of any issues before they pose a risk to safety, health or cybersecurity. In essence, these improvements are not just financial investments but crucial steps towards ensuring a safer, healthier environment for both the system operators and the broader community.

The following are additional non-monetary factors that make the proposed upgrades to the pump stations beneficial for the community:

Standardization: Standardizing the design and construction of pump stations across the district will streamline maintenance and operation procedures. It will make it easier for Authority staff to perform routine checks and repairs, as they will be dealing with familiar equipment and layout. This standardization can also lead to cost savings in the long term, as parts can be interchanged between stations, and training for maintenance staff can be more efficiently conducted.

Community Perception and Pride: Public infrastructure that is well-maintained and visually appealing can instill a sense of pride among community members. It demonstrates a commitment to public health, environmental sustainability, and quality of life.

These non-monetary factors all contribute to the overall wellbeing of the community, making the proposed improvements a valuable investment for the Authority.

6 Recommended Alternative

The recommended alternative is **Alternative 1**, which includes various improvements, upgrades, and partial replacements to the existing pump stations. This approach directly addresses the primary concerns, provides numerous benefits, and aligns with the long-term plans and goals of the Authority. The proposed project will meet the project needs identified in Section 4, including:

6.1 BASIS OF SELECTION

Health and Sanitation

While eliminating sewer overflows is the goal of Alternative 1, the Authority recognizes that the project will only significantly reduce the chances of these public health hazards. Improvements like the new SCADA system, upgraded pumps, and replacement of corroded piping will help the Authority meet that goal.

Aging Infrastructure

Alternative 1 will replace all the infrastructure that has either outlived its useful life or will replace infrastructure that is nearing the end of its useful life. The goal is to have all sewer pump stations upgraded to ensure 20-30-years of extended use, with regular maintenance. The components to be replaced due to age include the pumps, motors, SCADA, valves, and suction piping.

Corrosion

The project will include the replacement or rehabilitation of system components like wet wells, suction piping, and controls. This will address components that have already failed due to corrosion or are likely to fail in the future. The project will also incorporate improvements that will reduce future impacts of corrosion including the addition of wet well vents and utilization of PVC piping in the wet wells.

Scada

Viewed as a critical part of the recommended project, due to concerns with cybersecurity and the impact (financially and environmentally). Each pump station in the project will have new controls and SCADA installed to meet the newly developed standards of the Authority. Standardizing will simplify future maintenance and operation of the system, while the upgrades will greatly reduce the risk of system failures.

Safety

Alternative 1 includes several improvements that will reduce concerns related to workplace injuries. The primary item will be the replacement of the sub-standard enclosures with full size insulated enclosures meeting current NYS Building Codes. Secondly, additional improvement will include the installation of vents to reduce potential for contact with sewer gases and electrical improvement to reduce the risk of shock.

Redundancy & Resiliency

Redundancy and resiliency were considered in Alternative 1. Items like portable pump connections, stand-by generators, and portable generator connection will address redundancy. Items like SCADA, generators, and reliable pumps will address resiliency.

6.2 ENERGY EFFICIENCY AND GREENHOUSE GAS REDUCTION ANALYSIS

The proposed project will see several energy efficiency upgrades including the replacement of lighting with LED, upgrades to the HVAC systems, and evaluation of operational levels. Within the pump stations, two 7.5 HP motors and two 5HP motors will be replaced with premium efficiency motors. Based on the energy analysis, the project is expected to reduce annual electricity usage by approximately 8,178 kWh, representing a 20% reduction in energy consumption compared to existing conditions. The proposed energy usage and cost savings are shown in the table below:

Pump Station	Current Energy Use (kWh/yr)	Proposed Energy Use (kWh/yr)	Annual Energy Savings (kWh/yr)	Energy Reduction (%)	Annual Utility Cost Savings*	Annual GHG Reduction (Metric Tons CO ₂ e)
Cipriano	6,977	5,582	1,395	20%	\$209	0.35
Shaker	5,767	4,613	1,153	20%	\$173	0.29
Seneca Food	15,133	12,106	3,027	20%	\$454	0.75
Brian's Diner	13,015	10,412	2,603	20%	\$390	0.65
Total	40,891	32,713	8,178	20%	\$1,227	2.04

*Utility cost savings are based on an assumed electrical rate of \$0.15/kWh.

Greenhouse Gas Emission Reductions

The proposed improvements are estimated to reduce electricity consumption by approximately 8,178 kWh annually. Using a New York State grid emission factor of 0.249 kg CO₂e per kWh, the project is expected to reduce greenhouse gas emissions by approximately 2.04 metric tons of CO₂e per year, resulting in an estimated 40.7 metric tons of CO₂e reduction over a 20-year project life cycle.

These reductions support the objectives of the New York State Climate Leadership and Community Protection Act (CLCPA), while also advancing statewide energy efficiency and sustainability initiatives promoted through the New York State Energy Research and Development Authority and the New York State Department of Environmental Conservation. By reducing electrical consumption associated with wastewater operations, the project supports New York State's clean energy transition, lowers the carbon footprint of public infrastructure, and reduces long-term operational costs for the utility system.

Lifecycle Energy Cost Savings

Based on the projected annual energy savings of 8,178 kWh, the project is expected to save approximately \$1,227 during the first year of operation, assuming an electricity cost of \$0.15/kWh.

To better reflect long-term operating conditions, a lifecycle analysis was completed, assuming a 3% annual increase in electricity costs over the 20-year service life of the improvements. Under this scenario, the cumulative energy cost savings are estimated to be approximately \$32,970 over 20 years.

This lifecycle benefit demonstrates that the energy efficiency improvements will continue to generate increasing financial returns as utility costs rise, while simultaneously reducing greenhouse gas emissions and improving the sustainability of system operations.

EPA Greenhouse Gas Equivalencies

Using the greenhouse gas equivalencies published by the United States Environmental Protection Agency through its Greenhouse Gas Equivalencies Calculator, the annual reduction of 2.04 metric tons of CO₂e is approximately equivalent to:

- Avoiding the emissions from driving a typical passenger vehicle approximately 5,000 miles per year.
- The carbon sequestered by approximately 34 tree seedlings grown for 10 years.
- The emissions associated with the annual electricity use of approximately 0.3 average U.S. homes.

Over the 20-year project life, the total reduction of 40.7 metric tons of CO₂e is approximately equivalent to:

- Avoiding approximately 100,000 vehicle miles traveled by a typical passenger vehicle.
- The carbon sequestered by approximately 670 tree seedlings grown for 10 years.
- The annual electricity use of approximately five average U.S. homes.

Summary

The proposed improvements are estimated to reduce electricity consumption by approximately 8,178 kWh annually. Using a New York State grid emission factor of 0.249 kg CO₂e per kWh, the project is expected to reduce greenhouse gas emissions by approximately 2.04 metric tons of CO₂e per year, resulting in an estimated 40.7 metric tons of CO₂e reduction over a 20-year project life. In addition, the project is anticipated to reduce annual utility costs by approximately \$1,227, with cumulative lifecycle savings of approximately \$32,970 assuming a 3% annual increase in electricity costs. These improvements will enhance operational efficiency, reduce long-term operating expenses, and support New York State's greenhouse gas reduction and sustainability objectives.

6.3 TOTAL PROJECT COST ESTIMATE

The comprehensive estimate for the total cost of the Leicester/Mt. Morris Outbound Sewer Pump Station Improvements, which includes aspects such as design, construction, procurement, contingency, and administrative costs, is **\$1,923,380**.

6.4 PROJECT SCHEDULE

Bond Resolutions and Environmental Review	Summer 2026
Funding Applications	Fall 2026
Design, Permitting and Approvals	Winter 2026 – Summer 2027
Bid Project	Summer 2027
Award Project	Fall 2027
Construction	Winter 2027 – Summer 2028
Final Restoration Complete	Fall 2028

6.5 PERMIT REQUIREMENTS

The New York State Department of Environmental Conservation (DEC) plays a vital role in overseeing various environmental aspects of public and private projects. Any significant changes or construction involving public sewer systems, such as the proposed project, typically require approval from the DEC to ensure compliance with environmental regulations.

The process to secure these permits often involves submitting detailed plans, engineering reports, and environmental impact assessments to the DEC. This is to demonstrate that the project complies with approved design standards and that appropriate measures are being taken to minimize any adverse environmental impacts.

The DEC then reviews these submissions and may request further information or clarification. After reviewing all the materials provided, the DEC will decide whether to grant or deny the permits. This process can be lengthy, often taking several months to over a year, depending on the complexity of the project and the completeness and quality of the information provided.

In addition, approval will be required from any State or Federal funding agency that provides grant or loan funding to the project. This could include the New York State Environmental Facilities Corporation.

Last, it's worth noting that projects must also comply with local and county regulations and obtain necessary permits from those jurisdictions. These might include building permits, zoning approvals, or health department permits.

6.6 SUSTAINABILITY CONSIDERATIONS

The improvements, upgrades, and partial replacement alternative for the wastewater collection system brings to the forefront several critical sustainability considerations. The main focus is on enhancing system efficiency and capacity, which not only accommodates current and future demands but also minimizes occurrences of overflows or leaks. These improvements inherently contribute to reducing energy consumption.

Furthermore, integrating SCADA improvements for real-time monitoring of the collection system can facilitate prompt identification of leaks, blockages or failures, allowing for efficient maintenance and repairs. This reduces the chances of emergency repairs, which can have significant environmental and social impacts.

7 Conclusions And Recommendations

The upgrades, improvements and partial replacement of existing pump stations appear to be the most suitable alternative. It addresses immediate health and safety concerns, improves operational efficiency, provides for long-term reliability, and factors in redundancy and aesthetics.

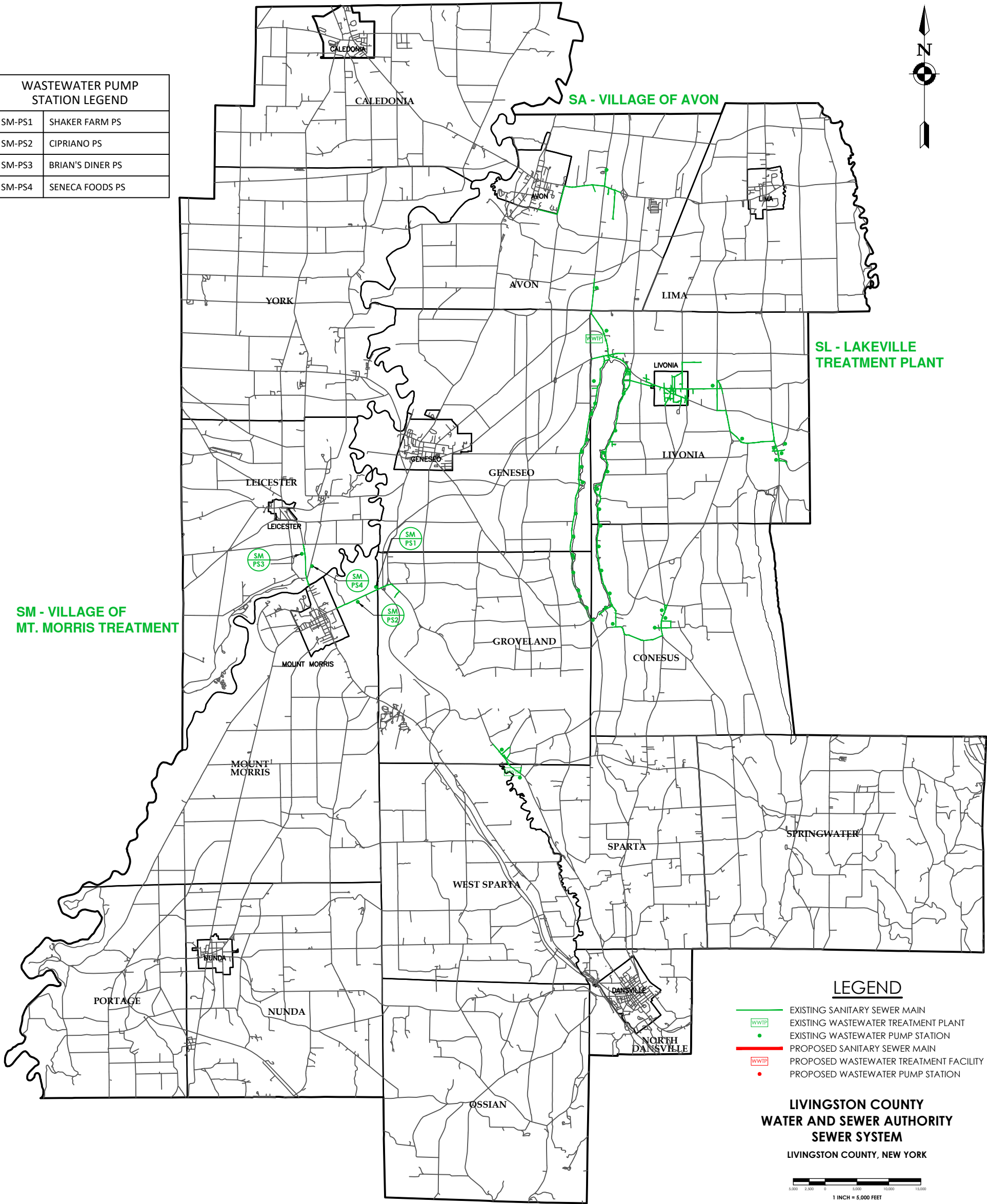
The complete project will achieve the following:

- A. Address immediate health and safety concerns: Upgrading the existing infrastructure will help eliminate sewer overflows, minimizing the risk of exposure to untreated sewage for residents and those seeking recreational opportunities in the area.
- B. Improve operational efficiency: By installing new SCADA systems, the Authority will be provided with real-time monitoring of key parameters such as pump run times, flow rates, and wet well levels, providing valuable insights into system performance and trends. This data facilitates predictive maintenance, optimizes pump usage, and helps identify inefficiencies or emerging issues before they escalate. In addition, SCADA systems at these stations will provide the Authority with the proper and timely notification should components of the pump station fail.
- C. Enhance long-term reliability: By proactively replacing aging components, including pumps and pump motors, the overall reliability and life expectancy of the pump stations can be significantly improved.
- D. Improve aesthetics and standardization: By replacing existing fiberglass enclosures with wooden-framed structures, the pump stations will have an improved aesthetic appeal. This also allows for easier and safer maintenance by the Authority staff and standardizes the look and feel of the stations across the region.

Based on the aforementioned factors, we recommend proceeding with the proposed improvements to the outbound pump stations. The investment in system upgrades will provide substantial health and safety benefits that extend beyond immediate financial considerations.

Figure 1 - Location Map

WASTEWATER PUMP STATION LEGEND	
SM-PS1	SHAKER FARM PS
SM-PS2	CIPRIANO PS
SM-PS3	BRIAN'S DINER PS
SM-PS4	SENECA FOODS PS



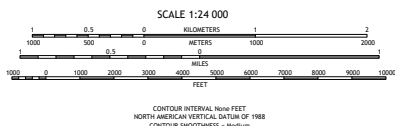
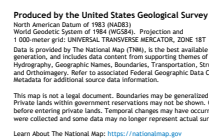
255 WOODCLIFF DRIVE, SUITE 200
FAIRPORT, NEW YORK 14450
TEL (585) 454-4570
FAX (585) 454-7618

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Drawing Name: C:\PROJECTS\LIVINGSTON\18145\WATER-SEWER\LEGEND-MADE_2018.DWG Date: 01/21/21 Time: 2:38 pm

Figure 2 – Topo Map



ROAD CLASSIFICATION

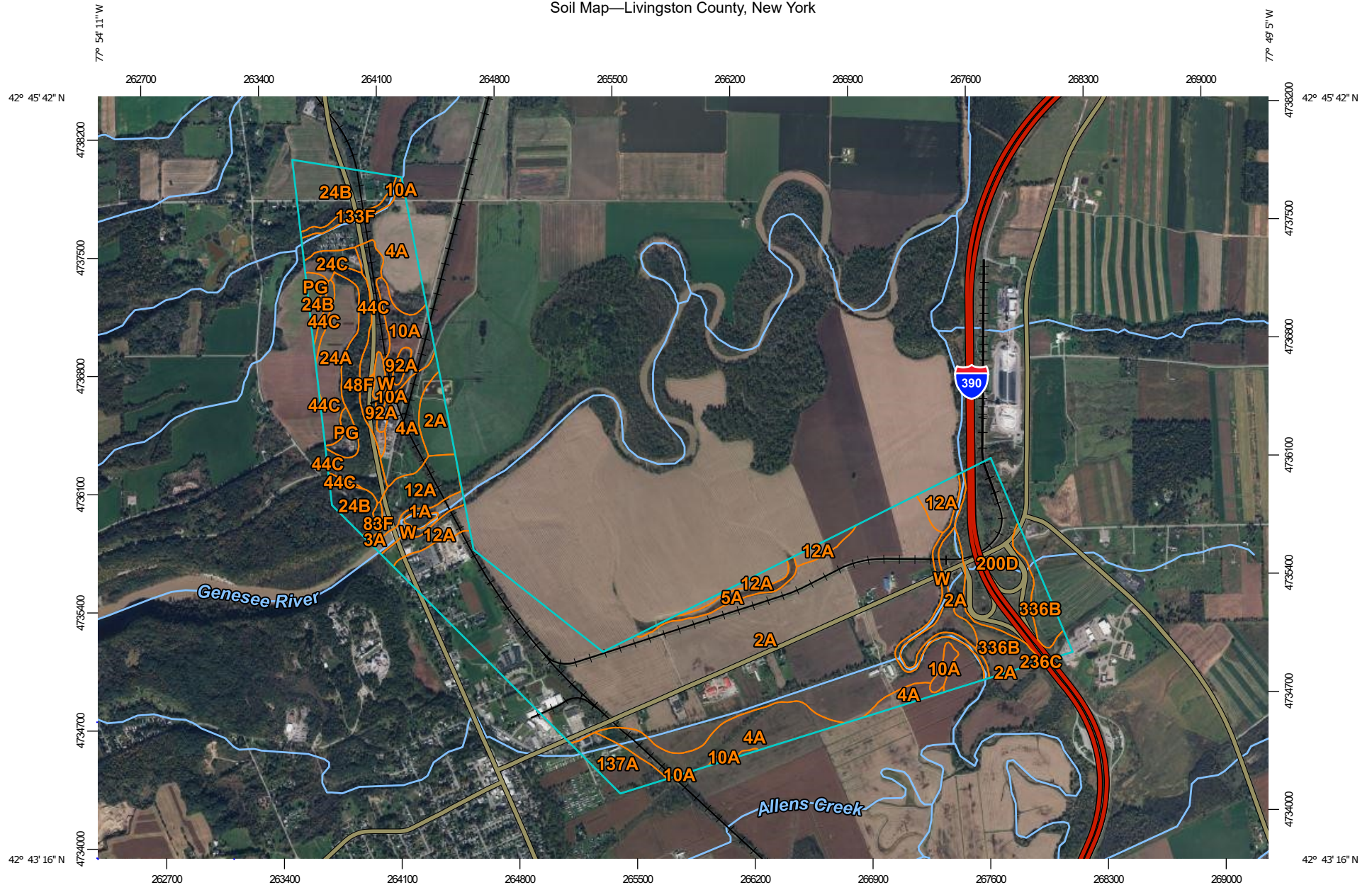
Expressway		Local Connector	
Secondary Hwy		Local Road	
Ramp		4WD	

 Interstate Route  US Route  State Route

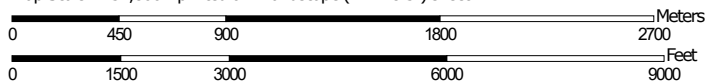
7.5-MINUTE TOPO, NY
2025

Figure 3 – Soil Map

Soil Map—Livingston County, New York



Map Scale: 1:31,800 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84



**Natural Resources
Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

6/2/2024
Page 1 of 4

MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features



Blowout



Borrow Pit



Clay Spot



Closed Depression



Gravel Pit



Gravelly Spot



Landfill



Lava Flow



Marsh or swamp



Mine or Quarry



Miscellaneous Water



Perennial Water



Rock Outcrop



Saline Spot



Sandy Spot



Severely Eroded Spot



Sinkhole



Slide or Slip



Sodic Spot



Spoil Area



Stony Spot



Very Stony Spot



Wet Spot



Other



Special Line Features

Water Features



Streams and Canals

Transportation



Rails



Interstate Highways



US Routes



Major Roads



Local Roads

Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Livingston County, New York

Survey Area Data: Version 21, Sep 5, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 3, 2021—Nov 7, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

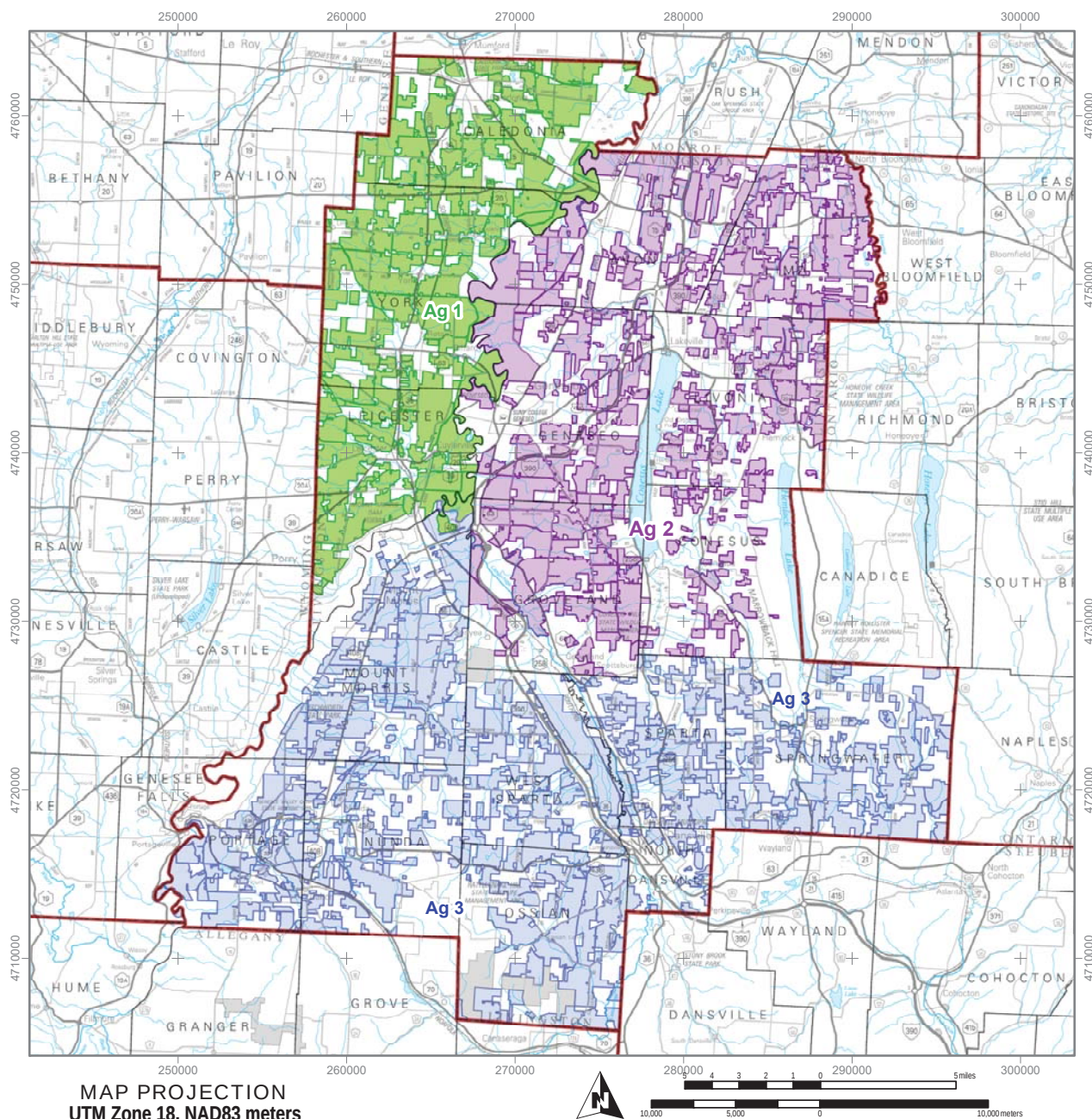
Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1A	Udifuvents and Fluvaquents, 0 to 3 percent slopes, frequently flooded	2.9	0.2%
2A	Hamlin silt loam, 0 to 3 percent slopes, occasionally flooded	614.1	48.7%
3A	Tioga loam, 0 to 3 percent slopes, occasionally flooded	0.6	0.0%
4A	Teel silt loam, 0 to 3 percent slopes, occasionally flooded	145.2	11.5%
5A	Wayland soils complex, non-calcareous substratum, 0 to 3 percent slopes, frequently flooded	10.6	0.8%
10A	Wayland silty clay loam, 0 to 3 percent slopes, frequently flooded	42.6	3.4%
12A	Hamlin fine sandy loam, 0 to 3 percent slopes, occasionally flooded	70.6	5.6%
24A	Howard gravelly loam, 0 to 3 percent slopes	35.3	2.8%
24B	Howard gravelly loam, 3 to 8 percent slopes	57.6	4.6%
24C	Howard gravelly loam, 8 to 15 percent slopes	9.8	0.8%
44C	Colonie loamy fine sand, 8 to 15 percent slopes	26.4	2.1%
48F	Arkport fine sandy loam, 25 to 50 percent slopes	41.5	3.3%
83F	Rock outcrop-Arnot complex, 25 to 70 percent slopes	2.7	0.2%
92A	Carlisle-Palms complex, 0 to 2 percent slopes	6.2	0.5%
133F	Hudson and Aurora soils, 25 to 50 percent slopes, very rocky	7.1	0.6%
137A	Rhinebeck and Madalin silt loams, 0 to 3 percent slopes	23.6	1.9%
200D	Udorthents, loamy, 0 to 25 percent slopes	87.8	7.0%
236C	Schoharie silt loam, 8 to 15 percent slopes	0.0	0.0%
336B	Odessa-Schoharie complex, 3 to 8 percent slopes	35.9	2.8%
PG	Pits, gravel and sand	11.3	0.9%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
W	Water	29.9	2.4%
Totals for Area of Interest		1,261.8	100.0%

Figure 4 – Agricultural District Map

LIVINGSTON COUNTY



Livingston County

Ag District 1



Ag District 2



Ag District 3



DISTRICT CERTIFICATIONS and TOWNS

DISTRICT 1

CERTIFIED
5/24/2021

Caledonia
Leicester
York

DISTRICT 2

CERTIFIED
12/23/2021

Avon Groveland
Conesus Lima
Geneseo Livonia

DISTRICT 3

CERTIFIED
1/28/2015

Mount Morris Ossian Springwater
North Dansville Portage West Sparta
Nunda Sparta

MAP SOURCE INFORMATION

Map created at Cornell IRIS (Institute for Resource Information Sciences)
<<http://iris.cals.cornell.edu>> for the NYS Department of Agriculture and Markets
<<https://www.agriculture.ny.gov>>

Agricultural Districts boundary data is available at CUGIR (Cornell University Geospatial Information Repository) website:
<<http://cugir.library.cornell.edu>>

Base Map: state250_bw.tif 1998
Scale: 1:250,000;
County boundaries imported from the file nyshore.e00 from the NYS GIS Clearinghouse website:
<<http://gis.ny.gov>>

Base map contains data copyrighted by the NYS ITS GIS Program.

DISCLAIMER

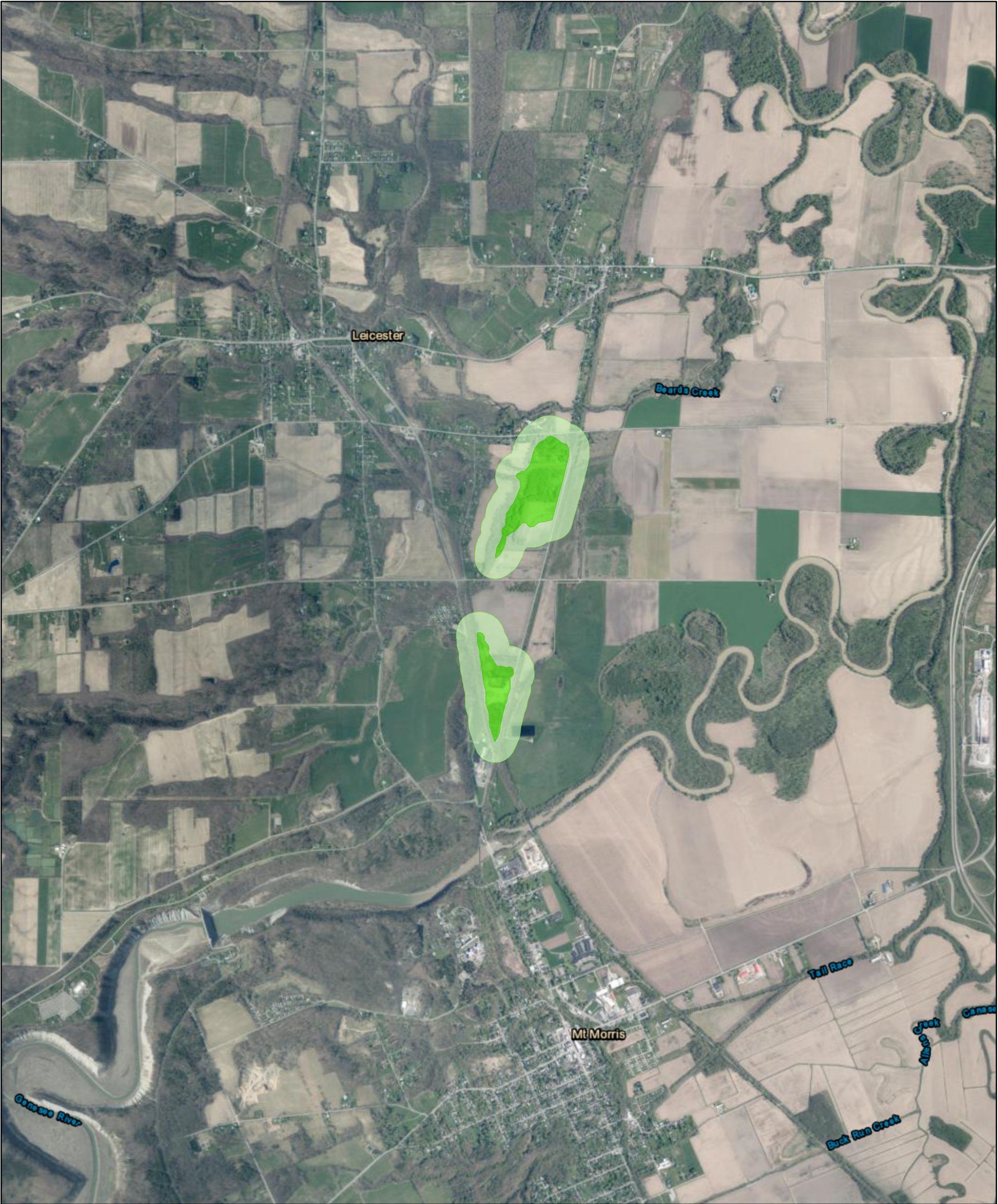
This is a general reference to Agricultural District boundaries; not a legal substitute for actual tax parcel information.

Boundaries as certified prior to January 2022

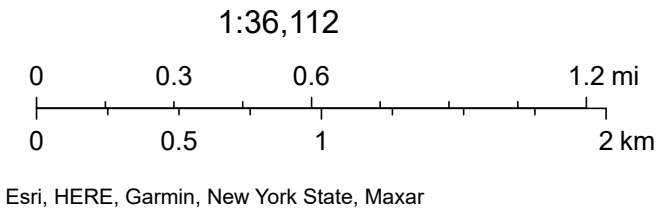
Open Enrollment Annual Inclusions added after the certification date are not included in this data. Check with county agencies to confirm the status of individual parcels.

Figure 5 – State Wetlands Map

Environmental Resource Mapper



June 2, 2024



Environmental Resource Mapper



June 2, 2024

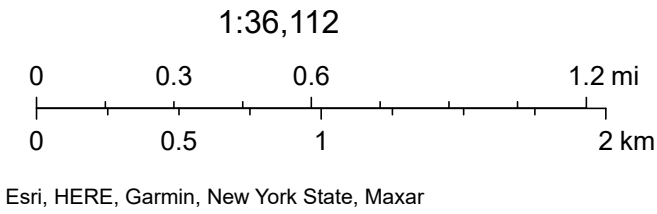


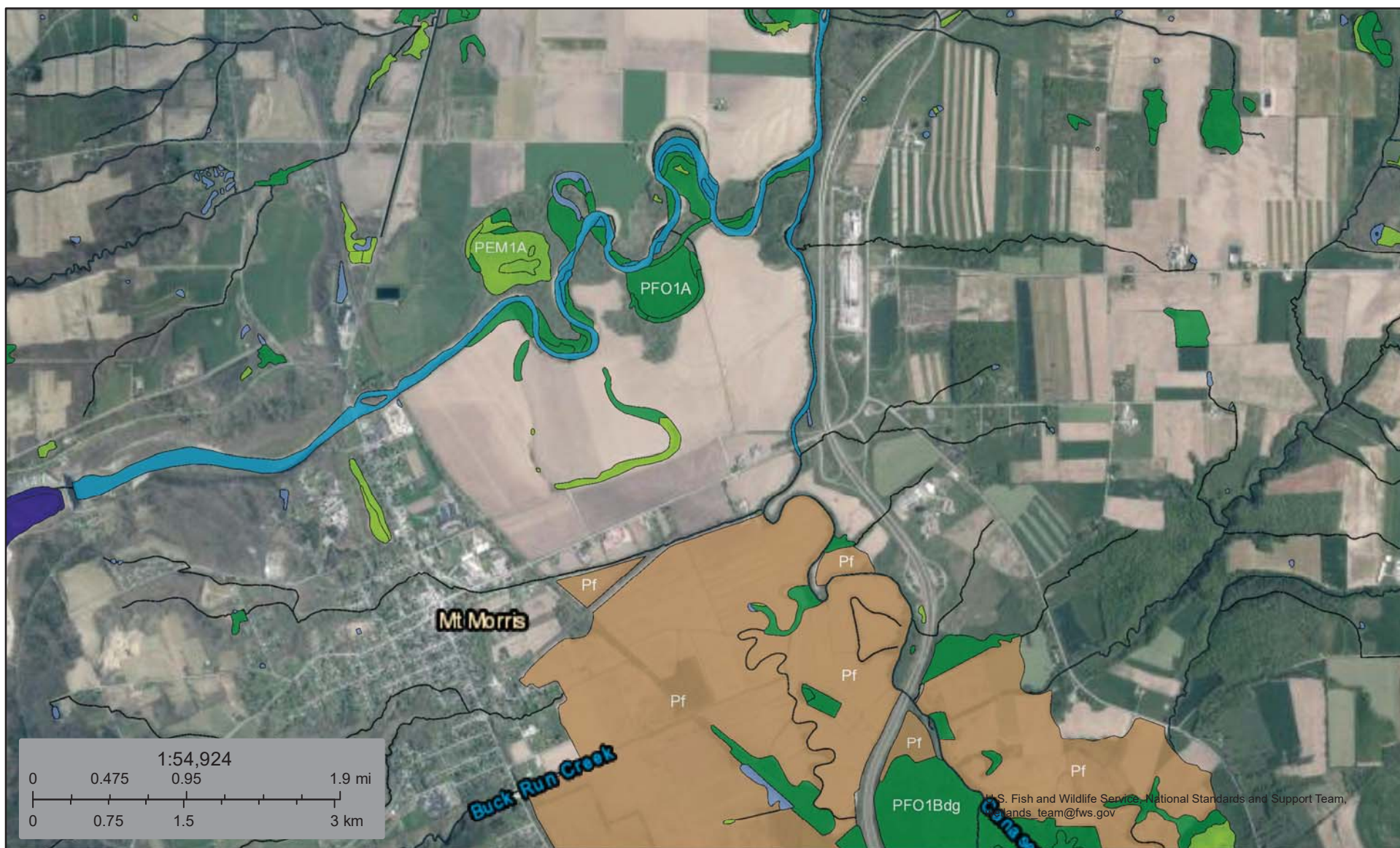
Figure 6 – Federal Wetlands Map



U.S. Fish and Wildlife Service

National Wetlands Inventory

Wetlands



June 2, 2024

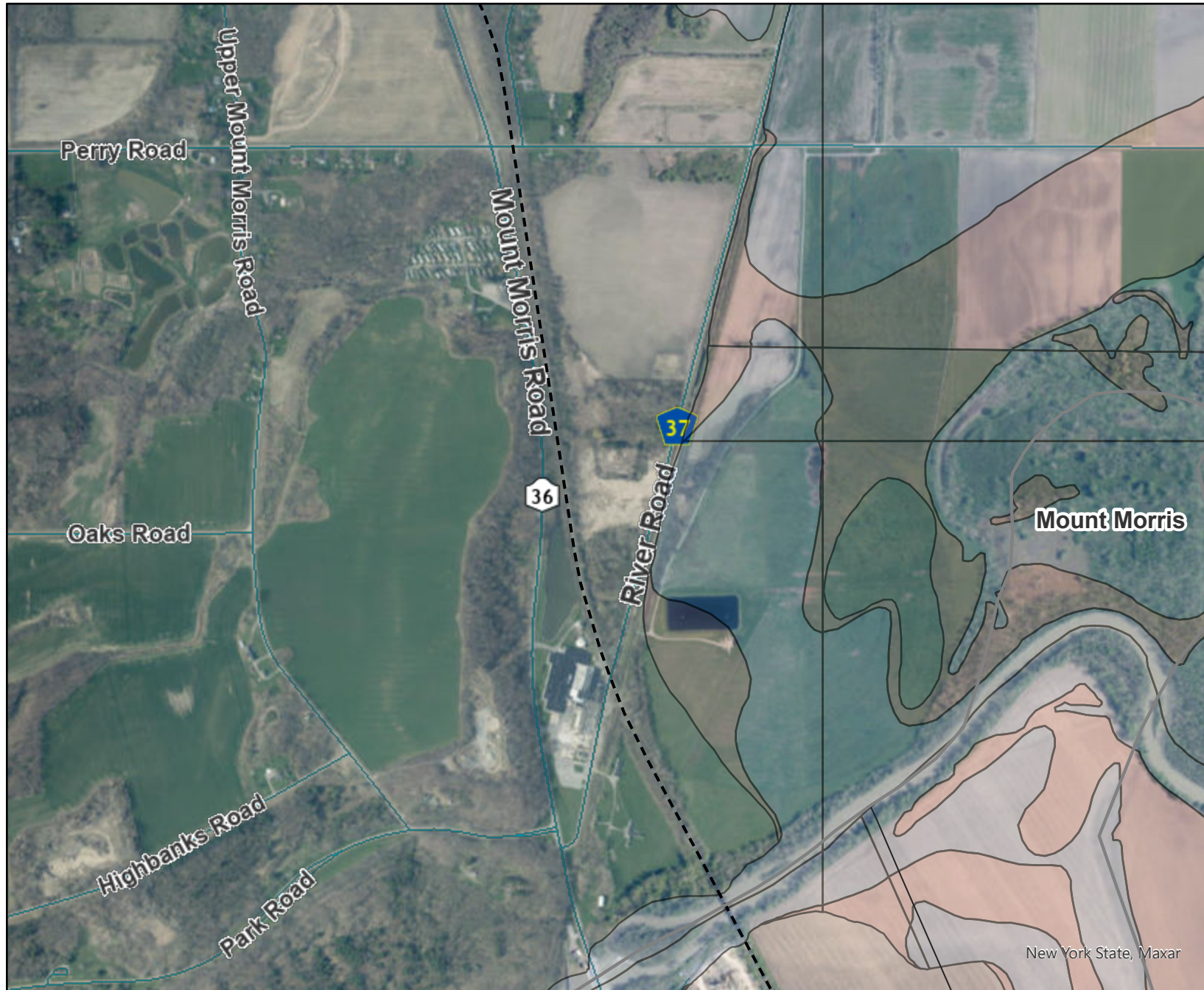
Wetlands

	Estuarine and Marine Deepwater		Freshwater Emergent Wetland		Lake
	Estuarine and Marine Wetland		Freshwater Forested/Shrub Wetland		Other
			Freshwater Pond		Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Figure 7 – Floodplain Map

Letter Landscape



Legend
Town Boundaries

This map was created using the Livingston County Computer Image Mapping System. Livingston County makes no warranty, representation, or guarantee as to the content, sequence, accuracy, timeliness, or completeness of any of the data provided.

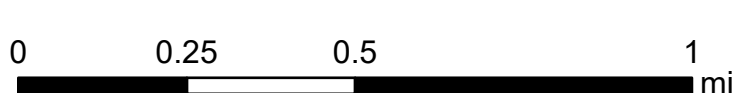
If FEMA floodplains are shown on this map, the following applies: The FEMA digital floodplain data shown on this map should not be used for official or legal purposes. This digital floodplain data cannot be used to determine absolute delineations of flood risk boundaries, but instead should be seen as portraying zones of uncertainty and possible risks associated with flood inundation. For official floodplain designations, go to the FEMA Flood Map Service Center at <https://msc.fema.gov/portal>.

For planning purposes only.
Not survey grade.

Letter Landscape



Legend
Town Boundaries



For planning purposes only.
Not survey grade.

This map was created using the Livingston County Computer Image Mapping System. Livingston County makes no warranty, representation, or guarantee as to the content, sequence, accuracy, timeliness, or completeness of any of the data provided.

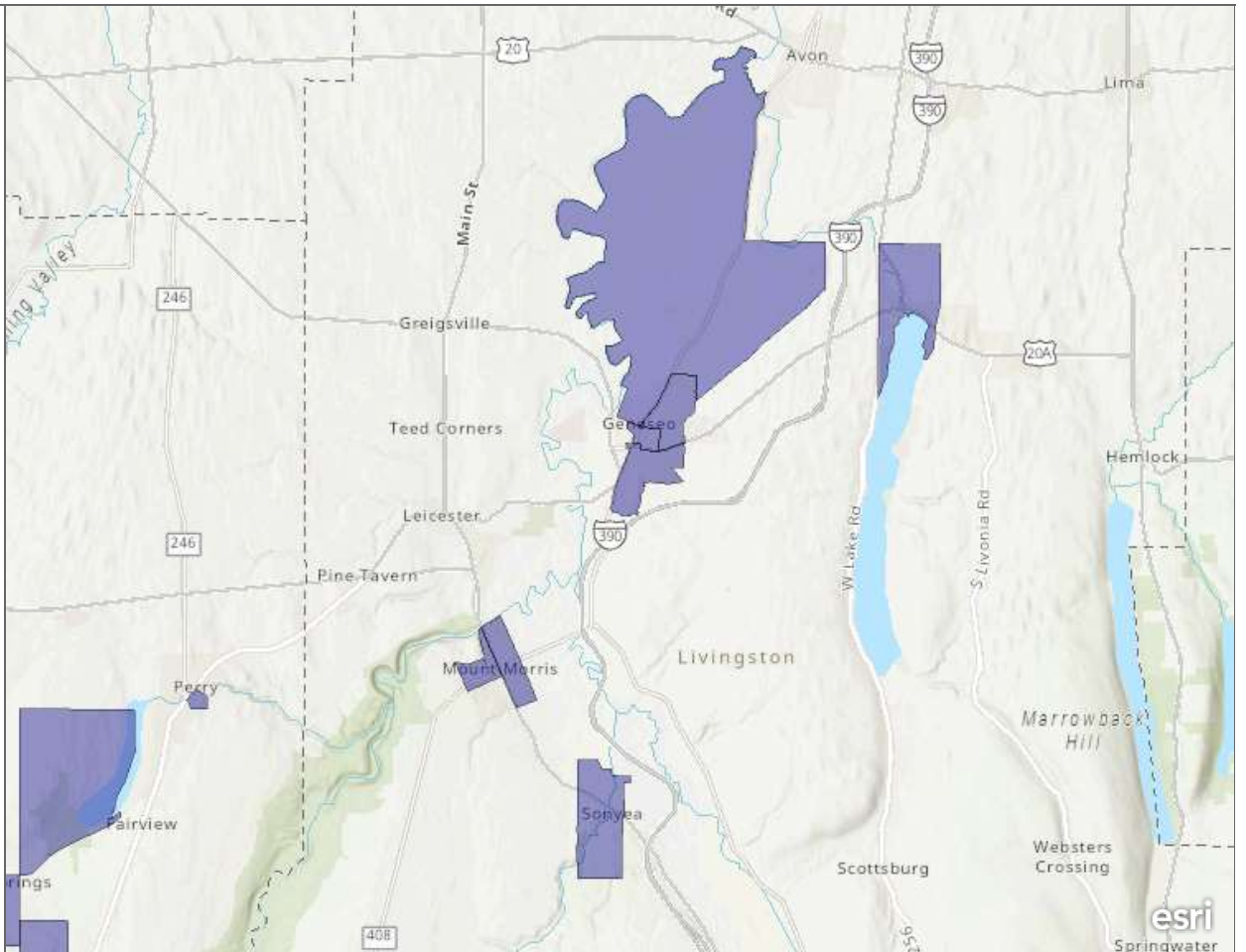
If FEMA floodplains are shown on this map, the following applies: The FEMA digital floodplain data shown on this map should not be used for official or legal purposes. This digital floodplain data cannot be used to determine absolute delineations of flood risk boundaries, but instead should be seen as portraying zones of uncertainty and possible risks associated with flood inundation. For official floodplain designations, go to the FEMA Flood Map Service Center at <https://msc.fema.gov/portal>.

New York State, Maxar

Figure 8 – Environmental Justice Area Map

My Map

Potential_Environmental_Justice_Area__PEJA__Communities
- Potential Environmental Justice Area (PEJA) Communities



Esri, NASA, NGA, USGS | Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS | Data collection: US Census Bureau Data analysis: David E. Witt, New York State Department of Environmental Conservation, Office of Environmental Justice (OEJ) Funding: NYS Taxpayers

Appendix 1 - LCWSA Annual Report 2025

30

Celebrating 30 Years

Livingston County Water & Sewer Authority

1995 - 2025

2025 Annual Report

Providing high quality, environmentally sound, efficient, reliable, and affordable water and sewer services to the people who live, work, and visit Livingston County.

Letter from the Chairman

As the Livingston County Water and Sewer Authority marked its 30-year anniversary, the Board of Directors is proud to reflect on three decades of service dedicated to protecting public health and supporting the communities of Livingston County.

Established in 1995 through special legislation of the New York State Legislature, the Authority was created to provide coordinated, reliable water and wastewater services across the County. What began as a newly formed public benefit corporation has grown into a complex utility system that plans, operates, and maintains critical infrastructure essential to the health, environment, and economic vitality of our communities.

The Authority's transformation over the past three decades reflects not only physical expansion, but also a commitment to responsible governance, financial stewardship, and long-term planning. The Board has worked closely with staff, municipal partners, and state and federal agencies to pursue capital improvements, regional solutions, and operational efficiencies that benefit both current customers and future generations. Through these partnerships, the Authority has remained focused on sustainability, resilience, and service reliability.

As we commemorate this milestone, we also look ahead. The challenges facing water and sewer utilities continue to evolve, from infrastructure renewal and regulatory requirements, to climate resilience and long-term water supply planning. The Board remains committed to thoughtful leadership and strategic investment that will position the Authority to meet these challenges while maintaining affordability and service excellence.

On behalf of the Board of Directors, we extend our sincere appreciation to the Authority's dedicated employees, municipal partners, regulators, and customers. Your trust and collaboration have been essential to the Authority's success over the past 30 years. We are proud of what has been accomplished and confident in the Authority's ability to continue serving Livingston County with integrity, reliability, and stewardship for decades to come.

Warm regards,
Mark McKeown
Chairman



About Us

The Authority is governed by a Board consisting of seven members, who are residents of Livingston County and are appointed by the County Board of Supervisors. These members are civic-minded individuals, with diverse backgrounds, who volunteer their time to the organization. Members are appointed to three-year terms. The Authority has an overall staff of 20 full-time employees.

The Authority's primary responsibilities are to construct, improve, maintain, develop, expand and rehabilitate water and sewerage facilities. The Authority currently operates and maintains: three wastewater treatment plants, approximately 80 miles of sanitary sewer collection and conveyance piping, and 45 sewage lift stations; one water treatment facility, approximately 130 miles of water distribution and transmission piping, 13 water storage tanks, 4 water pump stations, and 9 re-chlorination stations.

The Authority currently provides services to approximately 7,000 water and sewer accounts. The Authority's customers are located within the Village of Livonia and portions of the Towns of Avon, Caledonia, Conesus, Geneseo, Groveland, Leicester, Livonia, Lima, Mt. Morris, Sparta and Springwater.

The Authority is also responsible for the operations and maintenance of the flood gates in Conesus Creek at the outlet of Conesus Lake. This is accomplished through an agreement between the Authority and the Conesus Lake Compact (Towns of Conesus, Geneseo, Groveland, and Livonia).



\$30M

Since 2017 LCWSA has received \$30,100,000 in grant funding from seven different state and federal agencies.

\$72M

Between 2019 and 2028, LCWSA will have completed over \$72 million of capital improvements to existing and new water and sewer systems.

38M

Over 38 million gallons of wastewater is treated per month by LCWSA's three wastewater treatment facilities.

305M

Last year LCWSA delivered over 305 million gallons of safe drinking water to Livingston County residents. This is equivalent to filling over 460 Olympic sized swimming pools.

A Year in Review



Springwater Water & Sewer Systems

In January LCWSA assumed operational responsibility for the Town of Springwater water and sewer systems which includes a water treatment facility and wastewater treatment plant.

Shelly Rd. Water Storage Tank

Construction for the Shelly Rd. water storage tank began in 2025. The 2-million-gallon water tank is expected to be online in late 2026 and is part of a \$9.25M capital improvement plan to the LCWSA water system to improve water system quality and reliability. LCWSA received \$3M in grant funding for the project.

Conesus Lake Pump Station Project

The Conesus Lake PS project started in 2025 which includes replacing and upgrading all 26 pump stations, controls and SCADA around Conesus Lake. Total project costs is \$8.75M, and LCWSA has received \$3.75M in grant funding and interest-free financing for the project. The project is expected to be completed by fall 2026.

SCADA Upgrades

SCADA upgrades for the year include improvements at the Lakeville WWTP to connect the compactor, grit classifier, UV treatment and intermediate pumps to the plants SCADA system. In addition, the Springwater water treatment facility and water storage tank were also connected to the SCADA system.

Camp Run Collection System Study

The Camp Run section of the sanitary sewer system has experienced several overflows over the years, with the most recent in 2014, 2016, 2019, and 2021. LCWSA received grant funding to study the causes of overflow. The study identified additional inflow and infiltration sewer improvements needed at the southern part of Conesus Lake. In total, estimated constructions costs of these improvements are \$1.2M.

Regional Water Supply Project

In February 2022, the Livingston County Board of Supervisors authorized the Authority to develop a water supply project to benefit the communities impacted by the AkzoNobel salt mine collapse. These municipalities are primarily the Towns of Leicester and York and secondarily the Towns of Geneseo, Mt. Morris and Avon.

As a result, the Authority proposed a project to achieve the County's interest in providing enhanced public drinking water infrastructure for the Towns of Leicester, as well as supporting regional interests of providing greater access to affordable safe drinking water for multiple municipalities including the Towns of Mt. Morris, York, Lima, Avon and the Villages of Leicester, Mt. Morris and Avon.

Throughout 2023 and 2024, the Authority worked with its municipal partners to finalize the project scope, which included improved pump stations, the installation of approximately 25 miles of new transmission and distribution piping, and a new water storage tank. Additionally, the project provides for improved interconnections between existing Authority water distribution system and multiple partnering agencies, including the NYS Department of Parks, Recreation and Historic Preservation, for Letchworth State Park.

In September 2024, the Authority was awarded a \$1,000,000 grant for the project from the New York State Local Government Efficiency grant program, through the New York State Department of State.

In November 2024, the Authority was awarded a \$14,320,000 grant for the project from the New York State Environmental Facilities Corporation Intermunicipal Grant program.

In July 2025, the Authority was awarded a \$1,000,000 grant for the project from the Northern Border Regional Commission grant program, a Federal-State partnership for economic and community development in northern Maine, New Hampshire, Vermont, and New York.

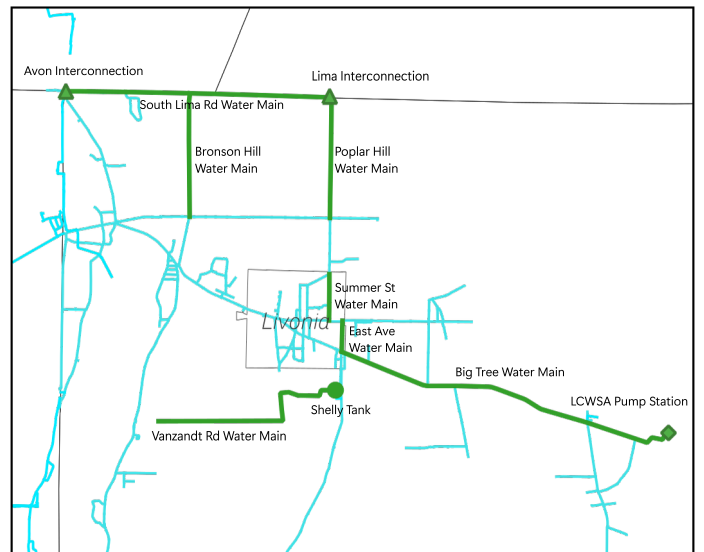
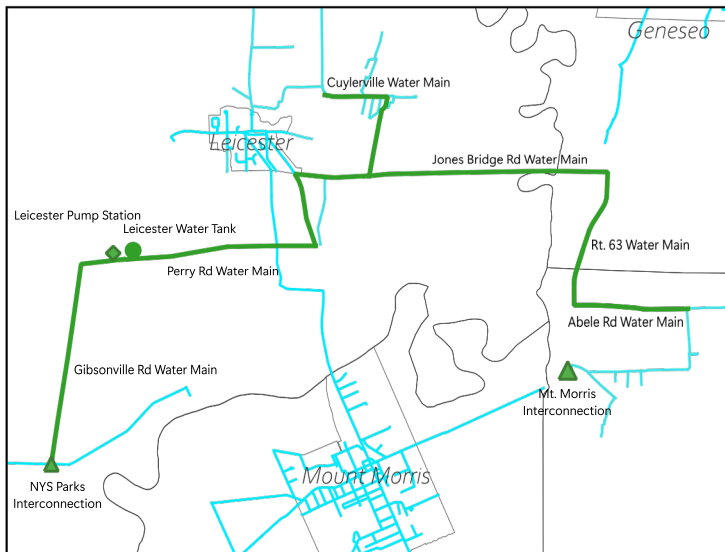
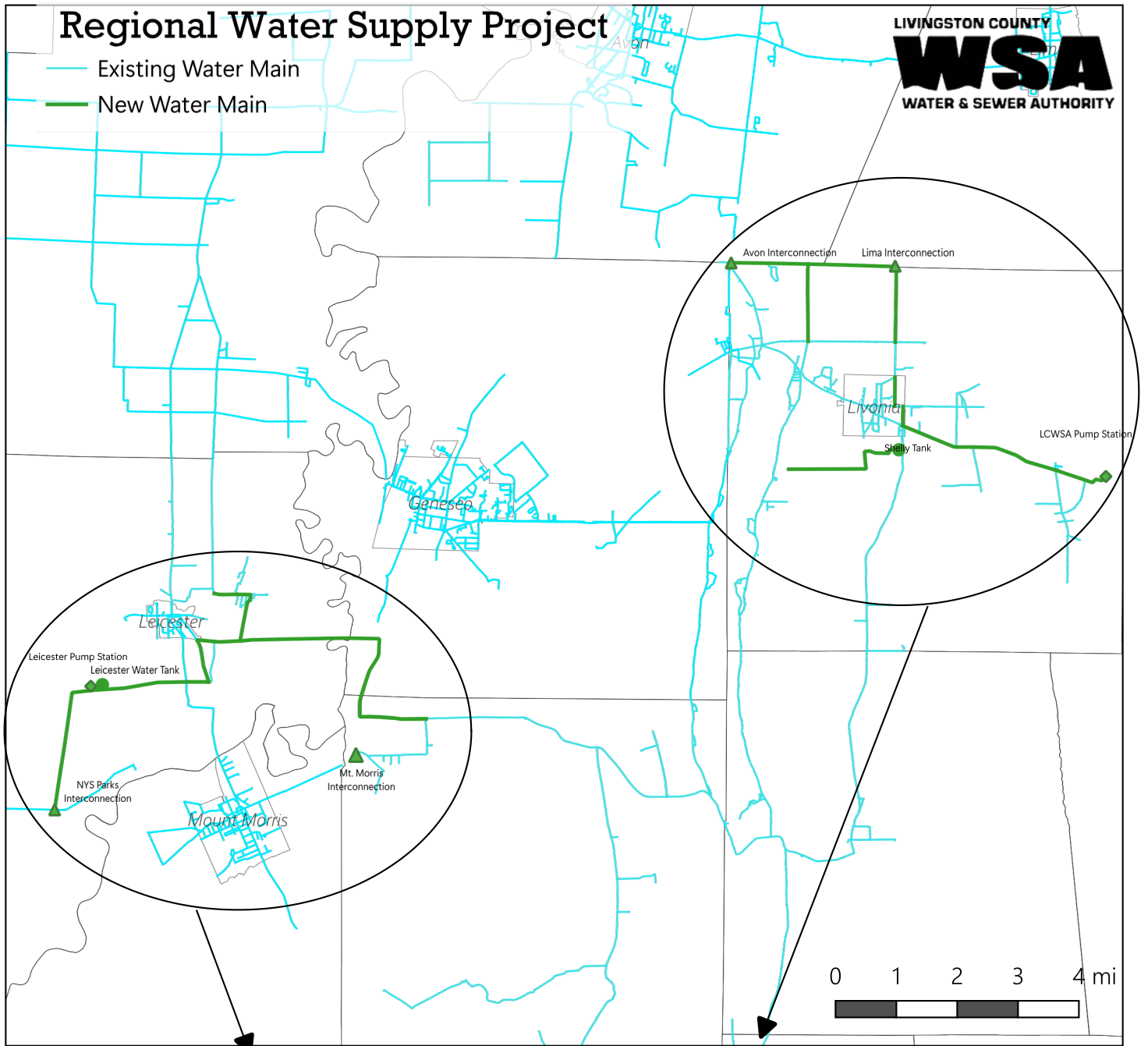
The most recent updates to the project, include transmission main routes that provide public water to households in the Town of Leicester that have been negatively impacted by the salt mine collapse and new interconnections to partnering municipalities, including the ability to serve all of the Impacted Communities (Towns of Avon, Geneseo, Mt. Morris, Leicester and York) with a new independent water source. Total project costs are estimated to be \$35,800,000.

The project is currently under design and construction is expected to start in 2027.

Regional Water Supply Project

LIVINGSTON COUNTY
WSA
WATER & SEWER AUTHORITY

- Existing Water Main
- New Water Main



2026 Projects



Regional Supply Water Project

The project is intended to achieve the County's interest of providing enhanced public drinking water infrastructure for the Town of Leicester, as well as supporting regional interests of providing greater access to affordable safe drinking water for all participating municipalities. The funding sources include \$14.3M IMG program, \$5.4M Akzo Funding, \$1M LGE program and \$1M NBRC program. 2026 will include finalizing water supply and related agreements with municipal partners and design of the project.

Conesus Lake Pump Station Project

The Authority has been awarded \$1.75M of WIIA grant funding and \$2.5M of BIL grant funding to replace 26 pump stations around Conesus Lake and make needed SCADA upgrades. Total project cost is estimated to be \$8.75M. The project is currently under construction and is expected to be completed by the end of 2026.

Water System Improvements

Remaining system wide water improvements include: construction of new 2-million gallon Shelly Rd. water tank and SCADA upgrades. Total project cost is \$9.75M; \$3M grant funding from WIIA. The water storage tank is currently under construction and is expected to be completed by the end of 2026.

Hemlock Pump Station Improvement Project

The Town of Livonia has been awarded \$1.5M of CDBG grant funding for the replacement and improve the 5 pump stations in the Hemlock Sewer District. These improvements include pumps, controllers, SCADA replacements and various other upgrades to improve worker safety. Total project cost is estimated to be \$1.5M and the project is expected to be completed in 2027.

2026 Projects



Water District Expansion

Currently two water districts are funded, and under design or construction. Groveland WD#1 includes the installation of 80,000 lf of water main and is expected to be completed within 2026. Lima WD#5 includes the installation of over 86,000 lf of water main is expected to start by 2027. LCWSA will be operating both districts once completed.

Springwater WWTP Improvements

Over the past year LCWSA has assumed operational responsibility for the facility through a long-term lease. In addition, the Authority has agreed to assist the Town with managing the WWTP improvement project. LCWSA will assist the Town in applying for additional funding to make the project financially feasible.

Non-Revenue Water Program

Currently LCWSA has limited systems in place to monitor water loss. Developing a more comprehensive water loss management strategy will assist in reducing the amount of revenue lost by specifically targeting water leakage, carbon emission reduction and infrastructure weaknesses. LCWSA received funding from New York State to establish the Livingston/Wyoming Water Loss Pilot Program.

Groveland Correctional WWTP

In 2025 LCWSA started the application process to review the opportunity to assume the Groveland Correctional WWTP from New York State. With the acquisition of the WWTP, LCWSA could decommission its small Groveland Station WWTP and combine sewer flows. A survey of the property is required to start the review process, followed by negotiations with NYS DOCCS.

2026 Projects



Lakeville WWTP Upgrades

Currently the Lakeville WWTP compactor, grit classifier, UV treatment facility and intermediate pumps are not connected to the SCADA system. There is no alarming or remote monitoring of these assets. Installing alarming and remote monitoring capabilities within our existing SCADA system will provide optimal oversight for operation at the Lakeville WWTP. Also, in 2026 there are several planned improvements for the facility which include: a sludge pump replacement, interior and exterior painting, clarifier valve replacements, bio-tower electrical plug installation and davit crane installation.

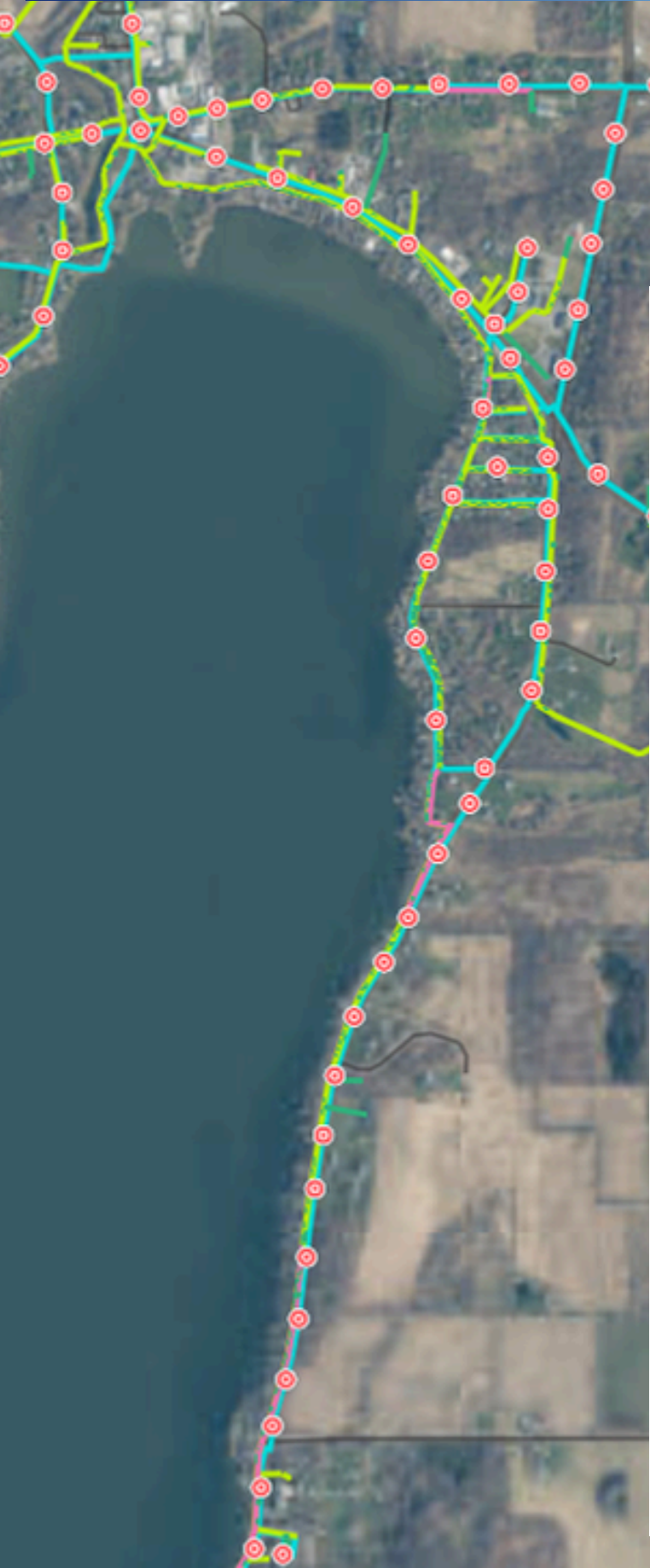
Conesus Creek Gauge

Currently the Lakeville WWTP SPDES permit requires the Authority to maintain 10 cubic feet per second (cfs) of flow through the Conesus Creek. This is monitored by a USGS Station and costs approximately \$26,000 per year to operate through an agreement with USGS. After further evaluation in partnership with the Conesus Lake Association, it was determined that a separate flow monitor can be installed along the creek that can result the same creek flow as the USGS station. This alternative will provide the Compact of Towns with annual savings to be redirected towards evaluating the Conesus Flood Gates.

Continue Infiltration & Inflow (I/I) Program

Over the past two years LCWSA has inspected/confirmed over 2,500 sewer customers are not connected to the sanitary sewer system. The Authority has identified 105 violations and worked with residential and commercial property owners to disconnect over 95 sump pump connections from the sanitary sewer system. 2026 will focus on completing inspections for the remaining customers within the Lakeville service area and initiating inspections for sewer customers in the Towns of Avon and Springwater.

2026 Projects



Wastewater Treatment Plant Data Analytics

The 2026 budget included the installation of new pH and oxidation reduction potential probes at the Lakeville WWTP and dissolved oxygen probe at the Groveland WWTP. These probes will provide operators with real time insight into the chemical characteristics of the wastewater at each facility.

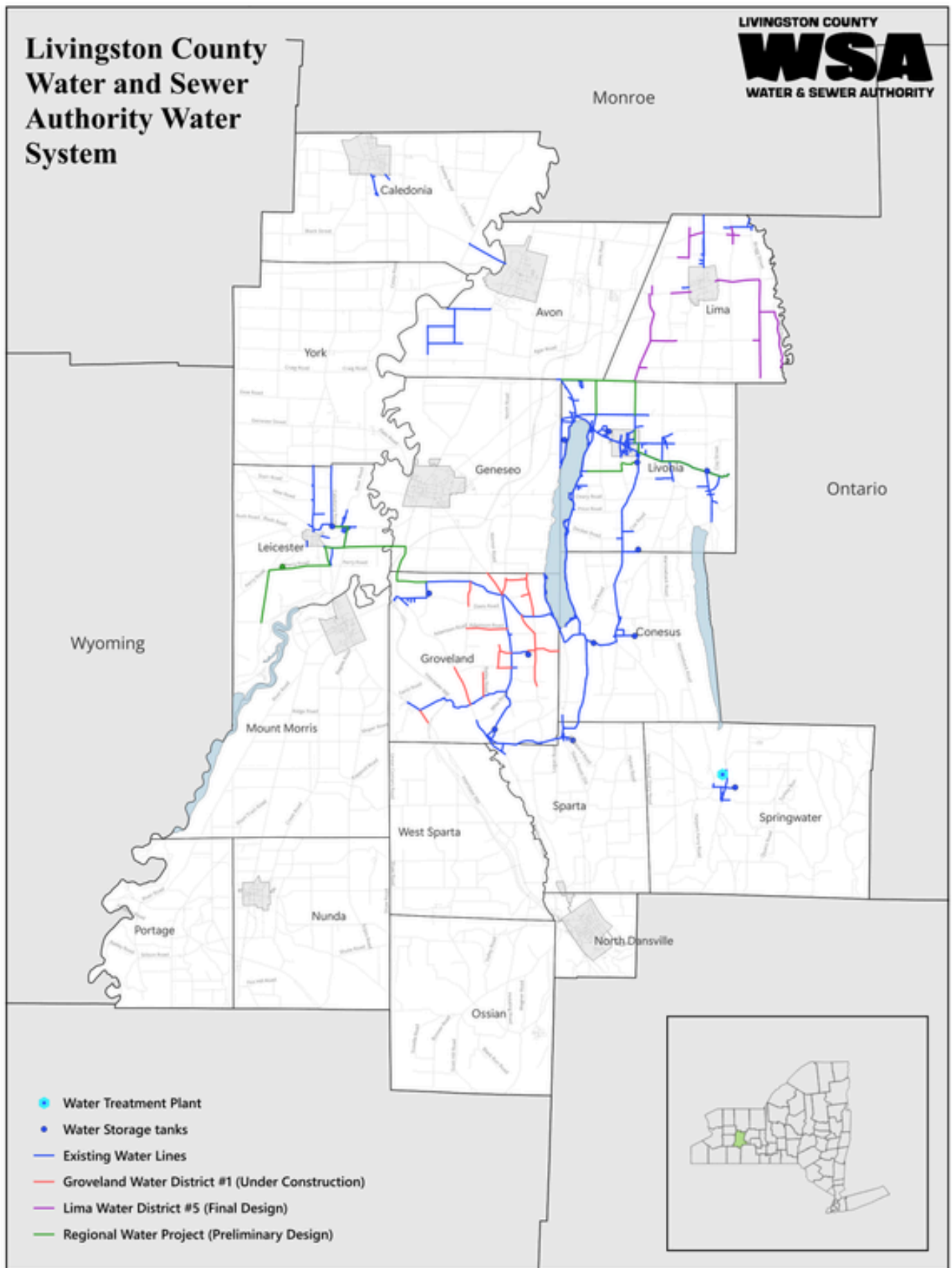
GIS Expansion

To date over 40,000 assets have been located and entered into the GIS software. In addition, the software is used daily for workorders, material inventory and preventative maintenance routines. Over the next year, staff intends to expand the use of GIS software to include real-time field inspections and installations during construction of Groveland WD #1 and Lima WD#5. In addition, the Authority will assist the Village of Lima and the Village of Leicester in creating basic water and sewer infrastructure GIS layers of their systems. Lastly, GIS layers will be created for Lakeville WWTP to include plant valves and pumps.

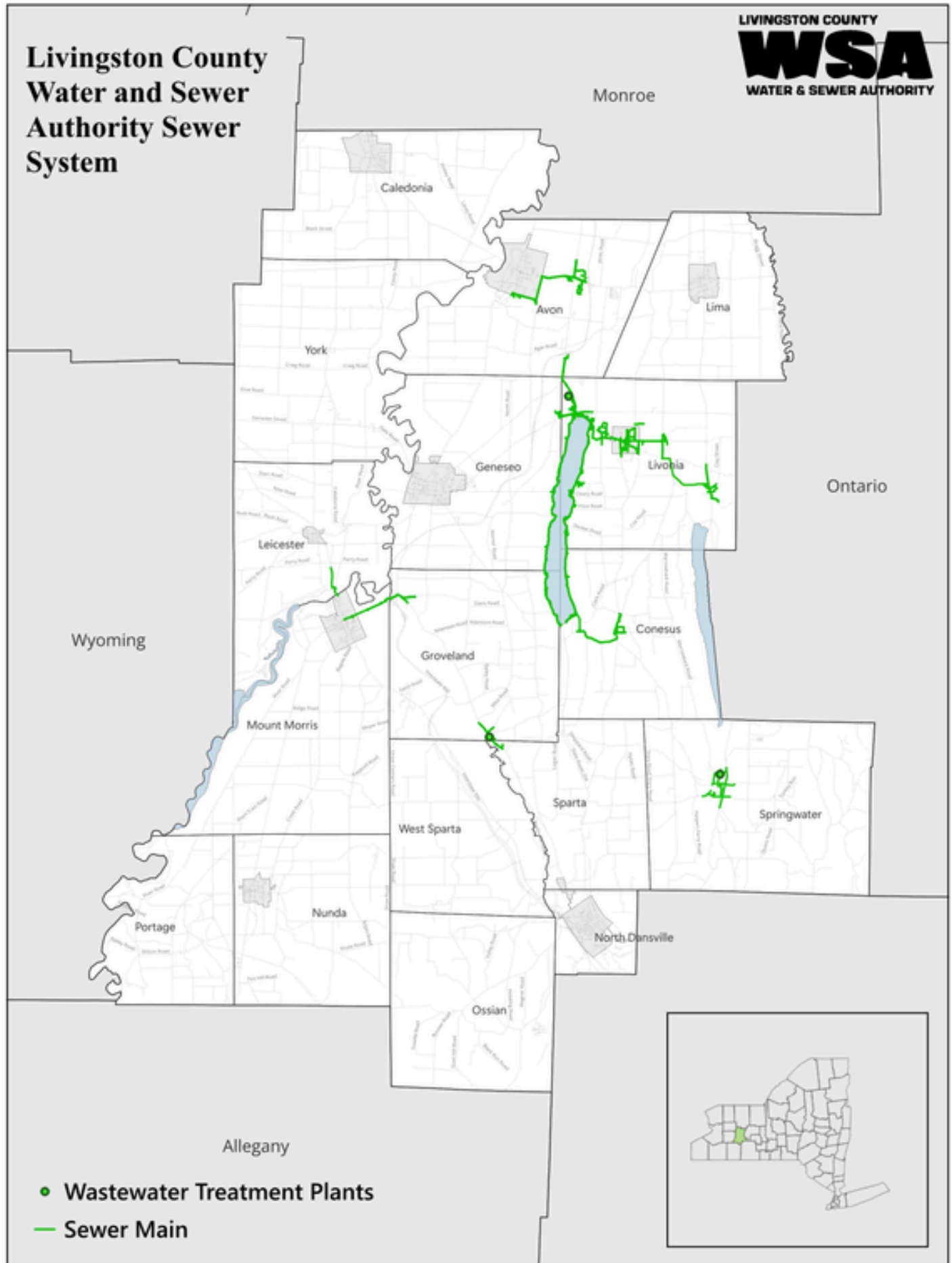
Springwater Water Meter Replacement

Currently the Town of Springwater has 157 water meters for all water customers. The current meters are 8-10 years old. These meters are read by a manual touch read process, which require additional maintenance staff to physically connect a reading device to an exterior touch pad on each customer's home/property to upload water usage data. Considering travel time, staff time to read meters manually and process billing, changing to radio read water meters in Springwater will save over 100 hours of staff time annually and decrease the probability of errors during the meter reading and billing process.

Water Service Area



Sewer Service Area



STATEMENT OF NET POSITION

December 31, 2025

ASSETS AND DEFERRED OUTFLOWS OF RESOURCES:

2025

Current Assets -

Cash and cash equivalents	\$ 2,467,813
Accounts receivable (net of allowance)	2,438,380
Current portion of capital contributions receivable	58,015
Materials and supplies inventory	222,778
Prepaid items	289,682
Funds held for others	1,500

Total Current Assets

\$ 5,478,168

Noncurrent Assets -

Restricted cash	\$ 12,699
Funds held by trustee	534,653
Capital contributions receivable, net of current portion	119,485

Total Noncurrent Assets

\$ 666,837

Capital Assets -

Land and work in progress	\$ 5,546,623
Capital assets, net of depreciation	41,050,875
Lease assets, net of amortization	230,137

Total Capital Assets, Net

\$ 46,827,635

TOTAL ASSETS

\$ 52,972,640

Deferred Outflows of Resources -

Deferred outflows of resources	\$ 860,278
--------------------------------	------------

TOTAL ASSETS AND DEFERRED OUTFLOW OF RESOURCES

\$ 53,832,918

LIABILITIES, DEFERRED INFLOW OF RESOURCES AND NET POSITION:

Current Liabilities -

Accounts payable	\$ 1,558,293
Accrued liabilities	14,283
Accrued interest	28,168
Funds held for others	307
Bond anticipation note	5,923,275
Retainage payable	168,727
Compensated absences	55,692
Current portion of debt	530,092

Total Current Liabilities

\$ 8,278,837

Noncurrent Liabilities -

Bonds payable, net of current portion	\$ 10,599,822
Lease liability, net of current portion	77,502
Net pension liability	608,306
OPEB liability	942,361

Total Noncurrent Liabilities

\$ 12,227,991

TOTAL LIABILITIES

\$ 20,506,828

Deferred Inflows of Resources -

Deferred inflows of resources	\$ 415,794
-------------------------------	------------

Net Position -

Net investment in capital assets	\$ 29,528,217
Restricted	547,352
Unrestricted net position	2,834,727

Total Net Position

\$ 32,910,296

TOTAL LIABILITIES, DEFERRED INFLOW OF RESOURCES AND NET POSITION

\$ 53,832,918

**LIVINGSTON COUNTY WATER & SEWER AUTHORITY
LIVINGSTON COUNTY, NEW YORK**

**STATEMENT OF REVENUES, EXPENSES AND CHANGES IN
NET POSITION**

For Year Ended December 31, 2025

<u>OPERATING REVENUES:</u>	<u>2025</u>
Service fees	\$ 5,449,101
Operation and maintenance service fees	23,460
Permit fees	160,007
Other operating income	226,879
TOTAL OPERATING REVENUES	<u>\$ 5,859,447</u>
<u>OPERATING EXPENSES:</u>	
Wages, salaries, and benefits	\$ 1,345,807
Professional services	583,342
Utilities	419,321
Vehicle expense	76,700
Purchased water and sewer	841,818
Equipment maintenance	103,822
Building maintenance	742,540
Other	118,724
Depreciation and amortization	1,514,076
TOTAL OPERATING EXPENSES	<u>\$ 5,746,150</u>
OPERATING (LOSS) INCOME	<u>\$ 113,297</u>
<u>NONOPERATING REVENUES (EXPENSES):</u>	
Interest earnings	\$ 114,896
Interest expense	(102,353)
Debt fees	(10,724)
Grant revenue	1,997,094
TOTAL NONOPERATING REVENUES (EXPENSES)	<u>\$ 1,998,913</u>
INCOME (LOSS) BEFORE CAPITAL CONTRIBUTIONS	<u>\$ 2,112,210</u>
<u>CAPITAL CONTRIBUTIONS:</u>	
Contributed capital	\$ 201,850
TOTAL CAPITAL CONTRIBUTIONS	<u>\$ 201,850</u>
(DECREASE) INCREASE IN NET POSITION	<u>\$ 2,314,060</u>
NET POSITION - BEGINNING OF YEAR	<u>30,596,236</u>
NET POSITION - END OF YEAR	<u>\$ 32,910,296</u>

**LIVINGSTON COUNTY WATER & SEWER AUTHORITY
LIVINGSTON COUNTY, NEW YORK**

STATEMENT OF CASH FLOWS

For Year Ended December 31, 2025

<u>CASH FLOWS FROM OPERATING ACTIVITIES:</u>	<u>2025</u>
Revenues -	
Receipts from service fees	\$ 5,402,051
Receipts from permit fees	160,007
Other operating receipts	226,879
Expenses -	
Payments to vendors and suppliers for goods and services	(2,865,347)
Payments to employees for wages and benefits	(2,546,274)
Service fees remitted to other governments	(19,741)
Net Cash Provided by Operating Activities	<u>\$ 357,575</u>
<u>CASH FLOWS FROM CAPITAL AND RELATED FINANCING ACTIVITIES:</u>	
Purchases of capital assets	\$ (2,704,473)
Cash received for capital contributions	67,252
Grants received for capital assets	1,947,094
Proceeds from bond anticipation note payable	1,685,523
Repayments on bond payable	(611,351)
Interest on capital debt	(91,972)
Bond issuance cost	(10,724)
Lease principal payments	(36,751)
Net Cash Used In Capital and Related Financing Activities	<u>\$ 244,598</u>
<u>CASH FLOWS FROM INVESTING ACTIVITIES:</u>	
Interest income	\$ 96,618
Net Cash Provided By Investing Activities	<u>\$ 96,618</u>
Net (Decrease) Increase in Cash and Cash Equivalents	\$ 698,791
Cash and Cash Equivalents - Beginning of Year	1,781,721
Cash and Cash Equivalents - End of Year	<u>\$ 2,480,512</u>
Classified as:	
Cash and cash equivalents	\$ 2,467,813
Restricted cash and cash equivalents	12,699
Total cash and cash equivalents	<u>\$ 2,480,512</u>
<u>RECONCILIATION OF CHANGE IN NET POSITION TO NET CASH PROVIDED BY OPERATING ACTIVITIES:</u>	
Operating (loss) income	\$ 113,297
Adjustments to reconcile changes in net position to cash Provided by Activities -	
Depreciation	1,514,076
Changes in assets and liabilities -	
Accounts receivable	(70,510)
Funds held by others	(19,741)
Inventory	26,478
Prepaid expense	(66,179)
Accounts payable	(32,933)
Compensated absences	7,949
Net pension asset/(liability)	76,233
Other postemployment benefit	(974,050)
Deferred inflows	(261,621)
Deferred outflows	83,429
Other current liabilities	(38,853)
Net Cash Provided by Operating Activities	<u>\$ 357,575</u>

DEBT SCHEDULE

VII. Short-Term Debt

A. Bond Anticipation Notes

1. On November 4, 2021, the Authority issued a Bond Anticipation Note (BAN) through the Environmental Facilities Corporation (EFC) for a maximum amount of 4,000,000 for the Water System Improvements Project. This BAN included an interest free sum of 1,333,333 and a market rate sum of \$2,666,667 at a market rate of 0.33% under a NYS EFC short-term financing program, which is considered a direct borrowing. On November 20, 2025, the Authority signed an updated Project Finance Agreement which increased the borrowing through EFC to a maximum amount of \$6,750,000 for the Water System Improvements Project. This BAN now includes an interest free sum of \$2,250,000 and a market rate sum of \$4,500,000 at a market rate of 2.65%. The BAN has a maturity date of June 30, 2027. At this time, the Authority can convert the BAN to long-term financing if all conditions are met and if such financing is made available by EFC. The Authority drew down \$1,615,438 on this BAN in 2022, \$1,452,900 in 2023, \$388,851 in 2024, and \$289,827 in 2025. In addition, the first short-term principal payment of \$36,000 was made in 2024. Principal payments totaling \$128,500 were made in 2025.

2. On January 9, 2025, the Authority issued a Bond Anticipation Note (BAN) funded by the Bipartisan Infrastructure Law (BIL) through the Environmental Facilities Corporation (EFC) for a maximum amount of \$5,000,000 for the Conesus Lake Pump Station Improvements Project. This BAN includes an interest free sum of \$5,000,000 under a NYS EFC short-term financing program, which is considered a direct borrowing. The BAN has a maturity date of 1/9/2030.

The following is a summary of the changes in short-term debt as of December 31, 2025:

	<u>Original Amount</u>	<u>Maturity</u>	<u>Interest Rate</u>	<u>Balance 1/1/25</u>	<u>Additions</u>	<u>Deletions</u>	<u>Balance 12/31/25</u>
BAN-2021	\$ 1,615,438	6/30/2027	2.65%	\$ 3,421,189	\$ 289,827	\$ (128,500)	\$ 3,582,516
BAN-2025	\$ 5,000,000	1/9/2030	0.00%	-	2,340,759	-	2,340,759
Total Short-Term Debt				\$ 3,421,189	\$ 2,630,586	\$ (128,500)	\$ 5,923,275

IX. Long-Term Debt

A. EFC Revenue Bond Payable

1. On August 27, 2009, the Authority issued a \$2,921,000 Sewer Installment Bond with the NYS Environmental Facilities Corporation to fund the cost of various sewer projects. The bond has an interest rate of 4.27% and will mature on August 1, 2039.

2. On February 7, 2011, the Authority issued a \$951,750 Drinking Water Installment Bond with the NYS Environmental Facilities Corporation to fund the cost of the Groveland Station water project. The Bond has an interest rate of 0% and will mature on August 31, 2040.

3. On May 1, 2012, the Authority was a part of a \$1,322,692 offering of the NYS EFC Revenue Bonds to fund the cost of various sewer projects. The bond has an interest rate of 3.74% and will mature on May 1, 2042.

4. As of December 31, 2022, the Authority owed \$6,686,416 on the EFC BAN which funded the Lakeville Wastewater Treatment Plant upgrades. The balance was subsequently refinanced on a long-term basis. The long-term debt was issued on January 5, 2023 and is a \$7,652,105 Clean Water Installment Bond with NYS Environmental Facilities Corporation. The bond has an interest rate of 0% and will mature on January 5, 2052.

5. The \$1,705,000 System Revenue Notes were permanently financed on August 7, 2024 through the issuance of a \$1,245,000 Bond. The bond has a maturity date of August 1, 2039.

Management's Assessment of Internal Controls

The Authority has developed policies and procedures to provide reasonable assurance that assets are safeguarded from unauthorized acquisitions, use of, or disposition of assets that could have a material effect on the Authority's operations, financial statements and reports, and that the records of the Authority reflect only authorized transactions.

The Authority's system of internal controls is evaluated regularly by Authority management and administrative staff. Independent external auditors also review the internal control system of the Authority in order to determine compliance with generally accepted accounting principles and safeguards for the purpose of expressing an opinion on the financial statements.

This statement verifies that management has documented and assessed the internal control structure and procedures of the Livingston County Water & Sewer Authority for the year ending December 31, 2025. This assessment found the Authority's internal controls to be adequate, and to the extent that deficiencies were identified, the Authority has developed corrective action plans to reduce any corresponding risk.

Person & Real Property Transactions

In 2025, the Authority disposed of the following personal property (equipment, vehicles, and materials) with an estimated fair market value in excess of \$5,000:

- Kubota RTV-X1100C 4WD Diesel Utility Vehicle; A5KC2GDBVN072343

In 2025, the Authority did not acquire or dispose of real property with a fair market value in excess of \$15,000.

Real Property Schedule

YEAR ENDING DECEMBER 31, 2025

Property Use	Municipality	Address	Tax ID	Acreage
Sewer Plant	Lakeville	1997 D'Angelo Dr	65.-1-84.1	18.56 acres
Sewer Plant	Groveland	7458 Groveland Station Rd	135.-1-25.2	57 x 259
Water Tank	Mt Morris	3746 East Groveland	98.-1-12.2	180 x 200
Water Tank	Groveland	7305 Groveland Hill Rd	136.-1-3	75 x 75
Water Tank	Groveland	7161 Groveland Hill Rd	127.-1-20	75 x 75
Water Tank	Conesus	6022 Sliker Hill	119.-1-20.12	280 x 170
Water Tank	Livonia	Shelly Road	110.-1-16.123	.5 acres
Water Pump Station	Groveland	5500 Maple Beach	109.-1-38.12	.26 acre
Water Pump Station	Groveland	5168 Dennison Rd	118.-1-10.2	1.80 acres
Sewer Pump Station	Livonia	2851 Lakeville Rd	65.-1-6.113	30 x 60
Sewer Pump Station	Groveland	5650 S Cove Ln 1W	110.69-1-9	30x40
Sewer Pump Station	Groveland	6019 W Lake Rd 2W	109.60-1-7	30 x 60
Sewer Pump Station	Groveland	5945 Calvin Lane 3W	109.52-1-7	50 x 16
Sewer Pump Station	Groveland	5883 W Lake Rd 4W	109.44-1-13.2	25 x 50
Sewer Pump Station	Groveland	4257 Sutton Point North 5W	100.83-1-32	30 x 80
Sewer Pump Station	Groveland	5556 Cottonwood Dr 6W	100.59-1-11.2	66 x 33
Sewer Pump Station	Groveland	5341 West Lake Rd 7W	100.35-1-13	55 x 30
Sewer Pump Station	Geneseo	5113 West Lake Rd 8W	91.68-1-17	39 x 33
Sewer Pump Station	Geneseo	5346 N Point Dr 9W	91.36-1-20	33 x 33
Sewer Pump Station	Geneseo	4637 Westwood Dr 10W	82.76-1-9	47 x 44
Sewer Pump Station	Geneseo	4257 West Lake Rd 12W	83.37-1-16.2	35 x 63
Sewer Pump Station	Livonia	4007 Graywood Ctr 13W	74.69-1-3	31 x 30
Sewer Pump Station	Livonia	3876 Grayshores Rd 14W	no tax ID	
Sewer Pump Station	Conesus	5756 Mariners Dr 1E	110.55-1-60	35 x 42
Sewer Pump Station	Conesus	5926 E Lake Rd 2E	110.39-1-12.1	30 x 27
Sewer Pump Station	Conesus	5650 E Lake Rd 3E	101.-1-96.3	30 x 25
Sewer Pump Station	Conesus	5506 E Lake Rd 4E	101.46-1-8	7 x 31
Sewer Pump Station	Conesus	5289 E Lake Rd 5E	92.78-1-17	35 x 35
Sewer Pump Station	Livonia	5158 E Lake Rd 6E	92.62-2-2	50 x 24
Sewer Pump Station	Livonia	5765 McPherson's Pt 7E	92.38-2-13	41 x 42
Sewer Pump Station	Livonia	4820 E Lake Rd 8E	83.79-2-1.2	33 x 25
Sewer Pump Station	Livonia	5719 Old Orchard Pt 9E	83.54-2-28	25 x 45
Sewer Pump Station	Livonia	4440 E Lake Rd 10E	83.31-2-13	48 x 12
Sewer Pump Station	Livonia	4088 E Lake Rd 11E	74.48-1-7.2	33 x 32
Sewer Pump Station	Lakeville	3562 Camp Run 12E	65.81-1-36	10 x 50
Sewer Pump Station	Mt Morris	3098 Mt Morris -Geneseo Rd	106.-1-16.2	73 x 150
Sewer Pump Station	Mt Morris	3229 Mt Morris - Geneseo Rd	98.-2-1.12	329 x 138
Sewer Pump Station	Groveland	7546 Groveland Station Rd	136.17-1-11.2	40 x 60
Sewer Pump Station	Conesus	6170 East Lake Rd	110.-1-20.117	40 x 40
Sewer Pump Station	Conesus	6265 Mill Street	110.-1-16.123	32 x 59
Sewer Pump Station	Conesus	6295 North Street	111.17-1-11.2	50 x 50
Sewer Pump Station	Conesus	6042 South Livonia Rd	111.-1-76.2	
Driveway	Livonia	Longview Blvd.	74.-1-5.215	50 x 680



Livingston County Water & Sewer Authority

1997 D'Angelo Drive
P.O. Box 396
Lakeville, NY 14480
Phone: (585) 346-3523
Fax: (585) 346-0954
www.lcwsa.us

Appendix 2 – LCWSA Consolidated 2026 Budget

Livingston County Water & Sewer Authority

1997 D'Angelo Drive, PO Box 396

Lakeville, New York 14480

Consolidated 2026 Budget

	2026 Proposed			2026 Prop. 2025 Adopted	2025 Projected			2025 Adopted			2024 Actual			2023 Actual		
	Sewer	Water	Total		Sewer	Water	Total	Sewer	Water	Total	Sewer	Water	Total	Sewer	Water	Total
Revenues																
Water/Sewer Service Fees	2,192,797	2,257,936	4,450,733	3.8%	2,000,588	2,050,758	4,051,346	2,154,633	2,134,336	4,288,969	2,094,782	1,913,711	4,008,493	2,049,141	1,696,317	3,745,458
Wholesale Water Sales	-	180,000	180,000		-	206,000	206,000	-	180,000	180,000		172,924	172,924		197,008	197,008
Permits	15,000	40,000	55,000		80,000	15,000	95,000	15,000	40,000	55,000	65,190	61,220	126,410	64,204	63,348	127,552
O&M Services	26,350	-	26,350		23,000		23,000	23,460	-	23,460	23,230	-	23,230	23,000	-	23,000
Late Fees	30,138	32,201	62,339		24,008	16,914	40,922	29,886	30,641	60,527	15,380	35,413	50,793	23,080	33,604	56,684
Other Revenue	38,840	61,650	100,490		14,000	3,000	17,000		69,140	69,140	15,000	24,111	39,111	14,671	94,143	108,814
Total Revenues	2,303,125	2,571,786	4,874,912	4.2%	2,141,596	2,291,672	4,433,268	2,222,979	2,454,117	4,677,096	2,213,582	2,207,379	4,420,961	2,174,096	2,084,420	4,258,516
Expenses																
ADMINISTRATION																
Salaries & Benefits	339,783	386,866	726,649		322,947	376,073	699,020	322,947	376,073	699,020	371,495	430,681	802,176	379,831	296,098	675,929
Professional Services	147,307	145,648	292,955		149,413	175,422	324,835	149,413	175,422	324,835	158,943	161,186	320,129	127,081	106,081	233,162
Utilities	2,645	3,055	5,700		2,633	3,067	5,700	2,633	3,067	5,700	661	767	1,428	638	619	1,257
Equipment Expense	4,083	4,717	8,800		4,133	4,812	8,945	4,133	4,812	8,945	2,152	2,497	4,649	744	723	1,467
Building Expense	15,358	17,742	33,100		16,492	20,808	37,300	16,492	20,808	37,300	9,188	10,657	19,845	6,145	6,244	12,389
Vehcile Expense	-	-	-		-	-	-	-	-	-			-	4	16	20
Other Expenses	11,725	54,295	66,020		11,460	54,176	65,636	11,460	54,176	65,636	24,391	29,524	53,915	19,272	22,229	41,501
Total Administration	520,902	612,322	1,133,224	-0.7%	507,078	634,358	1,141,436	507,078	634,358	1,141,436	566,830	635,312	1,202,142	533,715	432,010	965,725
TREATMENT																
Salaries & Benefits	512,287	55,292	567,579		516,287	74,454	590,741	516,287	74,454	590,741	339,129	35,370	374,499	286,324	42,009	328,333
Professional Services	-	-	-		55,000	-	55,000	55,000	-	55,000	150	-	150	-	-	-
Utilities	97,174	11,996	109,170		106,600	6,200	112,800	106,600	6,200	112,800	89,958	-	89,958	81,958	2,323	84,281
Purchased Water & Sewer	82,000	739,400	821,400		80,000	746,462	826,462	80,000	746,462	826,462	93,682	689,337	783,019	68,624	618,355	686,979
Equipment Expense	8,900	-	8,900		15,291	-	15,291	15,291	-	15,291	19,747	-	19,747	500	21	521
Building Expense	215,485	4,000	219,485		205,417	-	205,417	205,417	-	205,417	214,839	-	214,839	404,691	12,333	417,024
Other Expenses	5,150	5,250	10,400		7,725	3,940	11,665	7,725	3,940	11,665	35,287	-	35,287	9,204	206	9,410
Total Treatment	920,996	815,938	1,736,934	-4.4%	986,320	831,056	1,817,376	986,320	831,056	1,817,376	792,792	724,707	1,517,499	851,301	675,247	1,526,548
TRANSMISSION/COLLECTION																
Salaries & Benefits	546,006	636,073	1,182,079		477,483	564,831	1,042,314	477,483	564,831	1,042,314	476,684	553,155	1,029,839	484,990	317,341	802,331
Professional Services	5,065	15,125	20,190		5,253	19,077	24,330	5,253	8,642	13,895	26,493	6,368	32,861	52,758	13,360	66,118
Utilities	135,445	171,886	307,331		137,559	148,658	286,217	137,559	148,658	286,217	132,885	185,211	318,096	117,961	143,560	261,521
Vehicle Expense	32,248	37,252	69,500		32,939	37,212	70,151	32,939	37,212	70,151	26,274	32,966	59,240	24,735	(18,880)	5,855
Equipment Expense	43,236	69,489	112,725		17,981	25,274	43,255	17,981	25,274	43,255	12,155	19,527	31,682	17,086	18,811	35,897
Building Expense	85,138	197,942	283,080		62,144	159,876	222,020	62,144	159,876	222,020	142,284	306,006	448,290	350,870	268,717	619,587
Other Expenses	14,092	15,758	29,850		4,920	5,730	10,650	4,920	5,730	10,650	28,228	40,105	68,333	9,800	22,772	32,572
Total Trans/Collect	861,228	1,143,526	2,004,755	18.7%	738,279	960,658	1,698,937	738,279	950,223	1,688,502	845,003	1,143,338	1,988,341	1,058,200	765,681	1,823,881
Total Expenses	2,303,126	2,571,787	4,874,912	4.9%	2,231,677	2,426,072	4,657,749	2,231,677	2,415,637	4,647,314	2,204,625	2,503,357	4,707,982	2,443,216	1,872,938	4,316,154
REVENUES less EXPENSES	(0)	(0)	(0)		(90,081)	(134,400)	(224,481)	(8,698)	38,480	29,782	8,957	(295,978)	(287,021)	(269,120)	211,482	(57,638)

Appendix 3 - LCWSA 2026 Sewer Rates

Livingston County Water & Sewer Authority
2026 Sewer & Water Rates
Effective 11/1/2025

	Sewer Service Rate Per Quarter					
	Service Rate Per Unit/Quarter			Service Rate Per 1,000 gals.		
	2025	2026	Inc/Dec	2025	2026	Inc/Dec
Lakeville WWTP (SL,SL1, SL91)						
Lakeville, Livonia Center, Hemlock, Conesus, Village of Livonia, Town of Avon (South of I390)	\$ 90.00	\$ 90.00	-	\$ 6.15	\$ 6.15	-
Village of Avon WWTP (SA)						
Avon/Lakeville, Pole Bridge Ext.	\$ 90.00	\$ 90.00	-	\$ 6.15	\$ 6.15	-
Groveland Station WWTP (SD)						
Town of Groveland/Groveland Station	\$ 105.00	\$ 110.00	5.00	\$ 7.15	\$ 7.25	0.10
Village of Mt Morris WWTP (SM)						
Town of Groveland (ARS) & Leicester	\$ 105.00	\$ 110.00	5.00	\$ 7.15	\$ 7.25	0.10
Town of Springwater						
Town of Springwater	\$ 90.00	\$ 90.00	-	\$ 3.50	\$ 4.00	0.50
Town of Springwater sewer only						
Town of Springwater sewer only	\$ 150.00	\$ 150.00	-			
Sewer Only Customers w/ no water (SL/SA)						
Lakeville WWTP Customers	\$ 115.00	\$ 120.00	5.00	\$ -	\$ -	-

**With the exception of the Town of Springwater each service unit charged shall equal 12,000 gallons of water used. Over 12,000 gallons, shall be charged the Service Rate per 1,000 gallons.*

	Water Service Rate Per Quarter					
	Service Rate Per Unit/Quarter			Service Rate Per 1,000 gals.		
	2025	2026	Inc/Dec	2025	2026	Inc/Dec
Hemlock Supply (WR)						
Town's of Conesus, Livonia, Geneseo, Groveland, Sparta	\$ 40.00	\$ 41.00	\$ 1.00	\$ 4.25	\$ 4.50	\$ 0.25
Village of Livonia	\$ 40.00	\$ 41.00	\$ 1.00	\$ 3.75	\$ 3.95	\$ 0.20
Wholesale				\$ 2.19	\$ 2.25	\$ 0.06
Avon Supply (WB, WA.)						
South Avon, Town of Caledonia WD #3	\$ 40.00	\$ 41.00	\$ 1.00	\$ 5.25	\$ 5.50	\$ 0.25
MCWA Supply (WC, TL)						
Town of Caledonia WD #1 & Town of Lima	\$ 40.00	\$ 41.00	\$ 1.00	\$ 5.25	\$ 5.50	\$ 0.25
Geneseo Supply (TLc)						
Town of Leicester	\$ 40.00	\$ 41.00	\$ 1.00	\$ 5.25	\$ 5.50	\$ 0.25
Town of Springwater						
Town of Springwater	\$ 40.00	\$ 41.00	\$ 1.00	\$ 3.50	\$ 3.95	\$ 0.45

Livingston County Water & Sewer Authority
2026 Capital and Debt Charges
Effective 11/1/2025

Some areas may have multiple charges

	Sewer Capital Charges					
	Capital Charge per Unit/Quarter			Capital Charge per 1,000 gallons		
	2025	2026	Inc/Dec	2025	2026	Inc/Dec
Lakeville WWTP (SL)						
Lakeville, Livonia Center, Conesus, Hemlock	\$ 26.25	\$ 27.50	\$ 1.25	\$ 1.00	\$ 1.35	\$ 0.35
Village of Livonia, Town of Avon-S I390 (SL1)	\$ 25.00	\$ 27.50	\$ 2.50			
Avon & Mt. Morris WWTP (SA, SM)						
Lakeville WWTP Customers	\$ -	\$ 2.50	2.50	\$ 0.25	\$ 0.50	0.25
Groveland Station WWTP (SD)						
Town of Groveland/Groveland Station	\$ 5.00	\$ 5.00	\$ -	\$ -	\$ -	\$ -
Sewer Only Customers w/ no water (SL)						
Lakeville WWTP Customers	\$ 30.00	\$ 45.00	15.00	\$ -	\$ -	-

	Water Capital Charges					
	Capital Charge per Unit/Quarter			Capital Charge per 1,000 gallons		
	2025	2026	Inc/Dec	2025	2026	Inc/Dec
Hemlock Supply (WR)						
Town's of Conesus, Livonia, Geneseo, Groveland, Sparta, Village of Livonia & Wholesale Customers	\$ 9.00	\$ 10.00	\$ 1.00	\$ 0.35	\$ 0.55	\$ 0.20
Outside Supply (WB, WC, WA, TL)						
South Avon (AKZO), Town of Caledonia WD #1 & WD #3, Town of Lima	\$ 9.00	\$ 10.00	\$ 1.00	\$ 0.35	\$ 0.55	\$ 0.20

	Sewer Debt Charges			
Town of Groveland (ARS), Leicester (SM)				
Town of Avon, South of I390 (SL1)	15.00	15.00	-	Livingston Co. Project reimb (LCS8-D) & (LCS10-D)
Avon/Lakeville, Polebridge Ext. (SA)				
Hemlock - Out of district users only (SL)	57.00	57.00	-	Town of Livonia Bond reimb (TLIV-SH-D)

	Water Debt Charges			
Scottsburg, out of district users (WR)	\$ 98.75	\$ 98.75	\$ -	Livingston Co. WR3-D
Town Groveland-Groveland Station (WR)	\$ 55.00	\$ 52.50	\$ (2.50)	WASA Capital WR10-D
Town of Leicester (TLc)	\$ 30.00	\$ 30.00	\$ -	Town of Leicester

Appendix 4 - Pump Station Photographs

Shaker Pump Station



Cipriano Foods Pump Station



Seneca Foods Pump Station



Brians Diner Pump Station



Appendix 5 – Engineering Report Certification



ENGINEERING REPORT CERTIFICATION

To Be Provided by the Professional Engineer Preparing the Report

During the preparation of this Engineering Report, I have studied and evaluated the cost and effectiveness of the processes, materials, techniques, and technologies for carrying out the proposed project or activity for which assistance is being sought from the New York State Clean Water State Revolving Fund. In my professional opinion, I have recommended for selection, to the maximum extent practicable, a project or activity that maximizes the potential for efficient water use, reuse, recapture, and conservation, and energy conservation, taking into account the cost of constructing the project or activity, the cost of operating and maintaining the project or activity over the life of the project or activity, and the cost of replacing the project and activity.

Title of Engineering Report: LCWSA Leicester/Mt Morris Outbound Sewer PS Improvements

Date of Report 05/01/2026

Professional Engineer's Name: Eric Wies, P.E.

Signature: Eric Wies  Digitally signed by Eric Wies
Date: 2026.05.26 06:46:12 -04'00'

Date:



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