Livingston County
Water and Sewer Authority

Leicester/York Regional Water Supply Expansion
Engineering Report Amendment #1

Livingston County Water and Sewer Authority
1997 D'Angelo Drive
Lakeville, New York 14480
www.lcwsa.us

March 2024

DWSRF Project No. 19225

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INDEX

Executive Summary

This amendment recommends Scenario 7C and continues to achieve the objectives of the originally recommended, Scenario 1A. (NOTE: The original engineering report identified Scenario's 1, 1A, 2, 3, 4 and 5. This amendment recommends Scenario 7C. There are no scenarios 6-7B, as this title was selected in relation to prior internal planning processes.) Objectives of the project remain better quality water, increased capacity of water and rate stabilization amongst partners. In addition, the foundation for the project has been built on extensive intermunicipal collaboration. Scenario 7C extends these efforts as it continues to meet all the projects intended objectives and brings several additional municipal partners, which include the Village of Geneseo, Town of Geneseo, NYS Park, Recreation and Historic Preservation (Letchworth State Park) and Livingston County Nursing Home/County Campus. These additional partners allow the amended project to have a positive impact on more people that live, visit and work in our region, making the project a win-win for all parties involved.

Transmission Main

In comparison, Scenario 7C continues to upsize the pumping capacity of LCWSA to distribute more water from its Hemlock Lake (City of Rochester source) westward through the County. This is achieved by an additional pump to the existing LCWSA pump station (as opposed to constructing a new pump station in Lima) and replacing and upsizing existing LCWSA pipes, in addition to the planned transmission main system across the northern part of the service area. In total, the pipe installation for Scenario 7C is 134,900 linear feet (25.5 miles) as compared to Scenario 1A which was 157,425 linear feet (29.8 miles). See attached maps of both scenarios. Additional water capacity is also gained by incorporating surplus capacity from the Village of Geneseo Water Treatment Plant. This was not incorporated in Scenario 1A but provides for the distribution of existing surplus water from the plant as well as improving the interconnection and redundancy at the Village of Geneseo Water Treatment Plant.

Water Quality

Water quality remains a center piece to the project ensuring all customers, across all municipal boundaries, have access to safe drinking water. TTHM removal systems will be made at the existing Geneseo water tank as well as at the newly constructed Leicester water tank located in Letchworth State Park. This will greatly assist with addressing outstanding EPA administrative orders in both the Town of Leicester and Letchworth State Park, and reoccurring quality concerns in the Towns of York and Geneseo.

In addition, with Letchworth State Park as a new partner, the location of the Leicester water tank can be located just inside the Park providing better water pressure to Leicester residents and Park patrons. The proposed Leicester water tank would be upsized to 0.75 MG, providing additional fire flow capacity to Letchworth State Park and Town of Leicester.

With the additional partner of the Village of Geneseo, a TTHM removal system will also be installed in the Geneseo water tank (3 MG). This tank serves the Village of Geneseo, Town's of York, Leicester, and Geneseo, and Letchworth State Park.

Customer Gain

Based on the proposed project, the LCWSA system could gain an additional 185-230 customers that will help to offset some of the capital costs. This alternative also provides the ability of other Towns and Villages to connect to LCWSA in the future to create a larger customer base. Most notably, the proposed project will now provide potable drinking water to over 800,000 visitors annually to Letchworth State Park, 265 residents at the Livingston County Nursing Home and 700 employees at the County Campus.

Redundancy and Interconnections

This scenario creates a large looped system for LCWSA and the participating municipalities, with water flowing around the County to the North, as well as through existing transmission mains in the Central part of the County, meaning that many of the participating communities can have emergency backup supplies, alleviating some of the existing and potential water quality and quantity concerns in the County. The proposed project provides for a new larger transmission within the LCWSA distribution system, a larger interconnection between the Geneseo WTP/LCWSA system, as well as a new interconnection between the Avon WTP/LCWSA system and Mt. Morris/LCWSA system. These improvements provide for greater flow, redundancy, and interconnectivity amongst all participating municipalities, and provides a new source of water option for Letchworth State Park, Livingston County Nursing Home/County Campus and the Village of Mount Morris in lieu of their own treatment plant providing the opportunity to avoid significant capital cost of improvements at that facility.

Explanation of Project Comparison

The originally recommended project (the "Scenario 1A") was approximately $55,300,000 and installed ~29.8 miles of distribution/transmission main, constructed two water tanks and provided an additional 4MGD of drinking water. The originally submitted project included the participation of eight (8) municipalities and requested $22,120,000 in IMG grant funding. The project was ultimately awarded $5,000,000 in WIIA funding in 2022.

Following the limited grant award the project was further reviewed by the participating municipalities and revised (the "Scenario 7C) based on the subsequent grant award. As a result, the objectives of the project remain better quality water, increased capacity of water and rate stabilization amongst partners. In addition, the foundation for the project has been built on extensive intermunicipal collaboration. Scenario 7C extends these efforts as it continues to meet all the projects intended objectives and brings several additional municipal partners, which include the Village of Geneseo, Town of Geneseo, NYS Park, Recreation and Historic Preservation (Letchworth State Park) and Livingston County Nursing Home/County Campus. These additional partners allow the amended project to have a positive impact on more people that live, visit and work in our region, making the project a win-win for all parties involved.

The following is a summary comparison of the original project compared to the revised project:

- In total, the pipe installation for Scenario 7C is 134,900 linear feet (25.5 miles) as compared to Scenario 1A which was 157,425 linear feet (29.8 miles).
- In comparison, Scenario 7C continues to upsize the pumping capacity of LCWSA to distribute more water from its Hemlock Lake (City of Rochester source) westward through the County. Additional water capacity is also gained by incorporating surplus capacity from the Village of Geneseo water treatment plant (~1MGD). This was not part of Scenario 1A but provides for the distribution of existing surplus water from the Geneseo Water Treatment Plant through existing and new transmission and distribution systems as well as improving the interconnection and redundancy at the Village of Geneseo Water Treatment Plant.
- Scenario 1A included a new .50MGD water tank in Leicester and a new LCWSA 4MGD water tank. Scenario 7C includes the construction of a new .75MGD water tank in Leicester. LCWSA is currently constructing a new 3MGD water tank under a separate project, and it will be used to support the Regional Water Projects water demands. TTHM removal systems will be installed in all newly constructed water tanks. In addition, for Scenario 7C, TTHM removal system will be installed in the existing Village of Geneseo water tank which provides water to the partnering municipalities.
- Scenario 1A projected wholesale water rates for project partners to be $3.10 – $2.71 per 1,000 gallons. Scenario 7C projects wholesale water rates for project partners to be $3.53 – $2.35 per 1,000 gallons.
- Scenario 1A included partnerships with the Villages of Avon, Leicester, Mt. Morris, the Towns of Avon, Lima, Leicester, York, and Mt. Morris. Scenario 7C maintains the same partnerships for the project but includes the Village of Geneseo, Town of Geneseo, NYS

Parks (Letchworth State Park) and the Livingston County Nursing Home/County Campus as additional partners.

The following is a detailed explanation of the project revisions. These revisions coordinate with the attached map:

- **A and B** (New Lima PS and transmission line) are replaced by **J, AA, K, Y and Z** (Upgrade to Hemlock PS, replacement and upsize of transmission line along Big Tree Rd, East Ave., Summers St. and Livonia Center Rd) and **N and O** (Improvements to the Village of Geneseo Water Plant and interconnection to increase pumping capacity and volume to plant, and TTHM removal system installed for the Village of Geneseo water storage tank (3MG)). These revisions achieve the same outcomes as the originally proposed project by ensuring increased access and availability of additional water capacity to the impacted communities and the region. These revisions also include the addition of the Village of Geneseo and Town of Geneseo as partners.
- **C** (New LCWSA 4MG water storage tank) is replaced by a new LCWSA 3MG water storage that is currently under design and covered under Project No. 18746. Project No. 18746 was originally intended to be a 2MG tank but has been increased to 3MG to provide additional water storage for regional partners.
- **W** (Water transmission lines along Bronson Hill Rd., Poplar Hill Rd. and S. Lima Rd.) remain the same as the originally proposed project but will be fed from the Hemlock PS and new LCWSA water storage tank instead of the Lima PS.
- **D** (Town/Village of Avon interconnection and Avon water storage tank improvements) is replaced with **L** (which is just the Town/Village of Avon interconnection). The Avon water storage tank improvements will be completed under a separate project currently under design by the Village of Avon, Project No. 19550.
- **E** (River Rd. transmission line) is replaced by **M** (Rt. 256 transmission line) which will connect to existing LCWSA infrastructure to provide increased volume to the Village of Geneseo Water Plant for distribution to the impacted communities.
- **X** (River Rd. transmission main) will remain the same as the originally proposed project. **U** (additional transmission main) will be added to provide residents that do not have water due to the impacts of the salt mine collapse.
- **V** (New York PS) remains the same as the originally proposed project.
- **F** (River Rd. North water transmission main) is replaced by **P** (Rt. 63/20A transmission main) providing a water supply connection to the Town of Leicester which is an impacted community.
- **G** (New 0.50MG Leicester water storage tank – replacing the existing 0.45MG water storage tank) remains the same as the originally proposed. The location, however, will change to **S** (inside Letchworth State Park) and the tank will be upsized to 0.75MG. The new tank will also include a TTHM removal system and will support the Town of Leicester and Letchworth State Park; both currently have EPA Administrative Orders for high TTHM.

- **I** (Rt. 36 transmission main) and **H** (Maple Beach PS improvements) are replaced by **R** (River R. South and Park Rd. transmission mains) as they will provide water to the Village and Town of Mt. Morris. **R** will also provide water to Letchworth State Park to address current water quality and fire flow issues.
- **Q** (piping improvements) combined with **R** will provide two (2) separate 12-inch redundant water transmission main connections to the Town and Village of Mt. Morris.
- **T** (Murray Hill transmission main) is an addition to the project that will provide water to the Livingston County Nursing Home to address current water quality and fire flow issues.

3.1 Source Alternatives

Hemlock Pump Station (LCWSA) Expansion

The existing Hemlock pump station is capable of delivering up to 3.0 mgd. In 2016 the station was upgraded to include new pumps capable of delivering enough flow to provide the required supply to the Town of Groveland and DOCCS. Since the upgrade, the actual demand from the DOCCS site has been significantly lower than expected, leaving some extra capacity for additional users in the existing system.

However, in order to supply flow to the regional water project and accommodate growth through 2050, the LCWSA will need to increase the capacity of the Hemlock pump station. This will be accomplished with the installation of a 5th pump and internal piping modifications.

The proposed estimate for an upgrade at the current pump station adding an additional 1 mgd is $1,000,000.

Village of Geneseo WTP Improvements

Piping changes and upsizes will be made to the Village of Geneseo/LCWSA interconnection at the Geneseo WTP to provide an additional 0.50 mgd capacity to connect to the public water system and cover peak consumption times of the year. A permanent backup generator will be installed at the Geneseo WTP and upsizing and additional spare pumps will be purchased for redundancy and continuous uninterrupted water service to the impacted areas.

The proposed estimate for the Geneseo WTP improvements is $800,000.

3.2 Transmission Alternatives

Northern Transmission Main

With the increased source capacity required in the County, and the existing infrastructure already in place, additional and larger diameter pipes will be required to convey water from the East side of the County to the West side. New transmission mains will be constructed to push water through the northern part of the County, through the Town of Livonia, along S. Lima Rd., Bronson Hill Rd., Poplar Hill Rd., Livonia Center Rd., and NYS Rt. 256 eventually connecting to the Geneseo WTP. The new transmission mains would be approximately 8.8 miles and would convey water to the Village of Geneseo WTP for conveyance to residents of the West side of the County.

The proposed estimate for a combination of 8" and 12" transmission mains is $6,440,000.

Craig Road, River Road & York Road Water Main

New water mains installed in the Town of York along Craig Rd., River Rd. and York Rd., providing approximately 10 residences with access to public water. Currently these residents have no water or non-drinkable water from private well systems. Collectively, the water lines will be approximately 3.2 miles long, consisting of 4" pipe.

The proposed estimate for the 4" water main is $1,700,000.

Geneseo & Leicester – NYS Rt. 63 & 20A Transmission Main

A new transmission main will be installed in the Town of Geneseo and Town of Leicester along NYS Route 63 and 20A that will connect the Village of Geneseo water system to the Town of Leicester. The transmission main will be approximately 3.5 miles long, consisting of 12" pipe. This will provide a primary supply of water to the Town of Leicester and Letchworth State Park.

The proposed estimate for the 12" transmission main is $2,700,000.

River Road and Park Road Transmission Main

A new transmission main will be installed from NYS Route 20A along south River Rd. in Leicester to Park Rd. into the entrance of Letchworth State Park. This transmission main will be approximately 4 miles long, consisting of 12-inch pipe. The River Rd/Park Rd. transmission line would then connect to the Leicester water storage tank just inside Letchworth State Park and will serve as the primary water storage for the Town of Leicester and Letchworth State Park.

The proposed estimate for the 12" transmission main is $3,105,000.

Livingston County Nursing Home Transmission Main

Currently the Livingston County Nursing Home is located adjacent to the Livingston County Campus and receives water from the Village of Mt. Morris (Silver Lake). Livingston County is

faced with replacing an existing 1930's vintage 500,000 gal. water tower and a similar vintage water main that connects the County campus to the Village of Mt. Morris distribution system. A new 8" water transmission main will be installed along the Genesee Valley Greenway to the Livingston County Center for Nursing and Rehabilitation and Livingston County Campus. This transmission main will be approximately 0.6 miles long, consisting of 8" pipe as would serve as the primary source of water for the County campus. This transmission main would provide adequate fire flow to the campus, allowing the County to decommission the water tower. Also, the transmission main and pump station that currently feeds the Livingston County campus would stay in service but in stand-by status as an emergency redundant connection if needed.

The proposed estimate for the 8" transmission main is $990,000.

Village of Geneseo Water Tank Improvements

A TTHM removal system will be installed in the 3 mgd water storage tank that will serve the Towns of York, Leicester, Geneseo and Village of Geneseo and Letchworth State Park. This will ensure the best water quality for the impacted areas.

The proposed estimate for the water tank improvements is $600,000.

New Leicester Tank

In the existing water system, both the Village and Town of Leicester each have an existing water storage tank. Each of the tanks are near the end of their useful life and will either need to be replaced or rehabbed in the next few years. The two tanks combine for approximately 450,000 gallons of storage to serve their community. As part of this project, the two tanks could be taken out of service and replaced by a single tank. This new tank would also be able to serve the current Village and Town customers as well as new areas of the Town of Leicester.

Replacing the existing Leicester water storage tanks with a new 0.75 MGD water storage tank would be located on Park Rd. just inside the Letchworth State Park entrance. Constructing a tank within Letchworth Park at a higher elevation would provide better hydraulic coverage for the Town of Leicester and Letchworth State Park customers. A TTHM removal system will be included as part of tank construction.

The proposed estimate for a 0.75 mg water tank is $1,600,000.

Mt. Morris Master Meter Interconnection

A new master meter will be installed, and some minor pipe improvement will be made at LCWSA pump house that feeds into the Town of Mt. Morris. This connection, once operational, will allow the Town of Mt. Morris to receive Hemlock water from the LCWSA interconnection. This will also allow for an emergency supply connection to the Village of Mt. Morris.

The proposed estimate for the interconnection is $200,000.

Avon-LCWSA Interconnection

Upsizing of South Lima Rd. from 12" to 16" and Poplar Hill Rd. from 8" to 12", and additional piping will be installed at the South Lima Rd. transmission main to connect the Village/Town of Avon water distribution system to the LCWSA distribution system. Currently the Village of Avon WTP has no redundant interconnection or source of supply. In addition, the Avon WTP is current at the required peak daily demand for the area is serves. This connection, once operational, will allow the Village to receive Hemlock water from the LCWSA interconnection for additional source of supply.

The proposed estimate for the interconnection is $1,210,000.

East Ave. & Summers Street Water Main Replacement

Replacing an existing 6" asbestos cement (AC) pipe (circa 1950's) in the Village of Livonia along East Avenue and a section of 8" cast iron pipe (circa 1960's) along Summers Street with 12" water main will provide additional water flow to the Northern transmission mains along Popular Hill Rd. and South Lima Rd. The additional flow provides adequate water needed to provide an additional 1 mgd to the Geneseo WTP through the LCWSA-Geneseo interconnection.

The proposed estimate for the water main replacement is $1,410,000.

Big Tree Transmission Main Improvement

Replacing 18,500 feet of existing 10" asbestos cement (AC) transmission main (circa 1950's) in the Town of Livonia that connects the Hemlock pump station to the LCWSA consolidated water district, is one of two main transmission mains supporting all LCWSA customers. The other 20" PVC transmission main was installed in the mid-1990's. Replacing the current 10" AC transmission main with a 12" main would provide needed redundancy and extra water capacity.

The proposed estimate for the water main is $2,775,000.

New York Pump Station

The Town of York currently requires a pump station that increases the hydraulic grade of water after crossing underneath the Genesee River. The existing pump station that provides water from the Village of Geneseo is at the end of its useful life and is currently being considered for a capital project by the Town of York. As part of this project, the pump station will be replaced to ensure reliable supply to the customers in the Town of York, including industries and major dairy operations.

The proposed estimate for this pump station is $1,000,000.

5. Recommended and Selected Alternatives

Capital Cost – This project provides enough capacity for growth and expansion of the LCWSA and interconnected water systems. As part of the proposed project there will be less required in the future to provide more capacity and less needs to make significant capital costs in the future.

Rate Stabilization – Multiple communities will have the opportunity to connect to the LCWSA water system, providing them with the most stable rates of any water provider in the County. Over the past 10 years, LCWSA rates have increased less than 10%.

Water Rates – Water Rates per 1,000 gallons for the project are projected to be between $2.45 and $3.00, depending on the number of wholesale customers connecting to the LCWSA system. Whether at the high end or low end of the range, each community connecting to the LCWSA system will see savings in their annual water cost.

Customer Gain – Based on the proposed project, the LCWSA system could gain an additional 185-230 customers that will help to offset some of the capital costs. This alternative also provides the ability of other Towns and Villages to connect to LCWSA in the future to create a larger customer base. Note, many of these customers have water quality issues due to their private wells in agricultural areas. In addition, during the summer months many homeowners rely on hauling water for use, as their wells run dry.

Redundancy and Interconnections – This project creates a large looped system for LCWSA and the participating municipalities, with water flowing around the County to the North, as well as through existing transmission mains in the Central part of the County, meaning that many of the participating communities can have emergency backup supplies, alleviating some of the existing and potential water quality and quantity concerns in the County. The proposed project provides for a new larger transmission main from the LCWSA Hemlock pump station, and larger interconnection between the Geneseo WTP/LCWSA system, as well as a new interconnection between the Avon WTP/LCWSA and Mt. Morris/LCWSA system. These improvements provide for greater flow, redundancy, and interconnectivity amongst all participating municipalities, and provides a new source of water option for Letchworth State Park, and the Village of Mount Morris in lieu of their own treatment plant providing the opportunity to avoid significant capital cost of improvements at that facility.

Capacity – By increasing the pipe sizes and interconnections this project gives the ability to provide more water capacity for existing deficits and future growth and development throughout the County. Towns and Villages like Avon and Lima that are not served by the LCWSA can connect for minimal capital costs. Capacity is also available for multiple economic development parks throughout the County.

Salt Mine Impact Area – This project provides public water to the remaining areas with private wells impacted by the collapse of the Salt Mine along Craig Road and River Road in the Towns of York and Leicester.

Local Project Upsizing – Based on the location of already planned Town and Village projects, this

project provides for some cost sharing on some of the alternatives, including water storage projects in Leicester, Letchworth State Park, Livingston County Center for Nursing and Rehabilitation and Livingston County Campus and transmission main projects in the Towns of Leicester, Geneseo and Lima and pump station project in the Towns of York.

Operational Complexity – This project is relatively simple operationally, by utilizing existing distribution systems and available surplus water capacity in combination with strategic distribution system improvements and upsizing in Livonia, Leicester, Geneseo and LCWSA. A new storage tank in Letchworth State Park and transmission main moving water across the County, limits the need for new equipment and hydraulic operations required by the staff at LCWSA. The project will also include upgrades at major system components, including the Geneseo WTP, and LCWSA and York pump stations to provide more reliability to customers. SCADA and controls at these facilities will be upgraded as well.

Water Quality – Water quality remains a center piece to the project ensuring all customers, across all municipal boundaries, have access to safe drinking water. TTHM removal systems will be installed at the existing Geneseo water tank as well as at the newly constructed Leicester water tank located in Letchworth State Park. This will greatly assist with addressing outstanding EPA administrative orders in both the Town of Leicester and Letchworth State Park, and reoccurring quality concerns in the Towns of York and Geneseo. This further builds on LCWSA's past efforts of installing five (5) new TTHM removal systems at various water tanks throughout the LCWSA system that will now contribute flow to the proposed project area.

Environmental Impacts – The proposed project will provide water supplied from two surface water sources to residents currently on wells tied into the impacted salt mine area, providing a safer and more reliable water supply. In addition, because of the allowable LCWSA water allocation from the City of Rochester source and available surplus water from Geneseo WTP, the potential capacity needs of the County can be met throughout the future. During construction, some mitigation will be performed to cross the Genesee River with transmission mains, as well as potential of construction through existing Agricultural districts.

Miscellaneous – The proposed project will also have the following benefits:

- Replacement of the water storage tanks in the Town of Leicester, Letchworth State Park and Livingston County Center for Nursing and Rehabilitation and Livingston County Campus, with a single tank. The existing tanks have reached the end of their useful life and have deficiencies noted by the Livingston County Department of Health.
- Letchworth State Park and Livingston County Center for Nursing and Rehabilitation and Livingston County Campus are additional partners in the project.
- The project will address inadequate pressures, below State standards, in portions of the existing system in the Village of Livonia.
- Eliminate the water quality issues specifically reducing levels of TTHM's in the Towns of Leicester, York and Geneseo and Letchworth State Park noted by EPA Administrative Orders, particularly during the warm summer months.

- The project is consistent with the findings outlined in the adopted 2020 Livingston County Comprehensive Water Supply Study.
- Addressed inadequate source capacity, as indicated earlier the majority of the WTP's that supply water to the areas exceed the maximum rated capacity during periods of the year.
- By providing the opportunity to eliminate the Mt. Morris WTP, or at a minimum supplement Mt. Morris with LCWSA and Geneseo water supply, the project will assist in addressing significant NYSDOH deficiencies identified related to the filtration and concerns related to the chlorine contact times.

Project Status

The follow is an update on the status of the project:

- Draft water supply agreements between all parties have been circulated and participating municipalities. It is expected that water supply agreements will be executed by June 2024.
- The County and Authority have a draft project management agreement for the access and use of the Akzo Settlement Funds. NYS DEC and OAG have both approved the use of Akzo Settlement Funds for the proposed project. It is expected that the project management agreement will be executed by June 2024.
- The Authority and NYS Parks have a draft agreement and finalizing terms for NYS Parks to join the project. It is expected that a formal agreement of terms will be executed by June 2024.
- A Request for Proposals (RFP) for design and construction inspection services has been drafted. Following the execution of the water supply agreements and project management, the RFP will be issued, and a design consultant selected. It is expected that design will begin October 2024.

Project Schedule

Based on the proposed project, the planned construction schedule is as follows:

Water Supply Agreements Approved	June 2024
Design Engineer Selection	July 2024 – September 2024
Design/Bidding	October 2024 – April 2025
Award & Submittal Review	May 2025 – July 2025
Construction	August 2025 – December 2027

*** It should be noted that LCWSA, with the support of its partners, intends to reapply for IMG funding in the June 2024 funding round, and will be willing to forfeit its current 2022 WIIA grant award for increased grant funding through the IMG program. LCWSA intends to postpone closing on the PFA until after the IMG 2024 grant awards are announced, however, will continue to proceed with development of the proposed project timeline.

LIVINGSTON COUNTY
REGIONAL WATER STUDY
SCENARIO 7C

ITEM	DESCRIPTION	ESTIMATED COST
J	Upgrade Hemlock (LCWSA) PS	$1,000,000
M, W, K	New LCWSA/Northern Transmission Main (8", 12" & 16")	$6,440,000
P	NYS Rt. 63 & 20A Transmission Main	$2,700,000
R	River Rd. & Park Rd. Transmission Main	$3,105,000
U, X	Craig Rd., River Rd. & York Rd. Water Main	$1,700,000
T	Nursing Home Transmission Main	$990,000
N	Geneseo WTP Improvements	$800,000
O	Geneseo Water Tank Improvements	$600,000
V	New York PS	$1,000,000
Q	Mt. Morris Interconnection	$200,000
L	Avon Interconnection	$1,210,000
Y, Z	East Ave. & Summers St. Main Replacement	$1,410,000
AA	Big Tree Transmission Main Replacement	$2,775,000
S	New Leicster Water Tank	$1,600,000

Subtotal =	**$**	**25,530,000**
Contingency (20%) =	$	5,106,000
Legal, Engineering, Administration (20%) =	$	5,106,000
Total Estimated Capital Cost =	**$**	**35,742,000**
Total Estimated Capital Cost (Rounded) =	**$**	**35,800,000**

LIVINGSTON COUNTY
REGIONAL WATER STUDY
SCENARIO 1A

ITEM	DESCRIPTION	ESTIMATED COST
A	New Lima PS (City of Rochester Source) (4MGD)	$2,500,000
B, W, E	Livonia Transmission Main 20"	$21,120,000
C	New LCWSA Tank	$1,000,000
V	New York PS (1MG)	$600,000
G	New Leicester Tank	$1,000,000
H	Maple Beach PS Upgrades	$750,000
I	Route 36 Connection	$2,772,000
F, X	River Road Transmission Main	$9,504,000
D	Village of Avon Papermill Connection	$2,376,000
L	Town of Avon Route 15 Connection	$910,000

Subtotal =		**$42,532,000**
Contingency (10%) =	$	4,253,200
Legal, Engineering, Administration (20%) =	$	8,506,400
Total Estimated Capital Cost =		**$ 55,291,600**
Total Estimated Capital Cost (Rounded) =		**$ 55,300,000**

Genesee County Phase 2 Improvements

Genesee County Phase 3 Improvements

Genesee County Water Resources Agency System

Monroe County Water Authority System

Monroe County

Genesee County

Uplands Supply Conduits

Ontario County

Wyoming County Water Resources Agency System

Wyoming County

South Lima Rd Water Main

Bronson Hill Water Main

York Water Main

Poplar Hill Water Main

Summer St Water Main

Rt. 256 Water Main

Livonia Center Water Main

Town of York Pump Station

Big Tree Water Main

East Ave Water Main

Rt. 63 Water Main

River Road Water Main

Hemlock Pump Station Improvements

LCWSA Leicester Tank

Mt. Morris Campus Water Main

Geneseo Tank Improvements

Geneseo WTP Improvements

Park Road Water Main

Mt. Morris Master Meter

MAP SHEET:

Scenario 7C

MAP TITLE:

Leicester/York Regional Water Supply Expansion

DATE PREPARED:

May 2, 2023

Livingston County

Legend

- County Boundaries
- Town Boundaries
- Villages
- Local Roads
- County Roads
- Interstate
- State Routes
- Major Streams
- Minor Streams
- Waterbodies
- Watermains
- Under design/Construction

N W E S

0 0.5 1 2 Miles

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Genesee County Phase 2 Improvements

Genesee County Phase 3 Improvements

Genesee County Water Resources Agency System

Monroe County Water Authority System

Monroe County

Uplands Supply Conduits

Genesee County

Ontario County

Wyoming County Water Resources Agency System

Wyoming County

Steuben County

Allegany County

Village of Caledonia

Town of Caledonia

Village of Avon

Town of Avon

Village of Lima

Town of Lima

Town of York

Village of Geneseo

Town of Geneseo

Village of Leicester

Town of Leicester

Village of Mount Morris

Town of Mount Morris

Town of Groveland

Town of Conesus

Town of Livonia

Town of Springwater

Town of Sparta

Town of West Sparta

Village of Nunda

Town of Nunda

Town of Portage

Village of Dansville

Town of North Dansville

Town of Ossian

Silver Lake

Conesus Lake

Hemlock Lake

Canadice Lake

Honeoye Lake

A
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AA

Scope Removed from the Project

Scope Added to the Project

Scope Remains Unchanged

MAP SHEET:

Scenario 7C

MAP TITLE:

Leicester/York Regional Water Supply Expansion

DATE PREPARED:

May 2, 2023

Livingston County

Legend

- County Boundaries
- Town Boundaries
- Villages
- Local Roads
- County Roads
- Interstate
- State Routes
- Major Streams
- Minor Streams
- Waterbodies
- Watermains
- Under design/Construction

N W E S

0 0.5 1 2 Miles

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NEW YORK STATE | Environmental Facilities Corporation

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: Leicester/York Regional Water Supply Expansion Engineering

Date of Report: 3/12/24

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

Signature: Eric Wies, PE

Digitally signed by Eric Wies, PE
DN: cn=Eric Wies, PE, o, ou=CPL, email=ewies@cplteam.com, c=US
Date: 2024.03.22 09:36:17 -04'00'

Date: 3/22/24

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P.O. Box 1849 • Henderson, KY 42419-1849 • TEL. (270) 869-9400 • FAX (270) 827-4417
http://www.watertank.com Email: sales@watertank.com

September 6, 2016

Mr. James Montesano
Working Foreman
Livingstone County Central Services
6 Murray Hill Drive
Mt. Morris, NY 14510
585-243-7505
585-243-7954 Fax
jmontesano@co.livingston.ny.us

Re: 6 Murray Drive, Geneseo, NY 14454

James,

We are pleased to provide you with a quotation to repair and recoat one (1) 350,000 gallon welded, elevated water tank.

Pittsburg has been serving the nation's tank needs for more than ninety years and our fully equipped and experienced crews specialize in all the services listed above in our letterhead. **We are a veteran owned company.**

We will furnish ten million dollars ($10,000,000) worth of insurance for our mutual protection.

To accept our proposal, just sign and return one (1) copy to our Henderson, Kentucky office.

Respectfully,
Pittsburg Tank & Tower Maintenance Co., Inc.

Patrick Heltsley
Vice President
270-869-9400 Ext. 4601
270-748-1325 Cell
270-767-6912 Fax
pheltsley@pttmco.com

Jennifer Frazier
Sales Account Executive
270-869-9400 Ext. 4612
270-285-2576 Cell
270-873-8302 Fax/Direct
jfrazier@pttmco.com

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DATE: September 6, 2016

TO: Livingstone County Central Services
6 Murray Hill Drive
Mt. Morris, NY 14510
EMAIL: jmontesano@co.livingston.ny.us

ATTN: Mr. James Montesano
Working Foreman
PHONE: 585-243-7505
FAX: 585-243-7954

Re: 6 Murray Drive, Geneseo, NY 14454

In accordance with price, terms and conditions quoted below, we propose to furnish all labor, material, equipment and insurance necessary to complete the following: **one (1) 350,000 gallon welded, elevated water tank:**

SCOPE OF WORK

Price	Work Proposed	Critical Deficiency	Non-Critical Deficiency	OSHA	Structural	Preventive Maintenance
By Owner	Install a fence. Post a **No Trespassing** and a **Warning, Tampering With This Facility is a Federal Offense** sign. Fence installation done by others.		X			
$800	Caulk around the base of the foundation connections.					X
$2,400	Remove all dirt, debris and loose gravel from the foundation. Repair any cracks and spalling in the concrete with a commercial, non-shrinking grout.					X
$600	Seal the foundation with a sealant.					X
$2,850	Electrically ground the tank for lightning protection.			X		
$3,800	Clean the area around the anchor bolts and tighten the anchor bolt nuts to specifications. Then weld around the circumference of the bolt-to-nut and nut-to-base plate connections to reinforce.					X
$3,285	Install a frost-proof drain valve complete with a locking device to prevent unauthorized draining of the tank and a splash pad to direct water away from the foundation.		X			
No Charge W/ Order	Post **Confined Space Entry** sign.			X		

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FAX: 585-243-7954

Re: 6 Murray Drive, Geneseo, NY 14454

SCOPE OF WORK

Price	Work Proposed	Critical Deficiency	Non-Critical Deficiency	OSHA	Structural	Preventive Maintenance
$400	Install maintenance free galvanized steel bolts.					X
$22,800	Extend the overflow down the exterior to grade with same size pipe, complete with standoffs every 10' on center and an elbow fitted with a flapper valve and screen and a splash pad to direct the water away from the tank foundation.		X			
$20,610	Install a compliant tower access ladder, complete with standoffs every 10' on center, a cable type ladder safety climb, a lockable ladder guard and post a **Fall Protection Required** sign.			X		
$6,000	Install climbing guards on all legs.					X
$9,800	Adjust the windage rods and riser stay rods as needed, to withstand 100 mph winds blowing from any direction. This should be done by an **EMERGENCY** basis.	X			X	
$13,200	Raise the existing handrail system to the required 42" then install an intermediate rail, cut out a section of the handrail the width of the tower access ladder—at the junction of the tower access ladder and structural girder and install the necessary bracing to keep railing at design strength, complete with a swing gate at the newly-created opening in the handrail at the junction of the tower access ladder and structural girder.			X		

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Re: 6 Murray Drive, Geneseo, NY 14454

SCOPE OF WORK

Price	Work Proposed	Critical Deficiency	Non-Critical Deficiency	OSHA	Structural	Preventive Maintenance
$6,250	Install 30” secondary shell manway 180° from primary manway.		X			
	Install davit slide on suggested secondary shell manway.		X			
	Post **Confined Space Entry** signs.			X		
$5,995	Install a liquid level indicator complete with a target board and float.		X			
$13,695	Install a compliant shell/roof ladder complete with standoffs every 10’ on center and a cable type ladder safety device.			X		
By Carrier	Relocate the antenna system.				X	
$8,800	Install a 42”high handrail system around the circumference of the tank roof, complete with toeboard, intermediate rail, and a swing gate at the junction of the shell-to-roof access ladder and tank roof.			X		
$4,500 Each	Replace existing roof manway with a 30” manway.		X			
	Install 30” secondary roof manway 180° from primary roof manway.		X			
	Post **Confined Space Entry** signs.			X		
$7,400	Replace the finial ball with a vacuum-pressure, frost proof vent and screen on an **EMERGENCY** basis.	X			X	

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Re: 6 Murray Drive, Geneseo, NY 14454

SCOPE OF WORK

Price	Work Proposed	Critical Deficiency	Non-Critical Deficiency	OSHA	Structural	Preventive Maintenance
	Re-evaluate the tank exterior coating system in 2-3 years.					X
$7,800 Each	Install compliant interior access ladders complete with standoffs every 10' on center and cable type ladder safety devices at the primary and suggested secondary roof manways.			X		
$5,950 Each	Install compliant interior bowl ladders complete with standoffs every 10' on center and a cable type ladder safety devices at the primary and suggested secondary shell manways.			X		
$16,850	Remount the roof using gusset plates approximately every 3' on center, then seam sealing using Sikaflex 1a around the circumference of the roof-to-shell connection to prevent the ingress of contaminants into the tank.					X
$4,600	Remove the spider rod assembly from the tank.		X			
$28,800	Install a GridBee mixing system. Electrical work to be completed by others.		X			
$2,500 No Charge W/ Interior Coating	Perform an out-of-service cleanout, up to 3" of sediment. This work should be performed on an **EMERGENCY** basis. Additional accumulation will be priced on site. The tank needs to be drained prior to our arrival.	X				
$17,800	Install a passive cathodic protection system.					X

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Re: 6 Murray Drive, Geneseo, NY 14454

SCOPE OF WORK

Price	Work Proposed	Critical Deficiency	Non-Critical Deficiency	OSHA	Structural	Preventive Maintenance
$4,950	Install a compliant safety grating, designed for fall protection, over the riser opening.			X		
$14,980	Install a compliant riser ladder complete with standoffs every 10' on center, a cable type ladder safety device.			X		
$124,285	Sandblast, SSPC-SP10 (near white), all rusted and abraded interior areas and brush blast, SSPC-SP7, all remaining interior areas. All areas sandblasted to a #10 as well as all weld seams will receive one (1) spot coat of Tnemec Series 22 epoxy primer and one full coat of Tnemec Series 22 epoxy liner will then be applied to the entire tank to achieve 8 to 10 mils of total dry film thickness. Total milage includes a combination of the existing and new coating.					X

Depending on the number of items accepted, prices may vary
Please refer to report for applicable codes.

- In the event interior and/or exterior complete tank repainting is not included in this scope of work, all new tank appurtenances furnished and installed by PTTM as part of this scope of work shall be field primed and finish coated to match existing coating system(s), unless specifically excluded from our scope of work. Color to match as close as possible.
- This quote does not provide for the shrouding or containment of blast media and paint.
- If necessary, Customer will be required to clear/move vehicles and equipment a safe distance from the job site to prevent damage and place physical barricades around the perimeter to restrict access.
- Warning: Do not attach any additional loading to your tank/tower unless structural integrity is known to be sufficient. For analysis call PTTM.
- All workmanship is guaranteed for twelve (12) months after completion.

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DATE: September 6, 2016

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ATTN: Mr. James Montesano
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PHONE: 585-243-7505
FAX: 585-243-7954

Re: 6 Murray Drive, Geneseo, NY 14454

TERMS

50% With Order; Balance Upon Completion OR Mutually Agreed Payment Terms

MasterCard, Visa and American Express are accepted, with prior authorization

The parties approving this contract certify that they are fully authorized to do so, and that all legal requirements have been complied with. You are hereby authorized to furnish all labor, material, equipment and insurance required to complete the work mentioned in the above proposal, for which the undersigned agrees to pay the amount mentioned in said proposal. OWNER / CONTRACTOR agree that the exclusive venue for any litigation arising out of or relating to this Agreement shall be in the Circuit Court of Henderson County, Kentucky and that this Agreement and any litigation arising thereunder shall be governed, construed and interpreted according to Kentucky law. In the event OWNER initiates any litigation against PTTM in contravention of this venue provision, OWNER shall pay PTTM's attorney's fees and costs incurred in obtaining a dismissal and transfer of the litigation to the proper venue in the Circuit Court of Henderson County, Kentucky. OWNER and PTTM hereby waive any right they may otherwise have to venue in a federal court including, but not limited to, any right arising under federal question or diversity jurisdiction

ALL QUOTATIONS SUBJECT TO ACCEPTANCE WITHIN 60 DAYS

Accepted: _____, 20_____ **Respectfully Submitted by:**

Livingstone County Central Services **PITTSBURG TANK & TOWER MAINTENANCE CO, INC.**

By:_____ **By:** _____

Title: _____ **Patrick Heltsley, Vice President**

Please visit our web site at www.watertank.com

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Terms & Conditions

1) Prior to start of work, Owner will be furnished a certificate of insurance covering Workman's Compensation, Occupational Disease, Employer's Liability, and General Liability.
2) If tank is to be drained prior to our arrival, it shall be drained by owner, if it becomes necessary to drain the tank while on site, it must be drained by the Owner/Customer
3) If needed a pressure release valve will be furnished during the cleaning and painting operation. Owner required to notify PTTM prior to mobilization if required.
4) In the event interior and/or exterior complete tank repainting is not included in this scope of work, all new tank appurtenances furnished and installed by PTTM as part of this scope of work shall be field primed and finish coated to match existing coating system(s), unless specifically excluded from our scope of work. Color to match as close as possible.
5) No paint shall be applied during wet, damp, or inclement weather.
6) All paint will be delivered to the job site in original containers with contents identified by the manufacturer.
7) If necessary, customer will be required to clear/move vehicles and equipment a safe distance from the job site to prevent damage and place physical barricades around the perimeter to restrict access.
8) Work to be performed using our standard wage scale with Open Shop personnel, by mechanics skilled in their trade.
9) All workmanship is guaranteed for twelve (12) months after completion.
10) Handling, removal, and/or disposal of hazardous or contaminated material (e.g., asbestos, lead, chemicals, heavy metals, etc.) requiring special handling or transportation to a specific disposal site are not included in the submitted quotation for work. Unless specifically included in our scope of work.
11) This quote does not provide for the shrouding or containment of blast media and paint.
12) Owner understands and agrees any Federal, State, and Municipal taxes imposed on Contractor with respect to the outlined work are additional expenses not included in the contract and further assumes the obligation of paying said additional costs incurred by Contractor.
13) OWNER / CONTRACTOR agree that the exclusive venue for any litigation arising out of or relating to this Agreement shall be in the Circuit Court of Henderson County, Kentucky and that this Agreement and any litigation arising thereunder shall be governed, construed and interpreted according to Kentucky law.
14) In the event OWNER initiates any litigation against PTTM in contravention of this venue provision, OWNER shall pay PTTM's attorney's fees and costs incurred in obtaining a dismissal and transfer of the litigation to the proper venue in the Circuit Court of Henderson County, Kentucky.
15) OWNER and PTTM hereby waive any right they may otherwise have to venue in a federal court including, but not limited to, any right arising under federal question or diversity jurisdiction.

_____ _____

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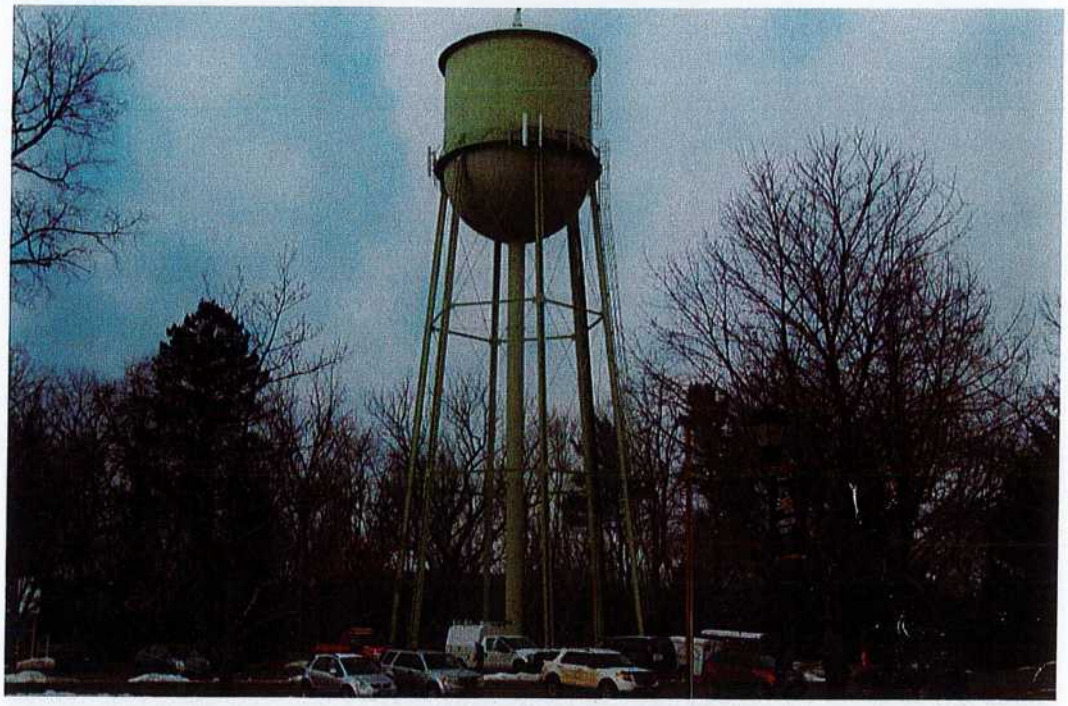


County of Livingston
1 Court Street, Rm B02
Geneseo, NY 14454
RE: 6 Murray Drive
350,000 Gallon EWT
March 4, 2016 & April 12, 2016
Mr. John Driscoll
S.C.S.
(585) 243-7505
Job No. 316029

STATE OF NEW YORK
CHI S. LEE
072951
LICENSED PROFESSIONAL ENGINEER

If you would like to speak with Patrick Heltsley concerning this report, call (270) 826-9000, Ext 253

For additional copies of this report call (270) 826-9000 Ext. 253

SINCE 1919

County of Livingston
RE: 6 Murray Drive
350,000 Gallon EWT

Photo shows the tank is not secured with fencing. We recommend fencing the area around the tank. We further recommend posting a **No Trespassing** sign and a **Warning, Tampering With This Facility is a Federal Offense** (US code title 42, section 300i-1) sign. Fence installation to be done by others.

Photo shows the condition of the foundations, which meet the height requirements of AWWA D100-11; 12.7.1: Foundations.

Photo shows the condition of the foundations. We recommend caulking around the base of the tank foundation connections to prevent water from entering.

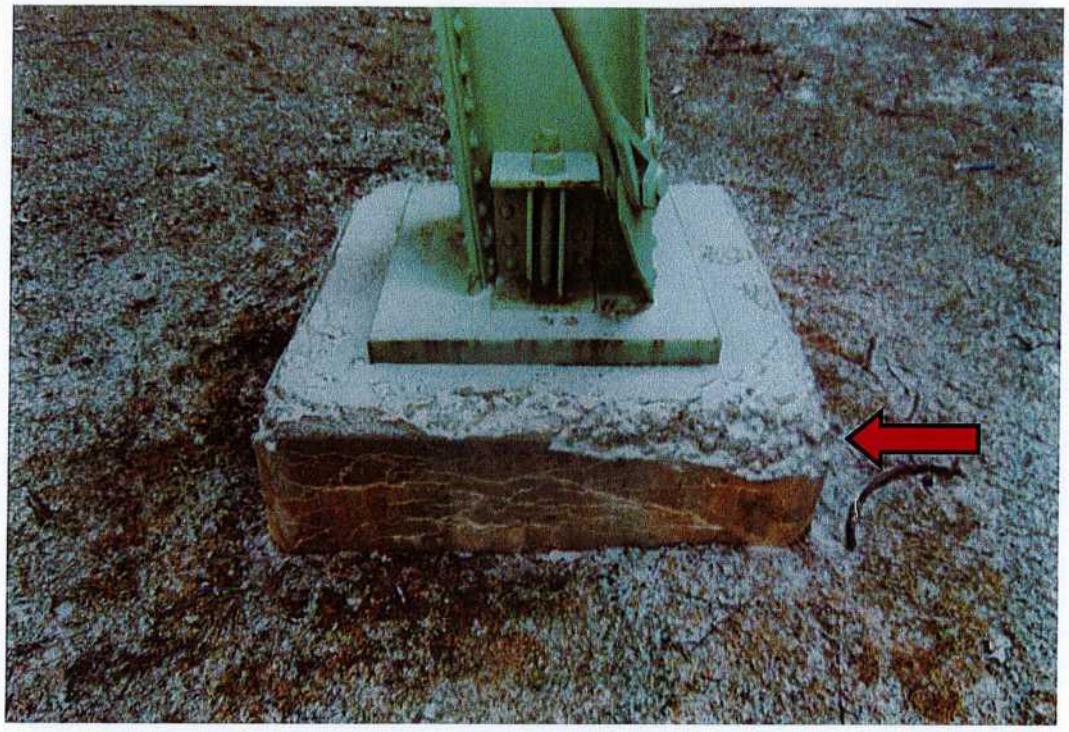


Photo shows the condition of the foundations. We recommend removing all dirt, debris and loose gravel from the foundations, repairing any cracks and spalling in the concrete with a commercial non-shrinking grout and sealing the foundations with a sealant.

Photo shows more of the tank foundation. We recommend electrically grounding the tank for lightning protection as required by OSHA Act 29 CFR 1926 (K).

Photo shows the condition of the anchor bolts. The structural integrity of the anchor bolts should be maintained to withstand 100 mph winds blowing from any direction as required by AWWA D100-11; 3.8: Anchorage. We recommend cleaning the area around the anchor bolts, tightening the anchor bolt nuts to specifications and welding around the circumference of the bolt-to-nut and nut-to-base plate connections to reinforce.

Photo shows the base of the riser pipe. Currently there is no riser drain valve. A drain valve performs two functions; it allows the tank to be drained and it is used as a blowout to remove silt and scale from the lower portion of the tank. We recommend installing a frost proof drain valve, complete with locking device to prevent unauthorized draining of the tank and a splash pad to direct water away from the foundation.

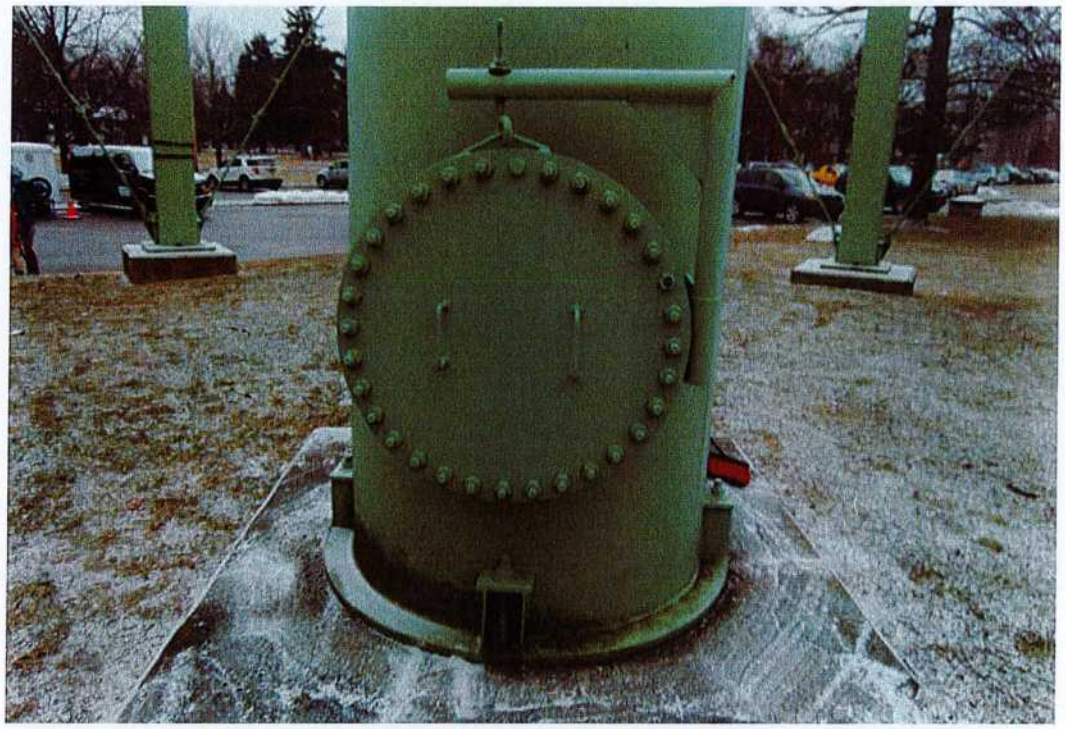


Photo shows the condition of the 24" riser manway. This manway meets the size requirements for AWWA D100-11: 5.4.4. We recommend posting a **Confined Space Entry** sign and installing maintenance free galvanized steel bolts.

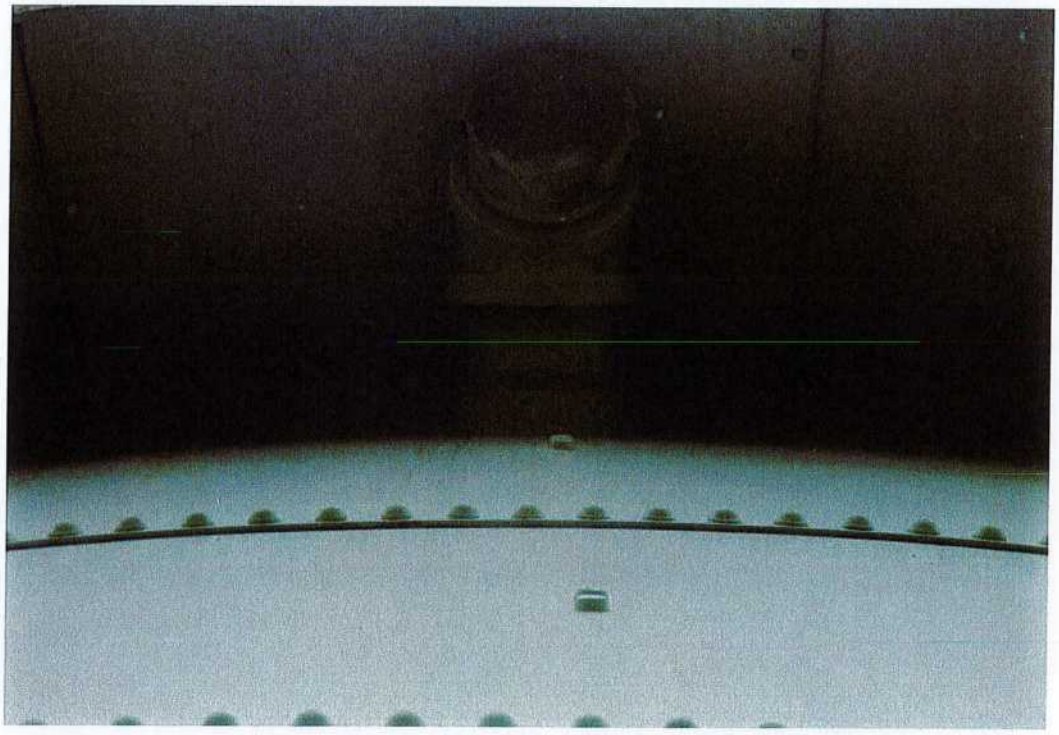
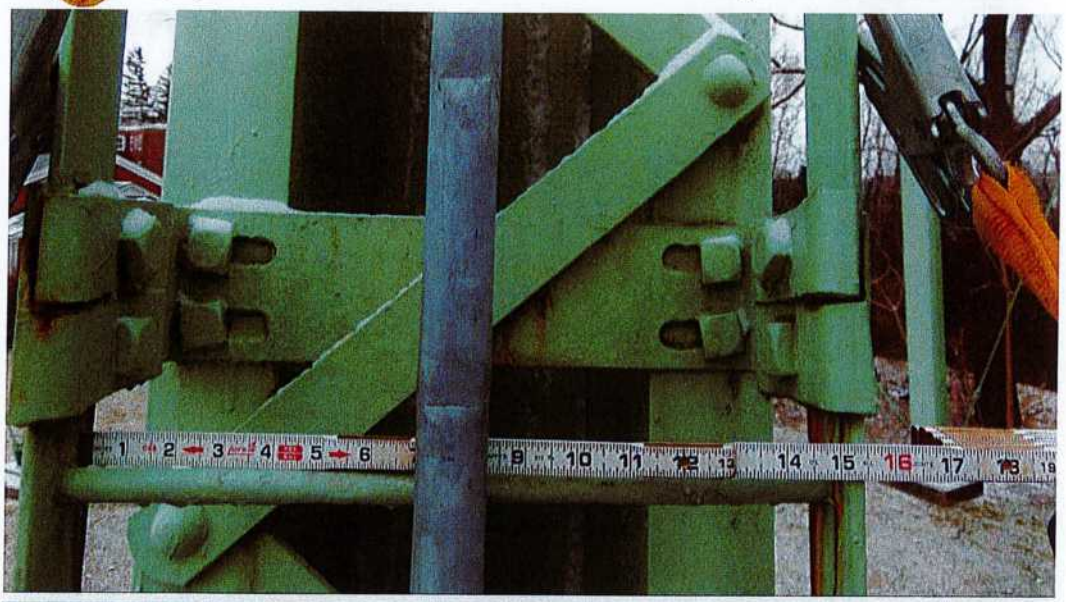


Photo shows the condition of the stub overflow pipe. The overflow pipe is not equipped with a flapper valve. We recommend extending the overflow down the exterior to grade with the same sized pipe, complete with standoffs every 10' on center, an elbow at the base fitted with a flapper valve and screen to prevent the ingress of contaminants into the water supply and a splash pad to direct water away from the foundation.



Tower access ladder in above photos is not equipped with anti-skid rungs and is 15" wide. **Notice the notched rail safety slide.** OSHA 1910.27 Ladders states, "Minimum clear distance between the sides of individual rung/step ladders and between the side rails of other fixed ladders must be 16" (41 cm)." OSHA 1910.27 states, "Rungs-must be corrugated, knurled, dimpled, coated with skid-resistant material or treated to minimize slipping." We recommend installing a compliant tower access ladder complete with standoffs every 10' on center, a cable type ladder safety device, a lockable ladder guard to prevent unauthorized access and posting a **Fall Protection Required** sign.

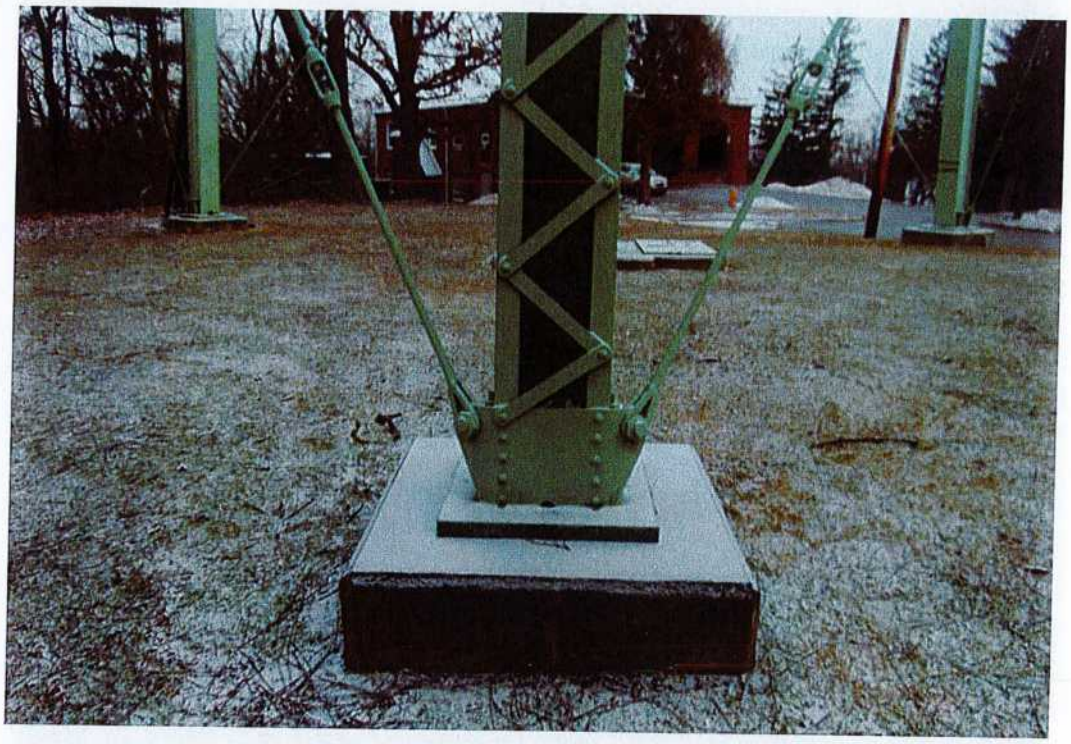


Photo shows the lattice legs. We recommend installing climbing guards on all legs to prevent unauthorized access.

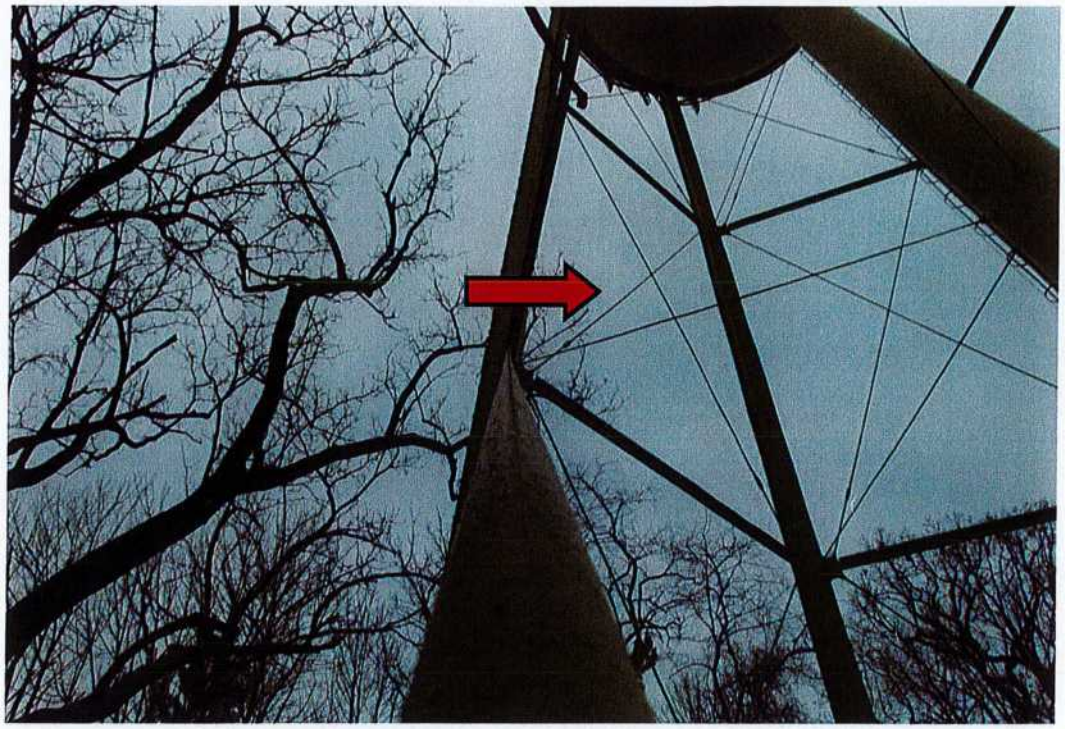


Photo shows the condition of the windage rods. The windage rods are designed to resist and stabilize the tower structure against wind and seismic loads combined with dead and live loads. The rods should withstand 100 mph winds blowing from any direction. **If the bracing remains loose, a sudden collapse could occur.** We recommend adjusting the windage rods as needed, to withstand 100 mph winds blowing from any direction, as required by AWWA D100-11; 3.1.4.

This work should be performed on an emergency basis.

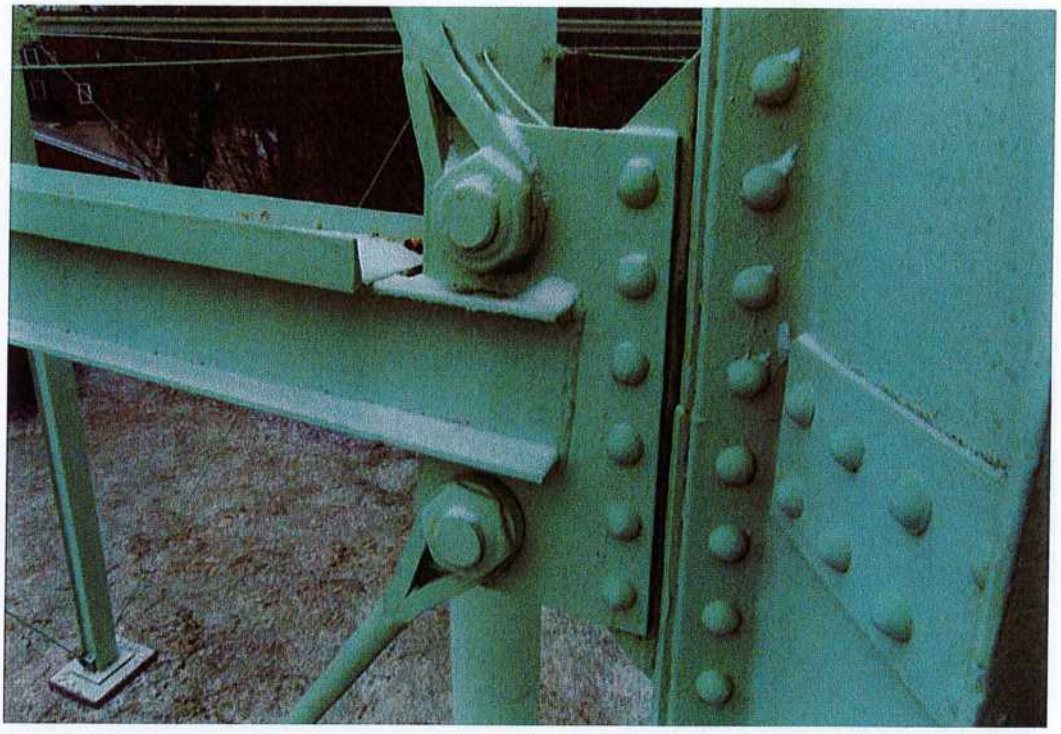


Photo shows the condition of the strut end connections. The strut ends appear to be in good condition.

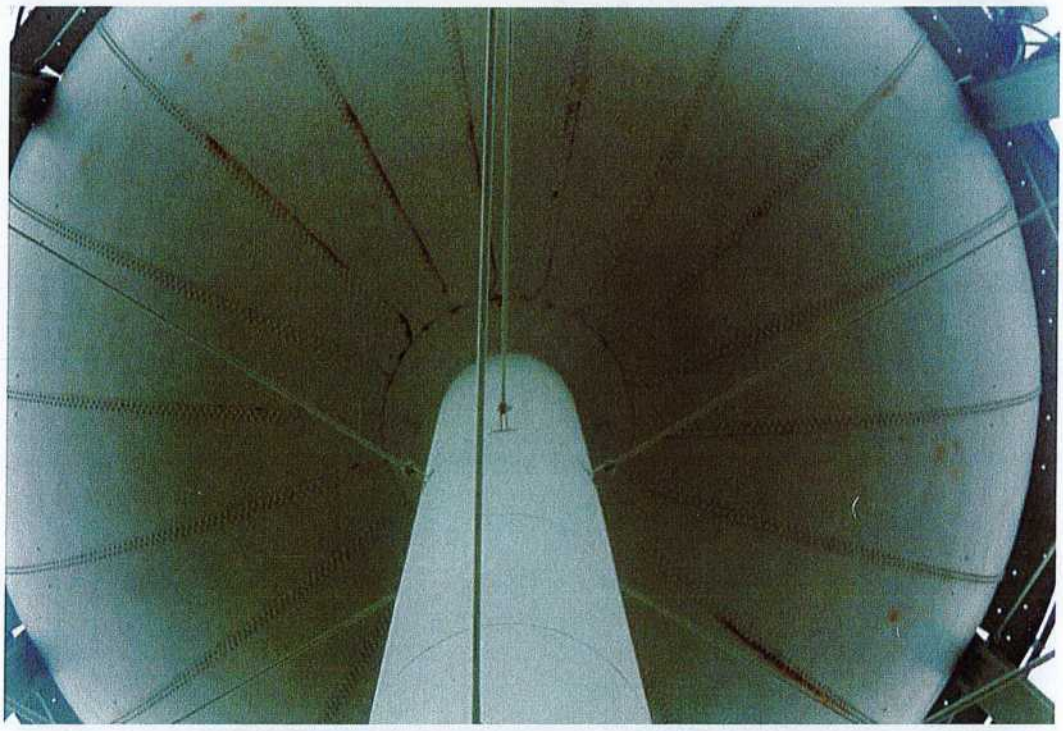


Photo shows the condition of the riser pipe and bowl connection, which appears to be in good condition.

Photos show the condition of the existing handrail system. The handrail is only 36" high and is not equipped with an intermediate rail and is not in compliance with OSHA 29 CFR 1910.23(e)(1). We recommend raising the existing handrail system to the required 42", installing an intermediate rail, cutting out a section of the handrail at the junction of the tower access ladder and structural girder, the width of the tower access ladder and installing the necessary bracing to keep railing at design strength, and installing a swing gate at the opening in the handrail at the junction of the tower access ladder and structural girder.

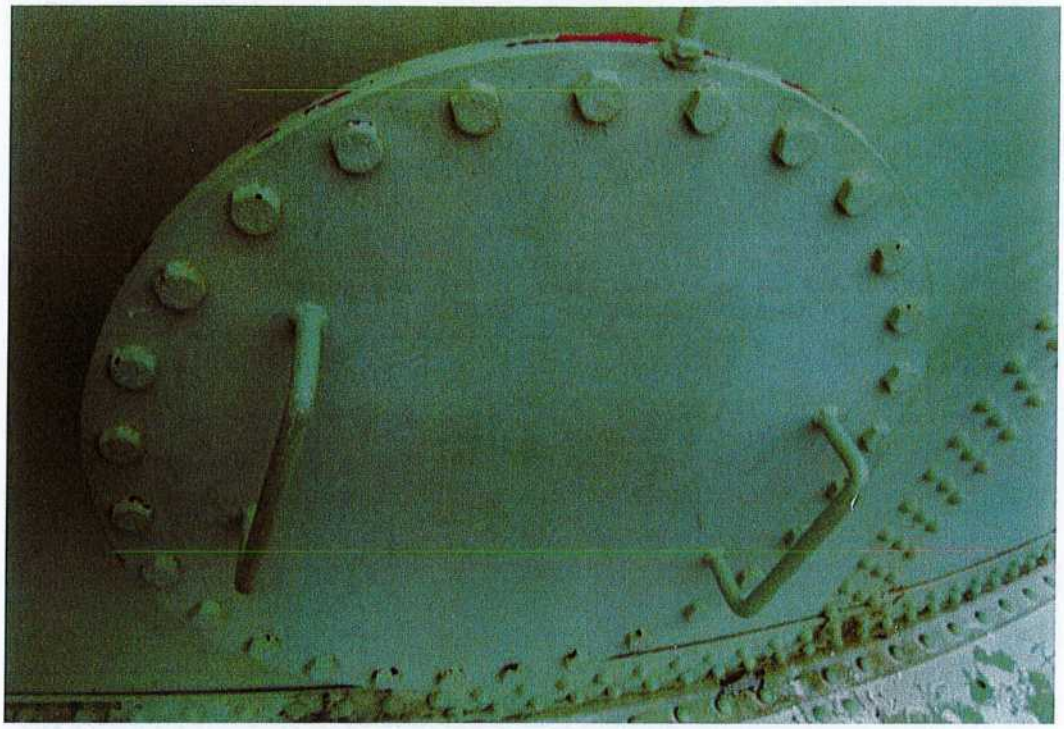


Photo shows the condition of the existing 24" shell manway. AWWA D100-11;7.4.4 states, "Two shell manholes shall be provided in the first ring of the shell." The following items are required to bring the tank into compliance with AWWA D100-11, 7.4.4 and OSHA 1910.146 (h)(5)(ii): Confined Spaces.

We recommend :

Install 30" secondary shell manway 180° from primary manway
Install davit slide on suggested secondary shell manway
Post **Confined Space Entry** signs

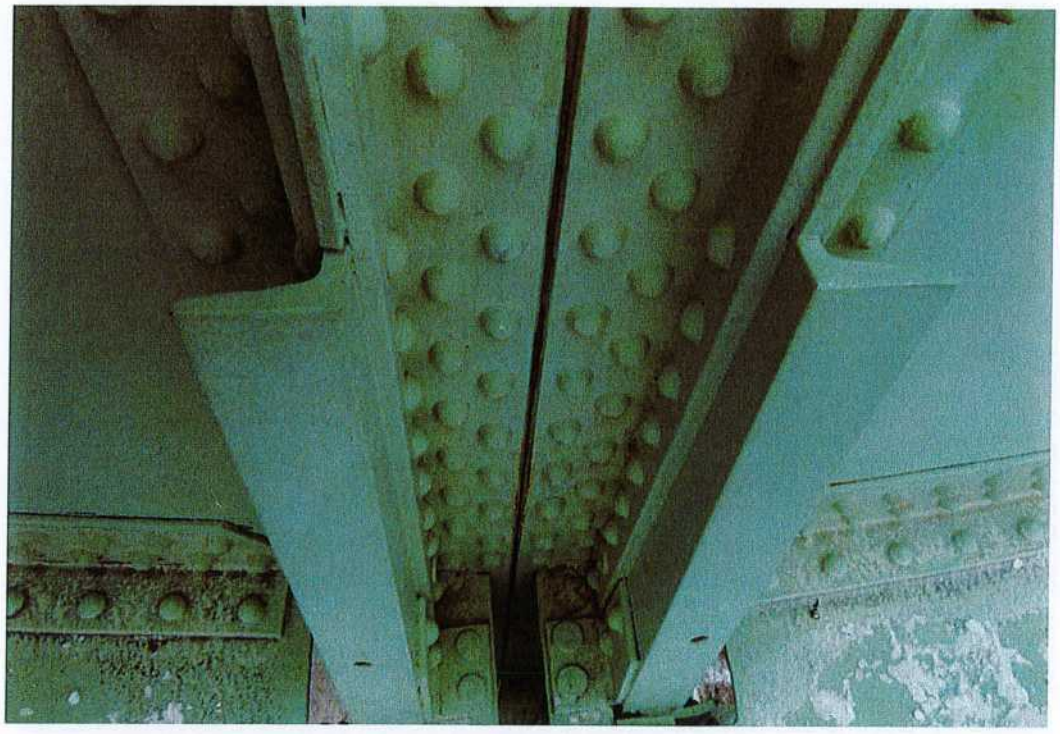


Photo shows the condition of the posthead connections. The postheads secure the column legs to the tank shell and support the tank's live and dead load. The postheads appear to be in good condition.

SINCE 1919

County of Livingston
RE: 6 Murray Drive
350,000 Gallon EWT

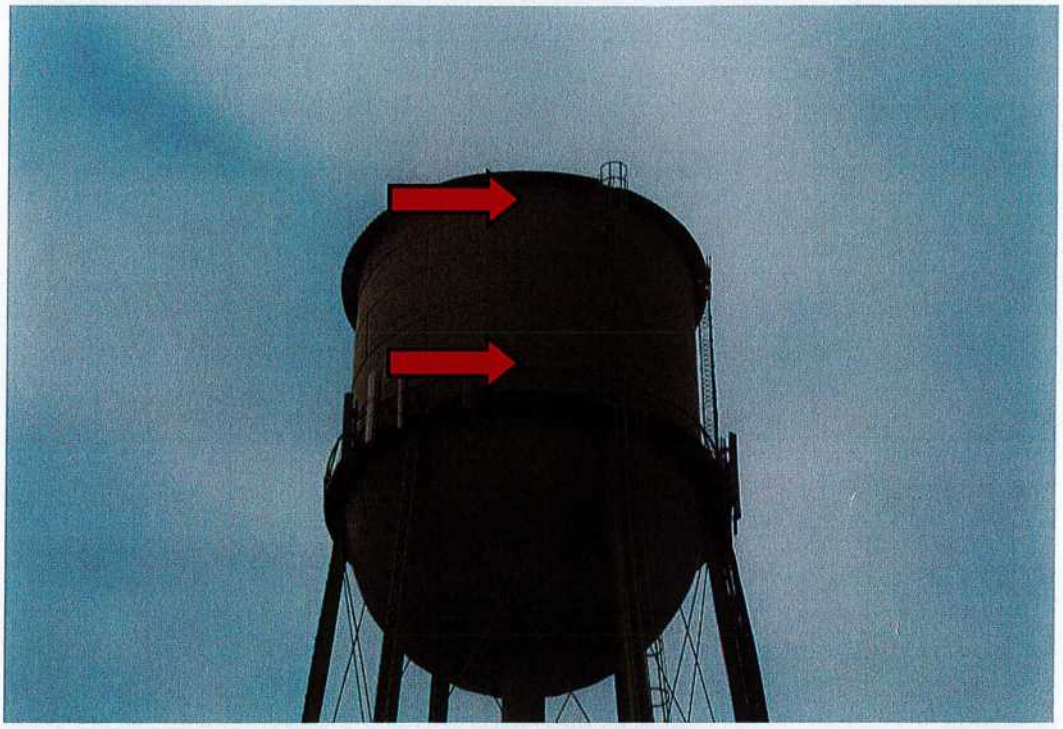
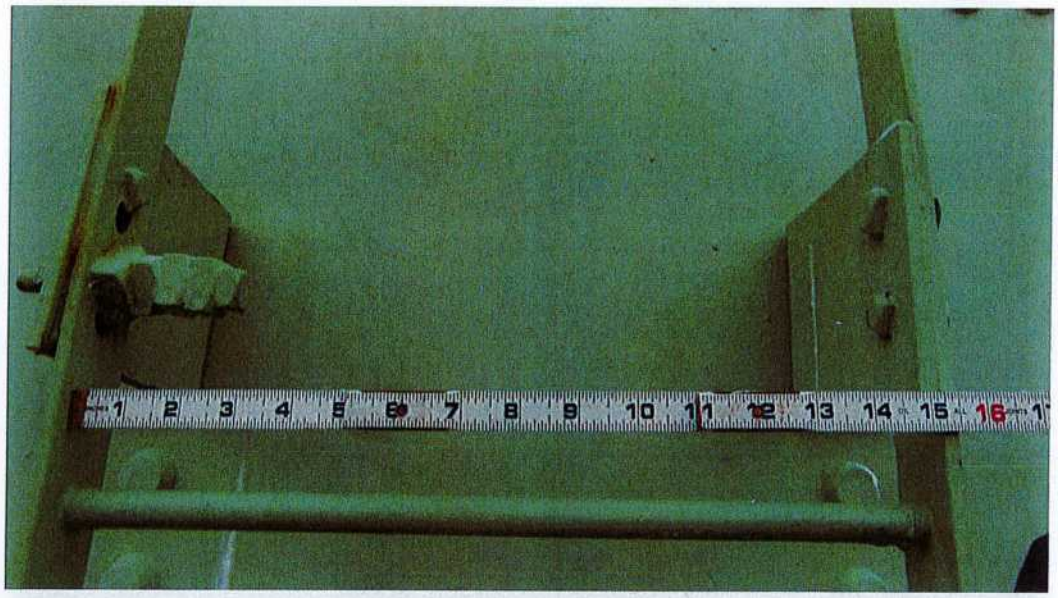
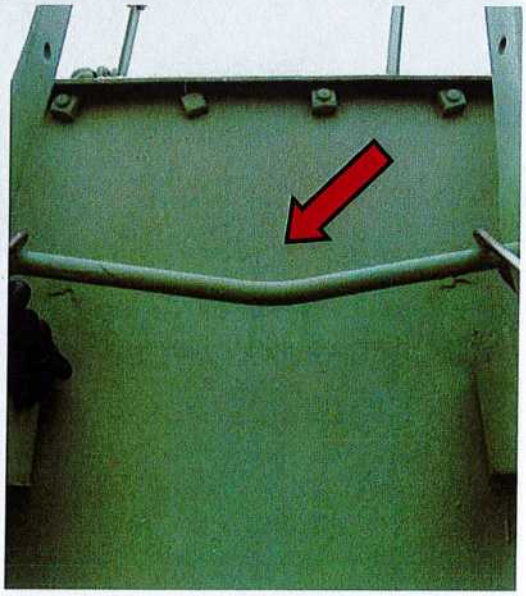


Photo shows the tank is not equipped with a liquid level indicator. We recommend installing a liquid level indicator, complete with target board and float.





Shell/roof access ladder in above photos is not equipped with anti-skid rungs and is 15" wide. **Notice the rung is bent.** OSHA 1910.27 Ladders states, "Minimum clear distance between the sides of individual rung/step ladders and between the side rails of other fixed ladders must be 16" (41 cm)." OSHA 1910.27 states: "Rungs… must be corrugated, knurled, dimpled, coated with skid-resistant material or treated to minimize slipping." We recommend installing a anti-skid rung equipped, shell/roof access ladder complete with stand-offs every 10' on center and a cable type ladder safety device.

Photos show the antenna system located on the tank. **Notice the walkway is obstructed with an antenna.** AWWA D100-11; Section A.5.6.2 Health and Safety states, "Antennas and related equipment should not interfere with OSHA defined access. OSHA 29 CFR 1910.22 states, (a) "Surface conditions and clearances, (1) Surfaces shall be designed, constructed and maintained free of recognized hazards that can result in death or serious injury to employees. (3) **A minimum free clearance of 18 inches** shall be provided for employee passage around or between obstructions." We recommend relocating the antenna system.

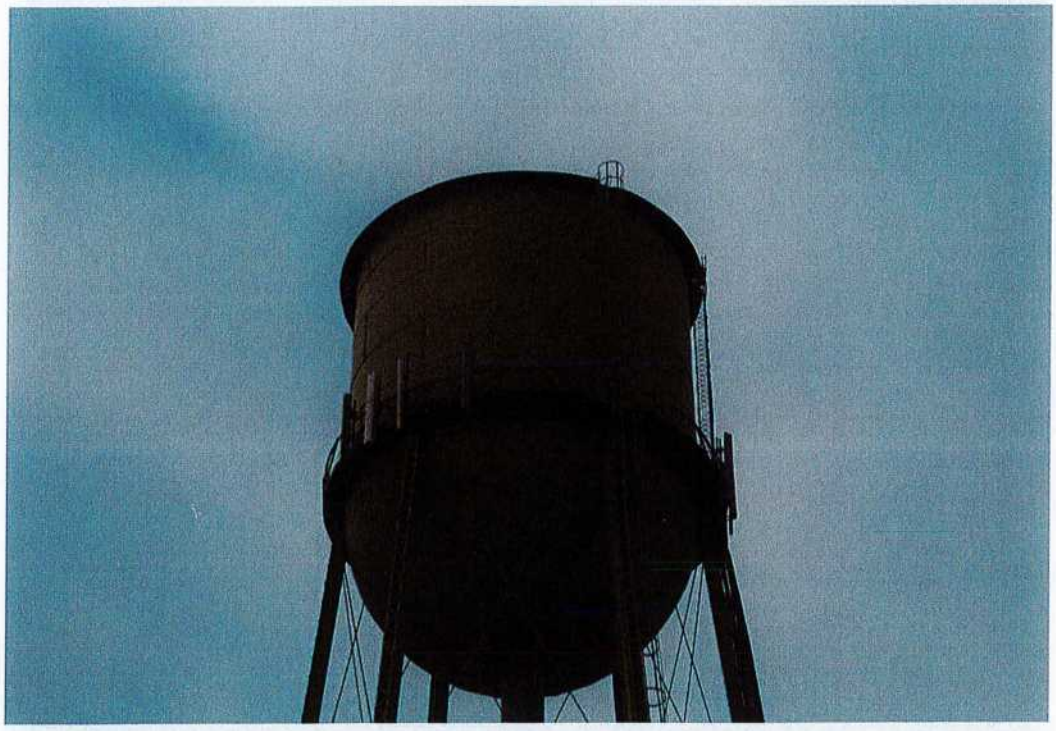


Photo shows that the tank roof is not equipped with a required fall protection system. OSHA 1910.23 (c) requires fall protection on the edges of all walking working surfaces. We recommend installing a 42" high handrail system around the circumference of the tank roof, complete with toeboard, intermediate rail and a swing gate at the junction of the shell-to-roof access ladder and tank roof.

Photo shows the condition of the 20" x 22" existing roof manway. **Notice the manway does not have a 4" curb as required by** AWWA D100-11; 5.4.3.1 "A roof opening with hinged cover and hasp for locking shall be provided near the outside tank ladder, or roof ladder if provided. The opening shall have a minimum dimension of 24 in. (610 mm), or as required by OSHA, if used to access an inside tank ladder. The opening shall have a curb at least 4 in. (102 mm) high, and the cover shall have a downward overlap of at least 2 in. (51 mm). Roof openings on this tank require the following to be in compliance with OSHA 1910.146(h)(5)(ii): Confined Spaces and AWWA D100-11 5.4.3.1: roof openings.

We recommend:
Replace existing roof manway with 30" manway
Install a 30" secondary roof manway 180° from primary roof manway
Post **Confined Space Entry** signs

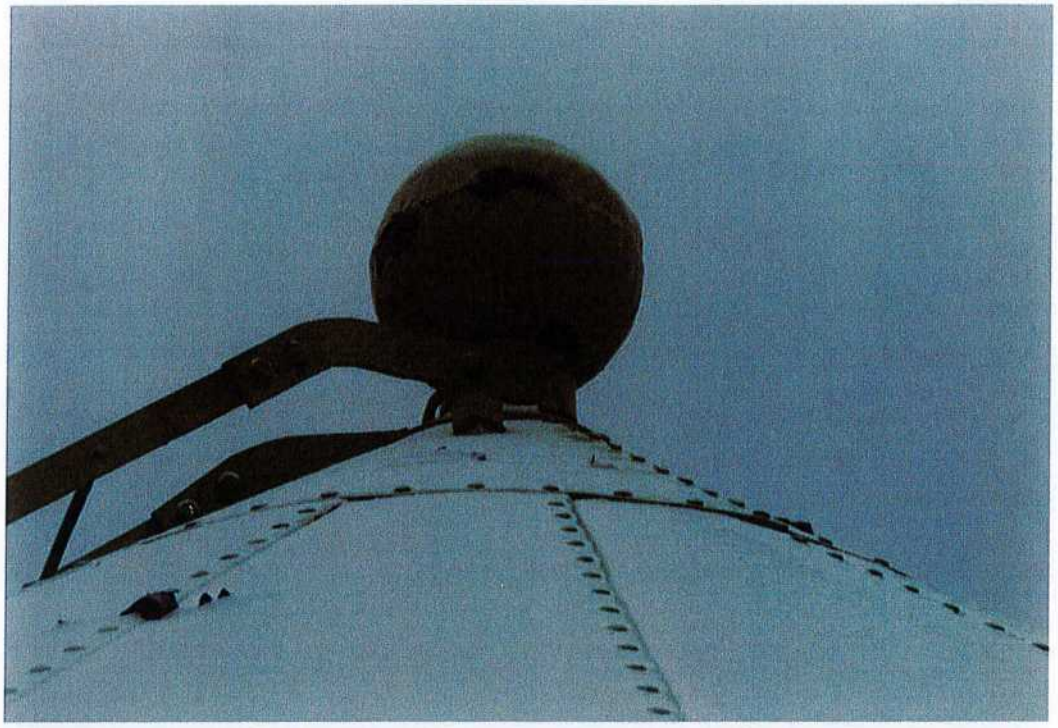
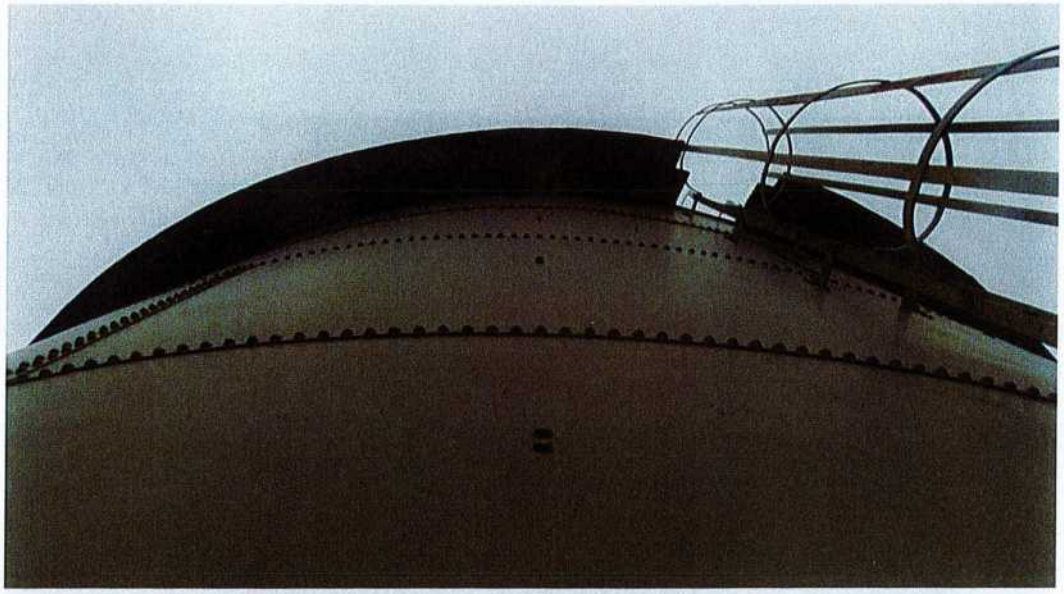
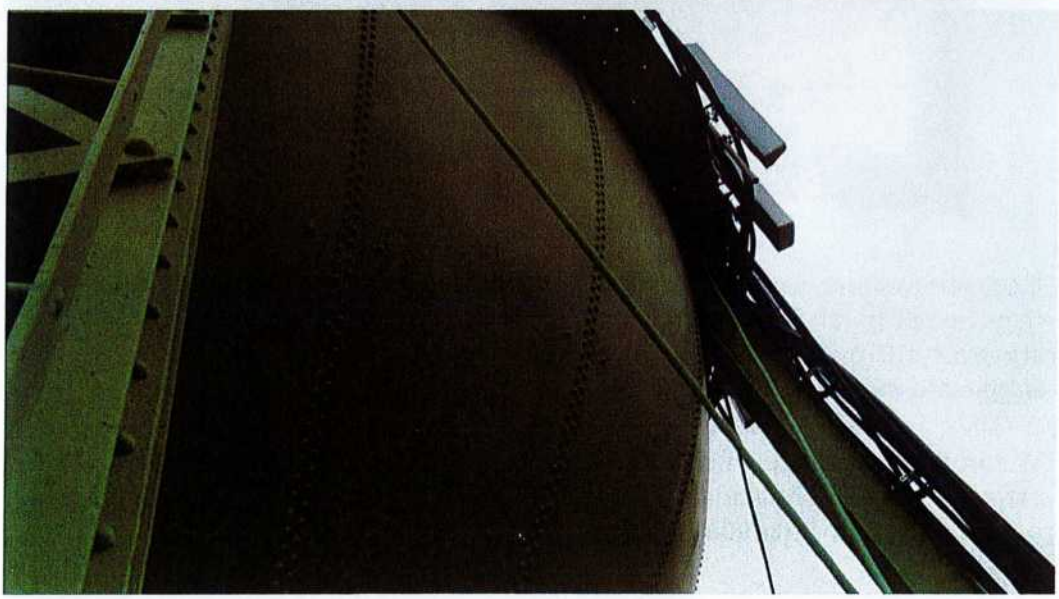


Photo shows the condition of the finial ball. A finial ball does not provide adequate ventilation. The venting area is of an inadequate size and is not compliant with AWWA D100-11; 5.5: Vent. **An improperly vented tank may cause external pressure to act on the tank which can cause buckling even at low pressure differential.** We recommend replacing the finial ball with a vacuum-pressure, frost proof vent and screen.

This work should be performed on an emergency basis.





Photos show the tank exterior coating system. The overall exterior coating system appears to be in good condition. We recommend re-evaluating the tank exterior in 2 to 3 years.

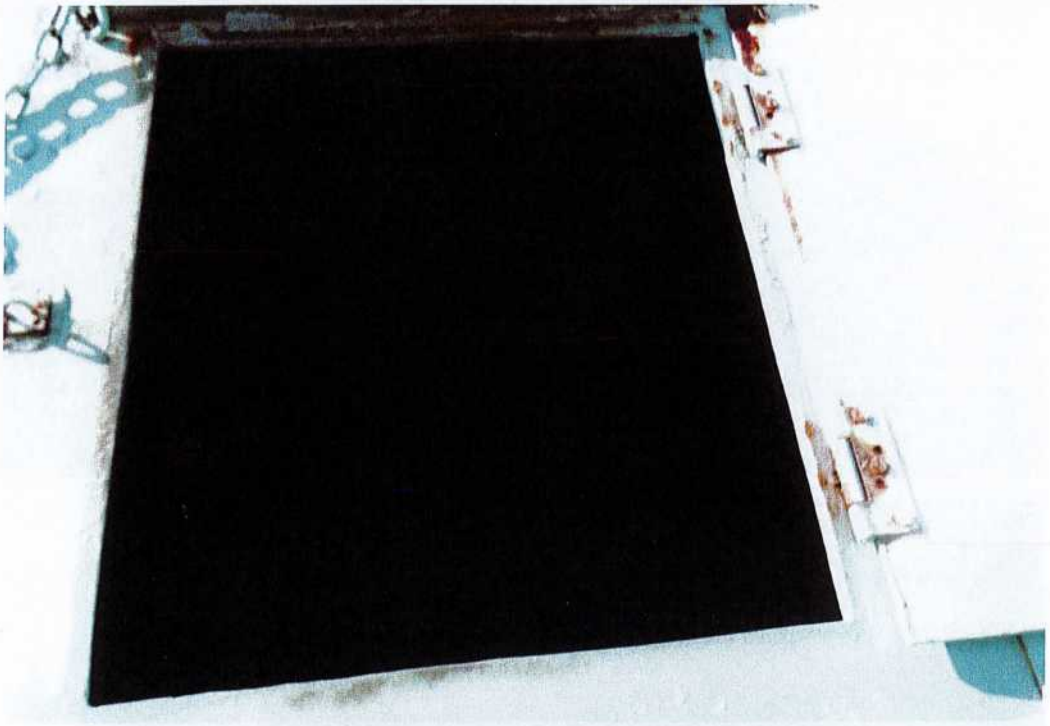


Photo shows tank is not equipped with an interior access ladder. We recommend installing an OSHA compliant interior access ladder complete with standoffs every 10' on center and a cable type ladder safety device at the primary and suggested secondary roof manway.

We further recommend installing compliant interior bowl ladders complete with standoffs every 10' on center and cable type ladder safety devices at the primary and suggested secondary shell manways.

Photo shows the condition of the interior roof-to-rim angle connection. We recommend remounting the roof using gusset plates approximately every 3' on center, then seam sealing using Sikaflex® 1a around the circumference of the roof-to-shell connection to prevent the ingress of contaminants into the tank.

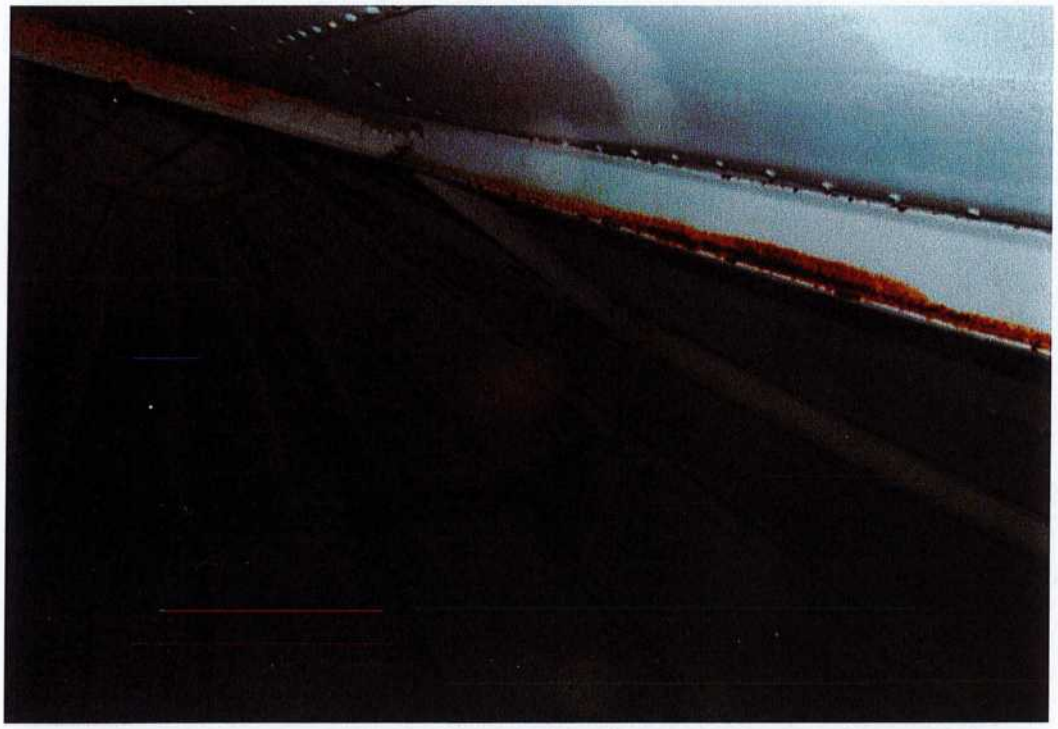


Photo shows the condition of the interior roof. It appears to be in good condition.

SINCE 1919

County of Livingston
RE: 6 Murray Drive
350,000 Gallon EWT

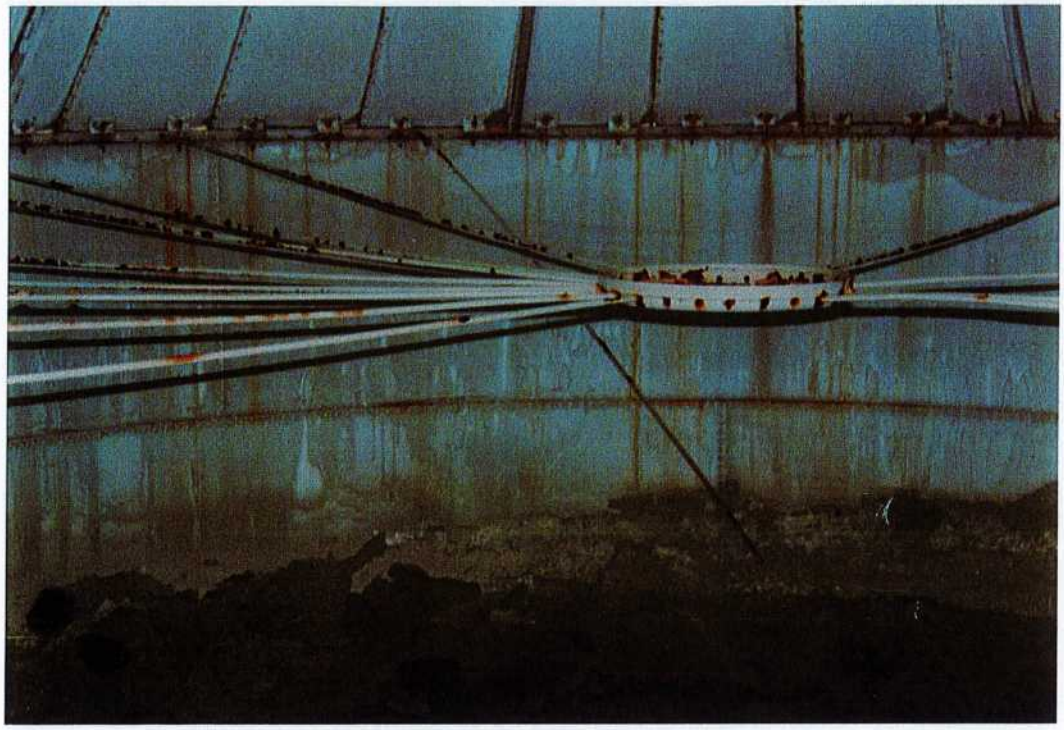


Photo shows the condition of spider rods and hub assembly. The assembly no longer affects the structural integrity of the tank, it is for erection purposes only. We recommend removing the spider rod assembly from the tank.

Photo shows a fill pipe on the tank interior. A temperature difference between the water in the top and bottom of a tank, even as little as 1-2 degrees Fahrenheit, is an indication of thermal stratification, and the tank water not completely mixed. Incomplete mixing would result in short-circuiting and localized increase in water age would develop inside the tank. This typically leads to water quality problems, such as loss of residual, DBP spikes, HPC spikes, bacteria regrowth, formation of biofilm, changes in pH and dissolved oxygen. We recommend installing a mixing system.

SINCE 1919

County of Livingston
RE: 6 Murray Drive
350,000 Gallon EWT

Photo shows sediment and debris in the tank. We recommend that cleaning be performed in order to prevent contamination issues associated with excessive sedimentation buildup.

This work should be performed on an emergency basis.

**Please note price for interior cleanout is based on removing 1" – 3" of sediment. Any additional accumulation discovered will be priced on site. In the event the tank has to be drained, tank will need to be drained by the owner, prior to our arrival.*

We further recommend installing a passive cathodic protection system.

Photo shows the condition of the riser pipe opening. The riser opening is not equipped with a safety grating in accordance with AWWA D100-11; 5.1.1: Safety grill and OSHA 29 CFR 1910.23(a)(1). We recommend installing an approved safety grating, designed for fall protection, over the riser opening.

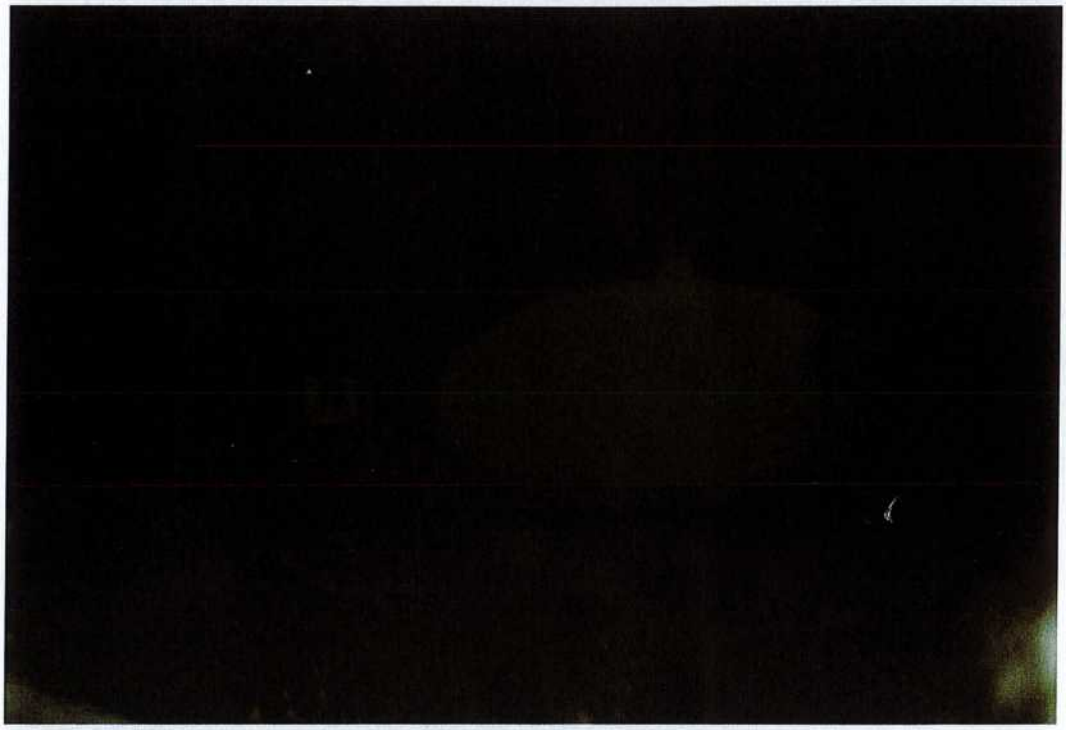


Photo shows the condition of the riser. OSHA 1910.27 states, "Rungs… must be corrugated, knurled, dimpled, coated with skid-resistant material or treated to minimize slipping." We recommend installing a compliant riser ladder complete with standoffs every 10' on center and a cable type ladder safety device.

Photos show the tank interior coating system. We recommend to sandblast, SSPC-SP10 (near white), all rusted and abraded interior areas and brush blast, SSPC-SP7, all remaining interior areas. All areas sandblasted to a #10 as well as all weld seams will receive one (1) spot coat of epoxy primer and one full coat epoxy will then be applied to the entire tank to achieve 8 to 10 mils of total dry film thickness. Total milage includes a combination of the existing and new coating.

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ELEVATED TANK INSPECTION REPORT

JOB NO: 316029 INSPECTOR: Tommy McElveen Jr (LS)

TANK OWNER: County of Livingston-Livingston County Government Center

OWNER'S REPRESENTATIVE: Mr. John Driscoll

TITLE: S.C.S.

MAILING ADDRESS: 1 Court Street, Rm B02 Geneseo, NY 14454

PHYSICAL ADDRESS: 1 Court Street, Rm B02 Geneseo, NY14454

E-MAIL: jdriscoll@co.livingston.ny.us

CITY, STATE: Geneseo, NY ZIP: 14454 COUNTY: Livingston County

TELEPHONE: (585) 243-7505 FAX: (585) 243-7954

LOCATION OF TANK: 6 Murray Drive Mount Morris, NY 14510

County of Livingston
1 Court Street, Rm B02
Geneseo, NY 14454
March 4, 2016 & April 12, 2016
Mr. John Driscoll
S.C.S.
(585) 243-7505

5-4-16

ORIGINAL CONTRACT NO: Unknown YEAR BUILT: Unknown

ORIGINAL MANUFACTURER: Unknown CAPACITY: 350,000 Gallon

DATE OF LAST INSPECTION: Unknown TYPE: Potable

HIGH WATER LEVEL: 142'-0" LOW WATER LEVEL: 97'-0"

DIAMETER: 36"-0 HEAD RANGE: 45'-0"

TYPE CONSTRUCTION: WELDED: _____ RIVETED: X BOLTED: _____

ACCOUNT EXECUTIVE: Jennifer Frazier

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Testing	Exterior	Interior
Lead	Negative	Negative
Adhesion	A2@5.6	A1@4.3

Mil Testing								
Roof:	6.2	4.3	6.8	7.2	4.1	5.6		
Shell: 5	8.2	7.2	8.0	8.8				
Shell: 4	7.6	5.4	5.8	6.4				
Shell: 3	8.0	10.1	7.9	9.7				
Shell: 2	5.4	7.6	6.7	4.8				
Shell: 1	6.9	5.2	6.6	7.7	5.1	5.2	7.1	10.1
	5.6	7.1	6.4	8.9	6.1	6.5	5.4	7.3

UT Testing								
Roof:	0.230	0.229	0.233	0.232	.236	0.227		
Shell: 5	0.273	0.274	0.268	0.271				
Shell: 4	0.280	0.274	0.282	0.279				
Shell: 3	0.309	0.290	0.282	0.288				
Shell: 2	0.333	0.337	0.331	0.334				
Shell: 1	0.444	0.453	0.451	0.449	0.450	0.445	0.440	0.454
	0.446	0.452	0.447	0.450	0.451	0.448	0.440	0.452

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Page #	Work Proposed	Critical Deficiency	NON-Critical Deficiency	OSHA	Structural	Preventive Maintenance
2	Install a fence. Post a **No Trespassing** and a **Warning, Tampering With This Facility is a Federal Offense** sign. Fence installation done by others.		X			
4	Caulk around the base of the foundation connections.					X
5	Remove all dirt, debris and loose gravel from the foundation. Repair any cracks and spalling in the concrete with a commercial non-shrinking grout.					X
	Seal the foundation with a sealant.					X
6	Electrically ground the tank for lightning protection.			X		
7	Clean the area around the anchor bolts and tighten the anchor bolt nuts to specifications. Then weld around the circumference of the bolt-to-nut and nut-to-base plate connections to reinforce.					X
8	Install a frost-proof drain valve complete with locking device to prevent unauthorized draining of the tank and a splash pad to direct water away from the foundation.		X			
9	Post **Confined Space Entry** sign.			X		
	Install maintenance free galvanized steel bolts.					X
10	Extend the overflow down the exterior to grade with same size pipe, complete with standoffs every 10' on center and an elbow fitted with a flapper valve and screen and a splash pad to direct the water away from the tank foundation.		X			
11	Install a compliant tower access ladder, complete with standoffs every 10' on center, a cable type ladder safety climb, a lockable ladder guard and post a **Fall Protection Required** sign.			X		
12	Install climbing guards on all legs.					X
13	Adjust the windage rods and riser stay rods as needed, to withstand 100 mph winds blowing from any direction. This should be done on an emergency basis.	X			X	

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Page #	Work Proposed	Critical Deficiency	NON-Critical Deficiency	OSHA	Structural	Preventive Maintenance
16	Raise the existing handrail system to the required 42", install an intermediate rail, cut out a section of the handrail the width of the tower access ladder-- at the junction of the tower access ladder and structural girder; and install the necessary bracing to keep railing at design strength, install a swing gate at the newly-created opening in the handrail at the junction of the tower access ladder and structural girder.			X		
17	Install 30" secondary shell manway 180º from primary manway.		X			
	Install davit slide on suggested secondary shell manway.		X			
	Post **Confined Space Entry** signs.			X		
19	Install a liquid level indicator complete with a target board and float.		X			
20	Install a compliant shell/roof ladder complete with standoffs every 10' on center and a cable type ladder safety device.			X		
21	Relocate the antenna system.				X	
22	Install a 42" high handrail system around the circumference of the tank roof, complete with toeboard, intermediate rail and a swing gate at the junction of the shell-to-roof access ladder and tank roof.			X		
23	Replace existing roof manway with 30" manway.		X			
	Install 30" secondary roof manway 180º from primary roof manway.		X			
	Post **Confined Space Entry** signs.			X		
24	Replace the finial ball with a vacuum-pressure , frost proof vent and screen on an emergency basis.	X			X	
25	Re-evaluate the tank exterior coating system in 2-3 years.					X

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Page #	Work Proposed	Critical Deficiency	NON-Critical Deficiency	OSHA	Structural	Preventive Maintenance
26	Install compliant interior access ladders complete with standoffs every 10' on center and cable type ladder safety devices at the primary and suggested secondary roof manways.			X		
	Install compliant interior bowl ladders complete with standoffs every 10' on center and a cable type ladder safety devices at the primary and suggested secondary shell manways.			X		
27	Remount the roof using gusset plates approximately every 3' on center, then seam sealing using Sikaflex® 1a around the circumference of the roof-to-shell connection to prevent the ingress of contaminants into the tank.					X
29	Remove the spider rod assembly from the tank.		X			
30	Install a mixing system.		X			
31	Perform an interior cleanout, up to 3" of sediment. This work should be performed on an emergency basis. Additional accumulation will be priced on site. In the event the tank has to be drained, it should be drained by the owner prior to our arrival.	X				
	Install a passive cathodic protection system.					X
32	Install a compliant safety grating, designed for fall protection, over the riser opening.			X		
33	Install a compliant riser ladder complete with standoffs every 10' on center, a cable type ladder safety device.			X		
34	Sandblast, SSPC-SP10 (near white), all rusted and abraded interior areas and brush blast, SSPC-SP7, all remaining interior areas. All areas sandblasted to a #10 as well as all weld seams will receive one (1) spot coat of epoxy primer and one full coat epoxy will then be applied to the entire tank to achieve 8 to 10 mils of total dry film thickness. Total milage includes a combination of the existing and new coating.					X

Town of Leicester

Town Tank

250,000 Gallon Ground level Glass Lined Bolted Steel Tank

April 18, 2018

Prepared By:

Atlantic Underwater Services Inc.
2538 State Route 8
Lake Pleasant, NY 12108
(757)705-9081 / (518)514-1434 Fax
Atlanticunderwaterservices.com

ROV And Drained AWWA Potable Water Storage Tank,
NFPA Fire Water Storage Tank, & Pipeline Inspections

Declaration

This report was composed from the visual observations made during an inspection of this water storage facility. Portions of this report may also contain material or other information obtained from conversations with the utility personnel, the tank information plate, drawings, reports, etc. The information contained herein is believed to be as true and accurate as could be obtained from these observations and the information and material supplied to us. No other assurance or warranty is expressed or implied. We assume no responsibility for any errors or omissions in this report.

The time frames stated in the recommendations are estimates based on our years of experience with other storage facilities and paint installations, and discussions with corrosion engineers, paint manufacturer's representatives, tank constructors, painting contractors, etc. Although these estimates can be considered to be fairly reliable, many different factors affect the condition of the water storage facility over time and we can not be held responsible for the accuracy of these estimates. Since the condition of the storage facility will change over time, the accuracy of the condition of the storage facility described in this report will decrease according to the amount of time that has elapsed since the date of the inspection. Should three (3) or more years have elapsed since this inspection, this report should be considered to be null and void and the storage facility should be reinspected to determine the current condition.

By:

Timothy Smith

Tank Information

The height to overflow is about:	**75’**
The tank height is about:	**81’**
The diameter of this tank is about:	**21’**
This tank was constructed at the present location in:	**?**
Does this tank have interior columns:	**NO**
Does this tank have magnesium bars for cathodic protection installed:	**NO**
This tank was previously inspected:	**?**

OSHA Regulations

Your tanks are not "grandfathered in" and you are required to bring your tanks into current OSHA Regulations whenever any work is done on your tanks, including, but not limited to, recoats, repairs, modifications, etc.

Item	Description	Yes	No	N/A
1.	Interior ladder has safety equipment that meets current OSHA standards:			X
2.	Interior ladders (if existing) meet 16" width requirement:			X
3.	Exterior ladder has protective cage safety equipment that is longer than 20' has balcony platforms with railings at maximum 20' intervals or has other safety equipment installed that meets current OSHA standards:	X		
4.	Exterior ladder meets 16" width requirement:	X		
5.	Tank with a sloped/domed roof has a walkway or anti-slip material and railings that extends from the sidewall/roof junction to near the center vent:	X		
6.	Cable fall protection systems installed on ladders have a large enough diameter to meet current standards and use currently available cable climb devices:			X
7.	The top edge height of all top rails, or equivalent guardrail system members, are 42 inches plus or minus 3 inches above the walking/working level, or when conditions warrant, the height of the top edge exceeds the 45-inch height, provided the guardrail system meets all other criteria of this paragraph as required by Section 1926.502(b)(1):	X		
8.	Utility owns and uses full body personal fall arrest systems and has eliminated the use of body belts after January 1, 1998 as per Section 1926.502(d):			X

OSHA Regulations (Cont.)

Item	Description	Yes	No	N/A
9.	Midrails, screens, mesh, intermediate vertical members, or equivalent intermediate structural members are installed between the top edge of the guardrail system and the walking/working surface when there is no wall or parapet wall at least 21 inches high. Midrails, if used, are installed at a height midway between the top edge of the guardrail system and the walking/working level. Screens and mesh, if used, extend from the top rail to the walking/working level and along the entire opening between top rail supports. Intermediate members such as balusters, additional midrails, or architectural panels, if used between posts, are installed such that there are no openings in the guardrail system that are more than 19 inches wide:	X		
10.	On tanks with sloped or domed roofs, the roof access hatch is installed in close proximity to the roof access ladder that this hatch can be safely accessed:	X		
11.	On tanks with a fall protection system installed, it is possible to remain connected, or to transfer between ladders or onto the roof with the use of a lanyard and safely access all parts of this tank:	X		
12..	Saf-T-Climb bars initially installed on the ladders have been replaced with safety cables due to the multiple recalls of these climbing brackets and the hazards of using these devices:			X

Glass Lined Bolted

Item	Description	OK	Problem	N/A
1.	Flowing or seeping leaks were not observed at the plate junctions or at any of the bolt holes:	X		
2.	An excessive amount of edge corrosion from the failure of the caulking material to adequately protect the edges of the plates was not observed throughout the tank interior:	X		
3.	No failures were observed on the additional layer of white titanium dioxide installed on the interior of each sidewall plate:			X
4.	No initial fused glass adhesion failures and no failures or corrosion were observed at the locations of glass coating failure or damage in the sidewall plates away from the edges which had previously occurred on the tank interior, possibly during the initial construction or thereafter, and which were repaired with the addition of Sikaflex or other material and this material is not losing adhesion to the plates:	X		
5.	The interior of each sidewall plate has been factory coated with a cobalt fused glass material. An excessive amount of fused glass adhesion failures in the plates away from the edges were not observed throughout the tank interior:	X		
6.	This tank interior has a sacrificial anode cathodic protection system installed on the tank bottom which did not appear to be deteriorated and appeared to be still functional:			X
7.	All of the bolt heads in the tank sidewall interior are covered with nylon covers. None of these are loose or missing.			X

Glass Lined Bolted (Cont.)

Item	Description	OK	Problem	N/A
8.	Almost all of the bolt heads in the tank sidewall interior have an adequate amount of caulking around the heads (i.e. complete donut) which are preventing corrosion from occurring on most of the bolt holes and this caulking is not excessively deteriorated and losing adhesion:	X		
9.	The tank bottom is constructed out of concrete which is not deteriorated and no extensive spalling or cracking was observed:			X
10.	The tank bottom is constructed out of plates which are bolted together. The interior of each bottom plate has been factory coated with a cobalt fused glass material. An excessive amount of fused glass adhesion failures in the plates away from the edges which were not already repaired, or an excessive amount of new adhesion failures were not observed throughout the tank bottom:	X		
11.	An excessive amount of failures were not observed on the additional layer of white titanium dioxide installed on the tank interior side of each bottom plate:			X
12.	The bolts that fasten the bottom plates together come up through the plates, with the heads below the tank bottom, and with the bolt threads and nuts above the bottom plates, These bolt threads and nuts are covered with nylon covers. Very few or none of these nylon covers are missing and the bolt threads and nuts are not corroding excessively:	X		
13.	Galvanized steel bolts, and not stainless steel bolts were used to construct this tank and no dissimilar metal corrosion was observed:	X		
14.	The exterior of each sidewall plate has been factory coated with a cobalt fused glass material and an excessive amount of fused glass adhesion failures or damage on these plates away from the plates edges that were not previously repaired were not observed:	X		

Glass Lined Bolted (Cont.)

Item	Description	OK	Problem	N/A
15.	The edges of the sidewall plate exteriors appear to have been sealed with a polyurethane caulking material An excessive amount of sections of failure of the caulking material to adequately protect the edges of the plates were not observed throughout the tank exterior:	X		
16.	The bolts that fasten the sidewall plates together are installed with the heads in the tank interior and with the bolt threads and nuts on the sidewall exterior. The exterior section of these bolt threads and nuts are covered with nylon covers. An excessive amount of these nylon covers are not missing and the bolt threads and nuts are not corroding:			X
17.	The bolts that fasten the sidewall plates together are installed with the heads in the tank interior and with the bolt threads and nuts on the sidewall exterior. Although the exterior section of these bolt threads and nuts are not covered with nylon covers and are protected only with caulking, an excessive amount of the bolt threads and nuts are not corroding:	X		
18.	The tank roof is constructed out of plates which are bolted together. The tank exterior and tank interior sides of each roof plate have been factory coated with a cobalt fused glass material. An excessive amount of fused glass adhesion failures in the plates away from the edges were not observed throughout the tank roof exterior and no problems or corrosion was observed at any failures which have previously been repaired:	X		
19.	An excessive amount of fused glass adhesion failures in the plates away from the edges were not observed throughout the tank roof interior and no problems or corrosion was observed at any failures which have previously been repaired:	X		
20.	An excessive amount of failures were not observed on the additional layer of white titanium dioxide installed on the tank interior side of each roof plate:	X		

Glass Lined Bolted (Cont.)

Item	Description	OK	Problem	N/A
21.	The edges of the roof plate exteriors appear to have been sealed with a polyurethane caulking material An excessive amount of sections of failure of the caulking material to adequately protect the edges of the plates were not observed throughout the tank roof exterior:	X		
22.	The edges of the roof plate interiors appear to have been sealed with a polyurethane caulking material An excessive amount of sections of failure of the caulking material to adequately protect the edges of the plates were not observed throughout the tank roof interior:	X		
23.	The bolts that fasten the roof plates together are installed with the heads in the tank interior and with the bolt threads and nuts on the roof exterior. The exterior section of these bolt threads and nuts are covered with nylon covers. An excessive amount of these nylon covers are not missing and the bolt threads and nuts are not corroding:	X		
24.	The bolts that fasten the roof plates together are installed with the heads in the tank interior and with the bolt threads and nuts on the roof exterior. Although the exterior section of these bolt threads and nuts are not covered with nylon covers and are protected only with caulking, An excessive amount of the bolt threads and nuts are not corroding:	X		
25.	Angles are bolted to the roof plates for roof support. Both sides of each angle have been factory coated with a cobalt fused glass material. An excessive amount of fused glass adhesion failures in the angles were not observed throughout the tank roof interior and no problems or corrosion was observed at any failures which have previously been repaired:	X		
26.	The roof is constructed out of an aluminum dome. No problems or deterioration of the dome were observed.			X

Glass Lined Bolted (Cont.)

Item	Description	OK	Problem	N/A
27.	The adhesive anti-slip material installed on the tank roof so that the center vent can be safely accessed has not deteriorated and no sections are missing:			X
28.	Almost all of the bolts holding the exterior ladder to the sidewall, the protective cage together, the upper balcony railing together and to the roof, and the protective cage to the exterior ladder, are constructed out of galvanized steel instead of stainless steel and are corroded but appeared to be still structurally sound:			X
29.	The aluminum walkway and balcony railings that extend from near the tank sidewall to near the center vent appeared to still be structurally sound and no corrosion, deterioration, or other problems were observed:	X		
30.	The section of the concrete pad on the tank exterior is not excessively deteriorated and no deep or extensive cracks or spalling was observed:	X		

Water Stratification

PLEASE PAY SPECIAL ATTENTION TO THE DISPLAY ON THE BOTTOM LEFT OF THE INSPECTION VIDEO AND PHOTOS AND REFER TO THE PRINTED PHOTOS AT THE BACK OF THIS REPORT. THIS DISPLAY SHOWS THE DEPTH OF WATER AND THE WATER TEMPERATURE.

It is very important that you understand that water stratification can seriously affect the water quality. Water stratification is the difference in water temperature throughout your tank, including a temperature difference from top to bottom in the center of the tank and also near the sidewalls, and also a temperature difference at the top of the water and also the bottom of the tank from near the sidewalls to the center of the tank.

Warmer water rises and colder water sinks. Therefore, in warmer weather if you input colder water from your pumps, this new water will stay on the bottom and be withdrawn when the pumps stop and not mix with the warmer water already in the tank. As the disinfectant level in the older water drops to nothing over time it is susceptible to bacteriological contamination. Also, as the water sits in your tank without being withdrawn, the existing disinfectant can form an amount of byproducts that exceed EPA standards, putting your system in violation.

Item	Description	Yes	No
1.	**The water temperature was virtually the same at the water surface and at the tank bottom near the center of the tank and near the sidewalls and also at the water surface near the center of the tank and near the sidewalls and at the bottom near the center of the tank and near the sidewalls:**	X	

If this answer is "No", there is a problem with water stratification and water quality in your tank that should be addressed to prevent your system from having water contamination or being in violation of disinfectant byproduct levels.

Structural Condition

Component	Description	O.K.	Problem	N/A
Concrete Base	Concrete base or ring supporting sidewalls is not excessively deteriorated:	X		
Erosion/Settling	Ground at foundation or ring is not eroded or settled:	X		
Anchor Bolts	These bolts are not excessively corroded, all nuts are tight and not missing, and the structural integrity is not affected:	X		
Exterior Ladders	Structurally sound, safe for use, not excessively bent, dented, twisted, damaged, or excessively corroded:	X		
Ladder Guards	The lowermost exterior ladder has a ladder guard installed to prevent access to the tank roof and tank interior:	X		
Air Vent	Not excessively damaged, corroded, or deteriorated:	X		
Overflow Pipe	Structurally sound, not bent, twisted, deformed, otherwise damaged, excessively corroded:	X		
Level Indicator	Functional, float not flooded, guide wires not broken, wire to flag not broken, bottom bracket not excessive corroded or loose, float and flag move freely and are not binding:			X
Leaks	No indications of leakage observed:	X		
Handrails, Balconies	All balcony platforms and railings are structurally sound, safe for use, and not excessively corroded or damaged:	X		
Interior Ladder	Not excessively bent, dented, twisted, damaged, corroded:			X

Sanitary Condition

Component	Description	O.K.	Problem	N/A
Perimeter Fence	Has barbed wire on the top, is not damaged or deteriorated, has “No Trespassing” signs:		X	
Gates	Are not damaged and can be opened:	X		
Locks	Perimeter gate have locks:	X		
Overflow screen, flap, size	Is adequately screened or flap opens and closes and pipe is large enough:	X		
Vent Screen Material	Screen is metal, not damaged, not excessively corroded, or missing:	X		
Access hatch	Has no excessive corrosion, is not deteriorated or bent, structurally sound:	X		
Access Hatch Lock	Upper access hatch adequately locked:	X		
Evidence of Foreign Matter	No debris laying on tank bottom:	X		
Vandalism	No graffiti, litter, trash, or damage:	X		
Silt Stop	Silt stop is not missing or displaced	X		
Water Visibility	Visibility in water is at least 10’:	X		
Floating Surface Debris	No debris floating on water surface:	X		

Sediment:

Average Sediment Depth:	Less than ½”	Less than 1”:	1” to 5”	5” to 10” or more
	X			

Recommendations

General Recommendations

Item	Description	Yes	No	N/A
1.	Reinspect tank interior in 5 years:	X		
2.	Repair glass coating on tank interior plates:	X		
3.	Repair glass coating on tank exterior plates:		X	
4.	Repair glass coating on tank roof interior or exterior plates:		X	
5.	Replace existing ladders:		X	
6.	Modify or add safety equipment to exterior ladder(s):		X	
7.	Modify or add safety equipment to interior ladder(s):			X
8.	Repair or replace roof vent:		X	
9.	Install, repair, or modify access control fence:	X		
10.	Modify or repair damaged or distorted balcony railing(s) or to meet current OSHA regulations:		X	

Recommendations (Cont.)

Recommendations Unique and Specific To This Tank

Item	Description
1.	**The items listed as NO in the OSHA Section, PROBLEM in the Glass Lined Bolted Section, PROBLEM in the STRUCTURAL and SANITARY Sections and listed as YES in the GENERAL RECOMMENDATIONS should be installed, modified, or repaired as indicated.**
2.	**Although some incidences of corrosion are occurring throughout the tank interior on the sidewall and bottom plate edges and on some of the sidewall and bottom bolts, these are still too few, and the corrosion is not excessive enough that the tank interior requires resealing at this time. This will probably occur in from 5 to 10 years from now and the routine 5 year inspections will determine the timing of this.**
3.	**Although some incidences of corrosion are occurring throughout the tank exterior on the sidewall and roof plate edges and on some of the sidewall and roof bolts and nuts, these are still too few, and the corrosion is not excessive enough that corrective actions are recommended at this time. This will probably occur in 10 or more years from now and the routine 5 year inspections will determine the timing of this.**
4.	**Repair a leak at the 20' water line from the surface**
5.	

Please contact us if you have any questions about our inspection or the recommendations or conclusions of this inspection report.

Photo Identification

Note: **You also receive a photo disc with digital copies of all the photos taken during the inspection, an electronic copy of this complete report including photos as an Adobe Portable Document File (.pdf) document, and the interior video as a Windows Media File (.wmv) that you can copy to and play on your computer.**

NOTE: THERE IS AN EXTENSIVE AMOUNT OF INTERIOR AND EXTERIOR PHOTOS THAT WERE TAKEN AS PART OF THIS INSPECTION WHICH ARE ON THE PHOTO DISC THAT YOU RECEIVE ALONG WITH THIS INSPECTION REPORT. THE PHOTOS PRINTED IN THIS REPORT ARE JUST A REPRESENTATION AND YOU SHOULD REVIEW THE ENTIRE PHOTO COLLECTION ON THE DISC.

Pictures

Pictures (Cont.)

Leak in the tank

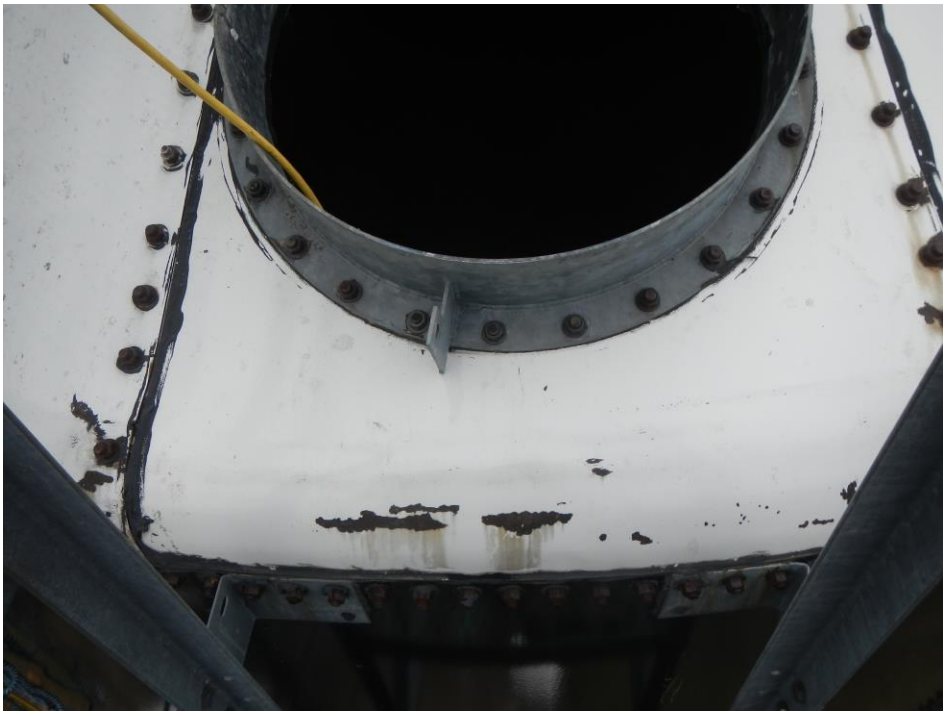
Pictures (Cont.)

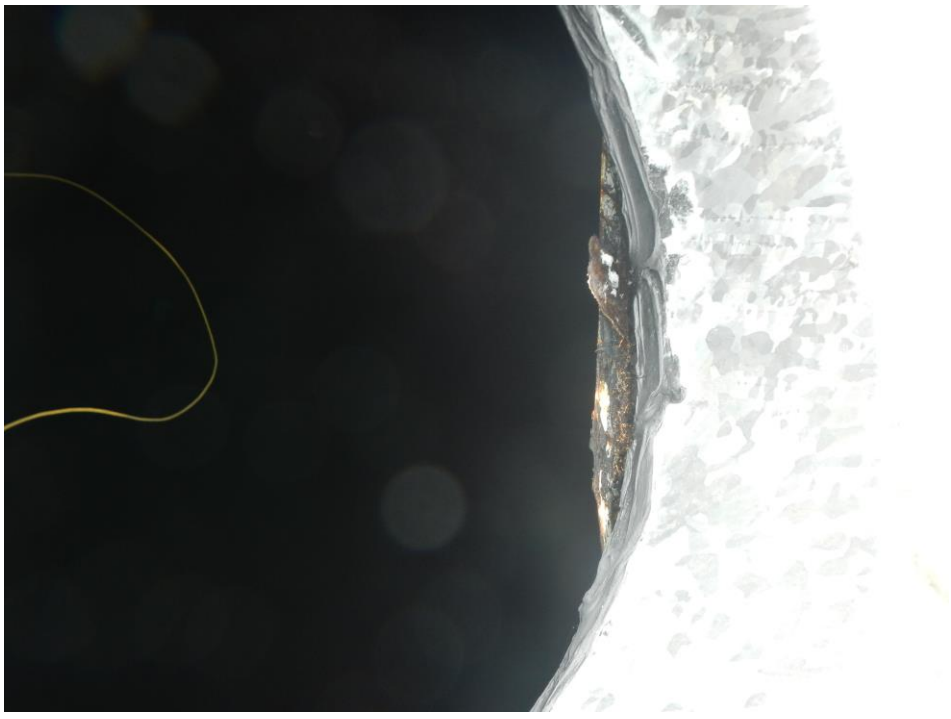
Pictures (Cont.)

Pictures (Cont.)

Pictures (Cont.)

Pictures (Cont.)





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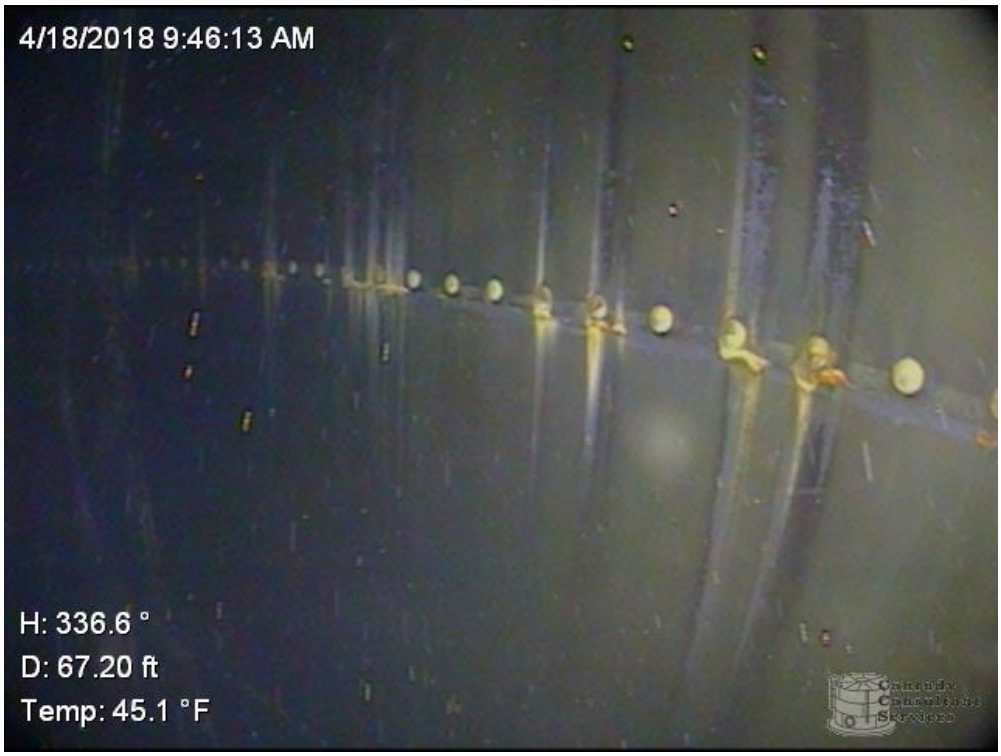

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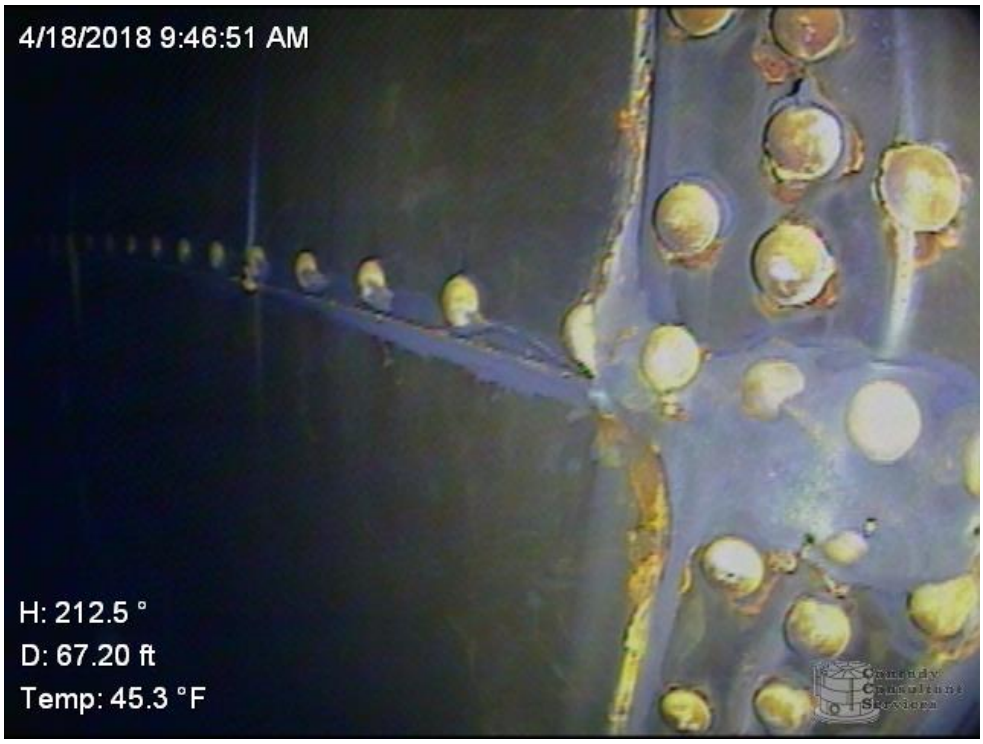

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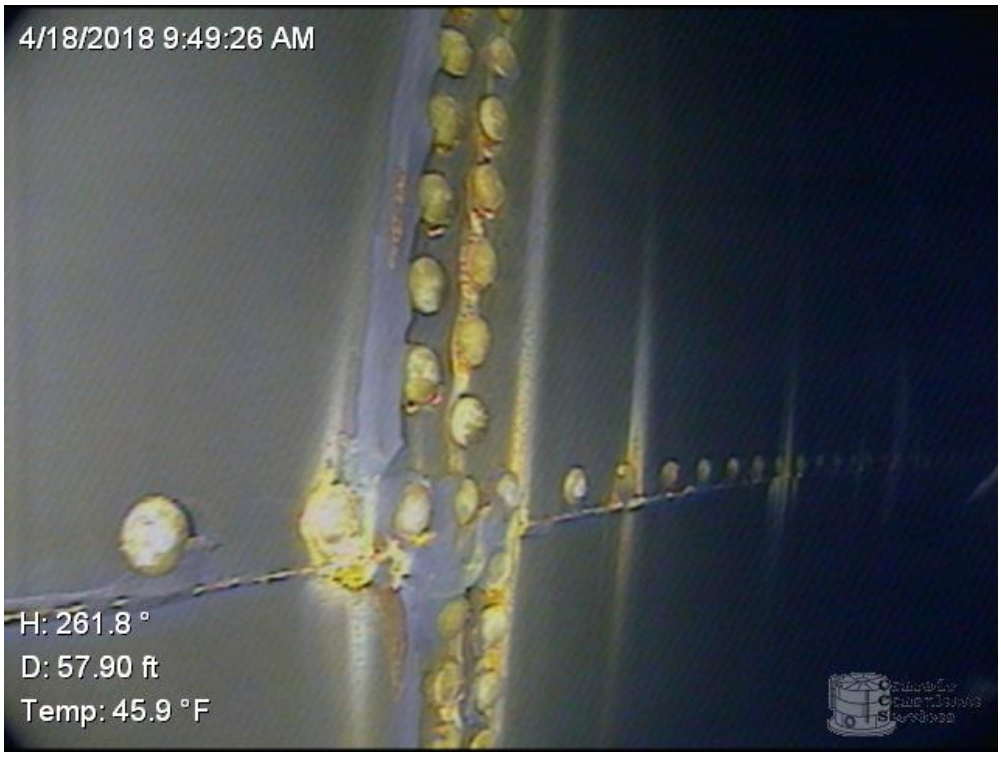

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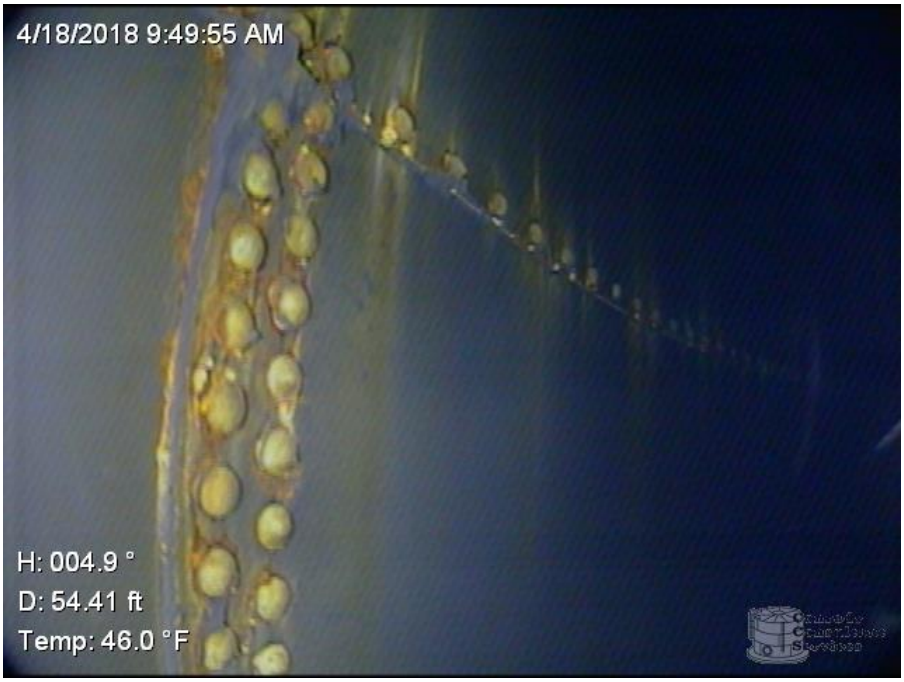

Pictures (Cont.)

Pictures (Cont.)

LEAK ON PLATE JOINT

Pictures (Cont.)

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100 YEARS | New York State Parks, Recreation and Historic Preservation

KATHY HOCHUL
Governor

RANDY SIMONS
Commissioner *Pro Tempore*

ARTHUR BRILEY
Regional Director

March 11, 2024

Jason Molino
Executive Director
Livingston County Water & Sewer Authority
1997 D'Angelo Drive
PO Box 396
Lakeville, NY 14480

Re: Leicester/York Regional Water Supply Expansion Project
NYS OPRHP Project Interest

Dear Mr. Molino,

This letter is to express our interest to the Livingston County Water and Sewer Authority's ("Authority") in participating in the proposed Leicester/York Regional Water Supply Expansion Project ("Project"). In an effort to provide safe, clean water to the north end of Letchworth State Park ("Park"), New York State Office of Parks, Recreation and Historic Preservation (OPRHP) would seek the installation of a water main along CR 37 to connect the Authority's system to the Mount Morris entrance to the Park. The proposed work for this connection is best achieved by the Authority including the design and construction within the current Project.

Please accept this letter as an expression of our interest to be included in the Project and to provide funding for the proposed waterline connection to the Park, pursuant to applicable law, rules, and regulations, including without limitation, the State Finance Law. This expression of interest is made with our current understanding of the proposed Leicester/York Regional Water Supply Expansion Project and that completion of the Project will result in clean, potable water being accessible at the Mount Morris entrance of the Park.

This letter is intended to serve as an expression of interest only and to further collaboration between OPRHP and the Authority to advance the Project. It is contingent upon the negotiation of acceptable terms and conditions, the identification of necessary funding sources, and authorizations and approvals to use such funds by the relevant control agencies.

OPRHP will begin discussions with the Authority regarding a formal agreement to outline exact costs and ownership as the Project develops.

Thank you in advance for your time and we look forward to continuing discussions with you concerning this matter.

Sincerely,

Arthur Briley
Regional Director
New York State Parks- Genesee Region

LIVINGSTON COUNTY
William T. Mann
Deputy County Administrator

Livingston County Government Center
6 Court Street,
Geneseo, New York 14454-1043

Telephone: (585) 243-7505

March 26, 2024

Jason Molino, Executive Director
Livingston County Sewer & Water Authority
1997 D'Angelo Drive
Lakeville, New York 14480

Subject: **Letter of Interest**
LCWSA Regional Water Supply Project

Dear Mr. Molino

Livingston County writes to express our interest in securing a new water supply with the Livingston County Sewer & Water Authority (LCWSA) in connection with the Regional Water Supply project currently being evaluated. This arrangement would furnish drinking water and provide fire protection to the Livingston County Murray Hill campus situated in the Town of Mt. Morris.

The Murray Hill campus maintains critical operations to the County including a 250-bed nursing home, Department of Social Services, Department of Health and other county provided services. The campus maintains its own 350,000 gallon elevated water storage tank that was reportedly constructed in the 1930s. This tank is in need of costly repairs while nearing end of useful life. Additionally, an aged cast iron watermain currently serves the campus, which sustained a break in recent months.

Providing safe and reliable water service to the Murray Hill campus is imperative while recognizing capital cost avoidance when appropriate. The new LCWSA water supply would allow for the abandonment of the aged water storage tank and section of cast iron pipe that is the sole service to campus. This arrangement would provide a gravity connection to the campus, thereby eliminating the need for onsite water pumping to the water tower with associated maintenance and energy costs.

Please do not hesitate to contact me if I can provide any additional information at this time.

Sincerely,

William T. Mann

Copy: file

LIVINGSTON COUNTY
DEPARTMENT OF HEALTH
2 Murray Hill Drive
Mt. Morris, New York 14510-1691

Jennifer Rodriguez, M.S.
Public Health Director

Phone (585) 243-7270
Fax (585) 243-7287
dept-of-health@co.livingston.ny.us
www.livingstoncounty.us/doh.htm

Mark Grove, P.E., Director
Center for Environmental Health
(585) 243-7280/(585) 335-1717 Fax: (585) 243-6793
Dog Control: (585) 243-6740/(585) 335-1720/ Fax: (585) 243-6751

"COMMITMENT TO LEADING THE COMMUNITY FOR A HEALTHIER AND SAFER TOMORROW"

November 21, 2022

Mayor Joel Mike
Village of Mt. Morris
117 Main Street
Mt. Morris, New York 14510

Subject: Village of Mt. Morris Public Water System Sanitary Survey 2022 Report
Public Water Supply Number: NY2501023
Population: 3500

Dear Mayor Mike:

In order to determine that the Village of Mt. Morris Public Water Supply System is operating in compliance with the requirements of New York State Sanitary Code Part 5, Subpart 5-1, *Public Water Systems*, a facility sanitary survey was conducted on November 1, 2022. The Livingston County Department of Health (LCDOH) performed this review with the assistance of Water Operators Chris Young, Thaddeus Gilbride, and Kelly Rounsville. The survey of the water supply system is conducted to ensure that there are no existing public health hazard violations at the time of inspection. Mr. Young and his fellow operators do a fine job operating the system and preparing the required reports.

Based on this visit and a review of records, the following comments are offered:

Water System Overview

The Village of Mt. Morris water source is Silver Lake in Wyoming County. Sodium permanganate is added to the raw water at the intake. A pump station near the Silver Lake outlet delivers raw water to the 5 million gallon reservoir at the Water Treatment Plant. Water from the reservoir is injected with a coagulant (poly aluminum chloride) and passes through two clarifiers before entering the treatment plant. Water is filtered through two mixed media filters (anthracite, sand, garnet). After filtration, liquid phosphate solution is added for corrosion control and sodium hypochlorite is added for disinfection. Treated water passes through the 1 million gallon clear well and enters the distribution system.

Observations

- Chris Young is designated Operator in Responsible Charge. Mr. Young, Mr. Gilbride, and Mr. Rounsville hold Grade IIA (treatment plant with facilities for filtration), Grade C (treatment and/or distribution), and Grade D (distribution) Water Operator Licenses. The Village of Mt Morris meets the NYSDOH requirement for a minimum of two Grade IIA operators and at least one Grade D distribution operator. The LCDOH highly recommends having additional trained water operators.
- In an effort to reduce disinfection byproducts (DBP) in distribution and consecutive water systems, the Village of Mt. Morris began using sodium permanganate for pretreatment of raw water at the Silver Lake intake in July, 2021. As an alternate to pre-chlorination of raw water, permanganate is used to oxidize organic material and does not form DBP. Sodium permanganate pretreatment is primarily used seasonally.
- The Silver Lake intake is inspected and cleaned twice per year. The condition of the intake was found to be satisfactory and zebra mussel growth needs to be maintained.
- The flow meter at the Silver Lake intake pump house was replaced in 2021 to provide accurate flow rates from the intake to the treatment facility. Metered raw water loss between the pump house and treatment plant are minimal, approximately 4% when pumps are off (during gravity feed) and slightly higher during pumping.

- The raw water reservoir at the treatment plant was inspected twice in 2022. A fountain and two air bubblers in the reservoir keep water moving and help to minimize algae growth. The reservoir has not been cleaned in recent years because it would require draining and bypassing, which could be problematic for filter operation in their current condition without the benefit of natural pre-sedimentation in the reservoir.
- The finished water clear well was also inspected in 2022 by Sea to Sea Diving using a drone-type system. Planned upgrades include adding mixing curtains (baffles) to the clear well to improve water quality in the finished water supply.
- Both filters are backwashed manually and surface sweeps are inoperable. Filter to waste capability is functioning in one filter. Filter to waste function in the second filter has not been restored because the valve is seized.
- The generator at the water treatment plant is serviced annually by Penn Power. The generator automatically runs every Monday for twenty minutes and under full load every six months so it is readily available for emergency use during an extended power outage. The generator was recently inspected in October, 2022.
- The Village of Mt. Morris has a contract with HACH to calibrate monitoring equipment at the treatment facility quarterly. Benchtop equipment is calibrated monthly by water operators and procedures are documented in the Village's standard operating procedures (SOP) manual.
- The distribution system is thoroughly flushed twice per year. Dead end lines are flushed more frequently. Automatic hydrant flushing units are installed on North Main Street near Riverside Restaurant and in the Town of Mt. Morris on Route 408. Flushing is coordinated between the Village and consecutive systems.
- In late summer of 2022, the Village and LCDOH received isolated complaints regarding turbid water in the distribution system. Following discussions with the chemical supplier and tracking sodium permanganate residuals, pretreatment changes at the intake are not thought to have contributed to the complaints. Turbid water was likely caused by water hammering from large pressure fluctuations during production at a cannery facility. The Village plans to flush portions of the distribution system, specifically dead-end lines, before the cannery begins seasonal production in the future.
- The water system Emergency Response Plan (ERP) and Vulnerability Assessment (VA) were approved by the NYSDOH, Bureau of Water Supply Protection in April, 2021. The next ERP/VA submittal is due February 1, 2026 and must be kept up to date. The *Emergency Response Plan Change Form* provided at the sanitary was completed and returned to the LCDOH.
- As stated in the NYS Sanitary Code, section 5-1.31, cross-connection control is the responsibility of the water supplier and the water customer. Our records indicate that all backflow prevention devices in the Village of Mt. Morris Public Water System are in compliance for annual test and maintenance.
- A grant was awarded for various upgrades to the water treatment plant. Engineer plans have been reviewed and approved by the New York State Department of Health (NYSDOH) and the LCDOH, including replacement of filter media, the addition of a third filter, clarifier updates, improvements to the clear well, upgrading instrumentation and controls, and replacement of aged equipment. The Village of Mt. Morris has not moved forward with planned upgrades.

Significant Deficiencies

- The Village of Mt. Morris Water Treatment Plant has been in service since 1990. The original filter media from when the plant was put online is still in use and has exceeded its useful design life. The Comprehensive Performance Evaluation (CPE) performed by the NYSDOH in 2005 identified the condition of the filter media as being poor. The surface wash system (surface sweeps) are inoperable on both filters. Continued reliance on media in poor condition may result in diminished water quality and exceedances in performance standards.
- Subpart 5-1, Appendix 5-A, *Recommended Standards for Water Works* states that where two filters are provided, each shall be capable of meeting the water treatment plant design capacity. The existing filtration system does not meet the recommended standard.

As stated above, the Village of Mt. Morris has not moved forward with approved plans for upgrades to the Village water treatment plant. The Village recently became part of an Intermunicipal Agreement with the Livingston County Water and Sewer Authority (LCWSA). The agreement expresses intent to enter a Water Supply Agreement with the LCWSA to purchase wholesale water treated at the City of Rochester's Hemlock Water Filtration Plant and pumped to the Village distribution system. If moving forward with the agreement, the Village may wish to consider redirecting grant funding for the decommission of the existing lake intake, raw water transmission main, the water treatment plant, or other associated activities.

If the Intermunicipal Agreement with LCWSA does not result in an imminent plan for an approved alternative water source, priority **must** be given to replace filter media, addition of a third filter, upgrades to instrumentation and controls, and replacement of aging equipment. **The public water system must exercise due care and diligence in the operation and maintenance of the facility, their appurtenances, and/or the distribution system to ensure continued compliance.**

Requirements

- The bulk chlorine fill line at the treatment plant is not adequately supported. Support the fill line to prevent damage during filling and add grouting material to seal the hole in the brick wall. A containment catch basin must be used when refilling the bulk chlorine tank.
- When the Village began using sodium permanganate pretreatment, powdered orthophosphate was replaced with liquid pre-mixed solution in 55-gallon drums. Storage and the injection pump were moved upstairs due to difficulty transporting drums to the basement of the treatment plant. Secondary containment in the form of a catch basin must be provided for water treatment chemicals, including liquid orthophosphate.

Recommendations and Comments

- A mapping program was purchased in 2018 but has not been implemented. The LCDOH encourages the Village of Mt. Morris to move forward with implementing this program for locating vital infrastructure. The program may also prove beneficial for EPA Lead and Copper Rule Revisions (LCRR) that went into effect on December 31, 2021. The LCRR require all community water systems to submit a lead service line inventory (LSLI) by October 14, 2024. The NYSDOH, Bureau of Water Supply Protection, has released a LSLI template for water system operators and administrators to use. The Village of Mt. Morris has well documented tap card information for the locations of service connections. **Begin the process of documenting and recording service line materials on the reporting template.**
- LCDOH recommends continuing a coordinated a flushing schedule with the Town of Mt. Morris, the Village of Leicester, and the Town of Leicester. The entire distribution system should be flushed thoroughly at least twice per year. Dead end lines should be flushed more frequently and before seasonal production begins at the canning factory. An adequate flushing program can protect the water system from bacterial growth, may help to reduce disinfection byproducts, and avoid turbid water complaints.
- Currently there are no regulatory standards for HABs in drinking water. However, the New York State Department of Health (NYSDOH) refers to the Environmental Protection Agency 2015 drinking water health advisories pertaining to HABs. The NYSDOH is in the process of developing standards to protect our public water supplies from harmful toxins that may enter the water supply. The NYSDOH will consider water supply monitoring for microcystin toxins if some combination of the following conditions exist:
    - ❖ Suspected illness association
    - ❖ Intake is near or in a bloom
    - ❖ Source water significantly changes as a result of a bloom
    - ❖ Plant is having treatment difficulties as a result of a bloom including a change in turbidity
    - ❖ Data becomes available (DEC, other) that shows the source water contains toxins
    - ❖ Recent algaecide treatment although we do not recommend this if the bloom is near the intake

  Updates to the NYSDOH plans to develop standards for HAB will be made available as the plan is developed. The Village of Mt. Morris completed a detailed HAB Response Plan in 2022. Please continue to report any changes in water quality that may be associated with harmful algal blooms.

Enclosed is a copy of the Water System Field Compliance Inspection Summary Report. Please review this form and take note of the comments above. You may contact this office at (585) 243-7280 if you have any questions or concerns.

Sincerely,

Heath M. Clester
Public Health Sanitarian

cc: Chris Young, Village of Mt. Morris
April Kellerhouse, NYSDOH
Wade Silkworth, NYSDOH

Enc.

Livingston County Department of Health
(585) 243-7280
2 Livingston County Campus
Mt. Morris, NY 14510-
(585) 243-7280

Water System Field Compliance Inspection Summary Report

Operation:	Mount Morris Village PWS (ID: 280470)
Facility Name:	Mount Morris Village PWS
Facility Code:	25-5023
Facility Address:	null
NYS Public Water Supply (PWS) ID:	NY2501023

Sanitary Survey

Date:	November 1, 2022 09:00 AM
Inspector:	Heath Clester (hclester@co.livingston.ny.us)
Responsible Person:	Email, Chris Young
Additional Email(s):	chris.young@mountmorrisny.us

Summary

Number of Critical Violations Found:	0
Number of Other Violations Found:	0
Number of Deficiencies Found:	3

Reinspection is not Required

Each item found in violation is reported below along with the code requirement.

NO CRITICAL VIOLATIONS REPORTED

NO NON-CRITICAL VIOLATIONS REPORTED

DEFICIENCIES FOUND

TREATMENT

Level of deficiency: Significant

Inspector Findings: No progress has been made to address the poor condition of existing filter media, addition of a third filter, and overdue upgrades and replacement of equipment and instrumentation at the water treatment plant. Existing filter media is original from when the plant was put online (1990) and has exceeded its useful design life. The surface wash system is inoperable on both existing filters. Filter to waste capability is only functioning on one filter due to a seized valve that has not been replaced. Existing filter capacity does not meet the recommended standard that each filter be capable of meeting the maximum daily demand. The water treatment plant is overdue for these planned upgrades, in addition to clarifier updates and improvements to the clear well.

DISTRIBUTION SYSTEM

Level of deficiency: Recommendation

Inspector Findings: Lead and Copper Rule Revisions (LCRR) require community water systems to document and submit a Lead Service Line Inventory (LSLI) by October 2024. Water operators maintain well documented Tap Card information for each service connection. Begin the process of determining and documenting service line materials and inventories to comply with the LCRR.

MANAGEMENT & OPERATIONS

Level of deficiency: Recommendation

Inspector Findings: The LCDOH recommends implementing an available mapping program to locate and document vital infrastructure in the distribution system.

Water System Information

Source Type: **Surface,**

Type of Disinfection: **Chlorine (Cl),**

Disinfection Waiver Issued? No

4-Log Treatment Installed? Yes

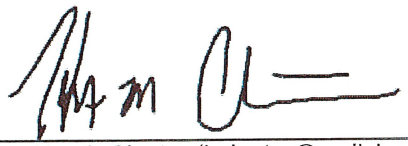
Coliform Surveillance Sample Collected? **No**

Chlorine Residual Reading(s):

1) **Cl Residual:** 0.88 **Time:** 11:55 A **Location:** Entry point

Water System Notes: Surveillance sample collected 6/14/2022. Results acceptable.

Comments: Emergency Response Plan Change form and Cross Connection Compliance form we completed at submitted at the sanitary survey. Please take note of the comments above and refer to pending sanitary survey report letter for more requirements, recommendations, and details.



Inspector: Heath Clester (hclester@co.livingston.ny.us)

LIVINGSTON COUNTY
DEPARTMENT OF HEALTH
2 Murray Hill Drive
Mt. Morris, New York 14510-1691

Jennifer Rodriguez, M.S.
Public Health Director

Phone (585) 243-7270
Fax (585) 243-7287
dept-of-health@co.livingston.ny.us
www.livingstoncounty.us/doh.htm

Mark Grove, P.E., Director
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(585) 243-7280/(585) 335-1717 Fax: (585) 243-6793
Dog Control: (585) 243-6740/(585) 335-1720/ Fax: (585) 243-6751

"COMMITMENT TO LEADING THE COMMUNITY FOR A HEALTHIER AND SAFER TOMORROW"

January 3, 2024

Mayor Joel Mike
Village of Mount Morris
117 Main Street
Mount Morris, New York 14510

Subject: Village of Mount Morris Public Water System Sanitary Survey 2023 Report
Public Water Supply Number: NY2501023
Population: 3500

Dear Mayor Mike:

In order to determine that the Village of Mount Morris Public Water Supply System is operating in compliance with the requirements of New York State Sanitary Code Part 5, Subpart 5-1, *Public Water Systems*, a facility sanitary survey was conducted on November 15, 2023. The Livingston County Department of Health (LCDOH) performed this review with the assistance of Water Operators Chris Young, Kelly Rounsville, and operator trainee Andrew Consler. The survey of the water supply system is conducted to ensure that there are no existing public health hazard violations at the time of inspection. Mr. Young and his fellow operators do a fine job operating the system and preparing the required reports.

Based on this visit and a review of records, the following comments are offered:

Water System Overview

The Village of Mount Morris water source is Silver Lake in Wyoming County. Sodium permanganate is added to the raw water at the intake for pretreatment of organic material and to discourage zebra mussels. Water normally flows by gravity approximately 13 miles from a pump station building at Lakeside Drive in the Town of Perry near the Silver Lake outlet to the 5 million gallon raw water reservoir at the water treatment plant (WTP) on Sand Hill Road in the Town of Mount Morris. When additional raw water flow is needed to recharge the reservoir, primarily during summer months, two pumps in the pump station at Silver Lake can pump additional volume to the reservoir. Raw water from the reservoir is injected with a coagulant (poly aluminum chloride) and passes through two outdoor in-ground clarifiers before entering the treatment building. Water is filtered through two mixed media filters consisting of anthracite, sand, and garnet. After filtration, liquid phosphate solution is added for corrosion control and sodium hypochlorite is added for disinfection. Treated water passes through the 1 million gallon clear well before entering the distribution system.

Observations

- Chris Young is designated Water Operator in Responsible Charge. Mr. Young, Thaddeus Gilbride, and Kelly Rounsville maintain Grade IIA (treatment plant with facilities for filtration), Grade C (treatment and/or distribution), and Grade D (distribution) Water Operator Licenses. Andrew Consler is a water operator trainee and plans to earn Grades IIA, C, & D certification. The Village of Mt Morris meets the NYSDOH requirement for a minimum of two Grade IIA operators and at least one Grade D distribution operator. The LCDOH highly recommends having multiple trained water operators.

- The Village of Mount Morris began using sodium permanganate for pretreatment of raw water at the Silver Lake intake in July, 2021. As an alternate to pre-chlorination of raw water, permanganate is used to oxidize organic material and does not form DBP. Sodium permanganate pretreatment is primarily used seasonally from April through the middle of December.
- The Silver Lake intake, raw water reservoir, and clear well are inspected twice per year by Scuba Services. The intake is cleaned during inspection. A fountain and two air bubblers in the reservoir keep water moving and help to minimize algae growth. Water operators report the condition of the intake, reservoir and clear well are satisfactory. Please forward copies of recent inspection reports to the LCDOH for review.
- The flow meter at the Silver Lake intake pump house was replaced in 2021 to provide accurate flow rates from the intake to the treatment facility. Metered raw water loss between the pump house and treatment plant are minimal, approximately 4% when pumps are off (during gravity feed) and slightly higher during pumping due to friction.
- A leak on the raw water transmission main was identified and repaired at County Line Road. The leak was determined to be at an old unapproved tap.
- The condition of the raw water pumps at the WTP is unknown and may no longer be functional. The pumps have not been used in recent years and would be required if the level of the raw water reservoir fell below 15'.
- Clarifiers are cleaned annually by taking one offline at a time and diverting water to the other clarifier through the splitter box. Once drained, each clarifier is manually washed before returning to service.
- Both filters are backwashed manually, typically on Mondays, Wednesdays, and Fridays. Surface sweeps are inoperable in both filters and filter to waste capability is functioning in only one filter. Filter to waste function in the second filter has not been restored because the valve is seized. Operators have the ability to adjust filter run times and backwash more or less frequently to account for increases or decreases in production demands.
- The #2 backwash pump motor was replaced in August, 2023 and a new variable frequency drive (VFD) was added for the motor.
- The generator at the WTP is serviced annually by Penn Power. The generator automatically runs every Monday for twenty minutes and is tested under load every six months so it is readily available for emergency use during an extended power outage. Full load testing of the generator would only be required during filter backwashing.
- The Village of Mount Morris has a contract with HACH to calibrate monitoring equipment at the treatment facility quarterly. Benchtop equipment is calibrated monthly by water operators and procedures are documented in the Village's standard operating procedures (SOP) manual.
- The entire distribution system is thoroughly flushed twice per year and dead end lines are flushed more frequently. Automatic hydrant flushing units are installed on North Main Street near Riverside Restaurant and in the Town of Mount Morris on Route 408. Flushing is coordinated between the Village and consecutive systems.
- During August 2023, the Village and LCDOH received isolated complaints regarding turbid water in the distribution system. It was determined that the Town of Mount Morris had been aggressively flushing hydrants on Route 408 which contributed to turbidity complaints.
- Repairs have been made to the bulk chlorine fill line at the treatment plant. The fill line is supported to prevent damage during filling and grout was added to seal the hole in the brick wall.
- Water treatment chemicals at the WTP are injected at fixed rates and manually adjusted based on finished water production flow rather than paced to flow.
- The water system Emergency Response Plan (ERP) and Vulnerability Assessment (VA) were approved by the NYSDOH, Bureau of Water Supply Protection in April, 2021. The next ERP/VA submittal is due February 1, 2026 and must be kept up to date. The *Emergency Response Plan Change Form* provided at the sanitary was completed and returned to the LCDOH.
- As stated in the NYS Sanitary Code, section 5-1.31, cross-connection control is the responsibility of the water supplier and the water customer. Our records indicate that backflow prevention devices in the Village of Mount Morris Public Water System are in compliance for annual test and maintenance. The required *Cross Connection Compliance Form* provided to operators was completed and returned to the LCDOH.
- A grant was awarded for various upgrades to the water treatment plant. Engineer plans have been reviewed and approved by the New York State Department of Health (NYSDOH) and the LCDOH, including replacement of filter media, the addition of a third filter, clarifier updates, improvements to the clear well, upgrading instrumentation and controls, and replacement of aged equipment. The Village of Mount Morris has not moved forward with planned upgrades.

Critical Public Health Hazard Violation: Failure to exercise due care and diligence in the operation and maintenance of the water treatment plant.

- The Village of Mount Morris has not moved forward with approved plans for upgrades to the water treatment plant that would ensure reliable water treatment, particularly during periods of high demands. The Village of Mount Morris must develop a compliance schedule to address replacement of filter media, upgrades to instrumentation and controls, and replacement of aging equipment. **A meeting with the LCDOH must be scheduled to review these significant deficiencies by <u>May 31, 2024</u>.**
    - The Village WTP has been in service since 1990. The original filter media from when the plant was put online is still in use and has exceeded its useful design life. The Comprehensive Performance Evaluation (CPE) performed by the NYSDOH in 2005 identified the condition of the filter media as being poor. Continued reliance on media in poor condition may result in diminished water quality and exceedances in performance standards.
    - Subpart 5-1, Appendix 5-A, *Recommended Standards for Water Works* states that where only two filters are provided, each shall be capable of meeting the water treatment plant design capacity (normally the projected maximum daily demand) at the approved filtration rate.
    - The surface wash systems are inoperable on both filters. *Recommended Standards for Water Works* states that surface or subsurface wash facilities are required except for filters used exclusively for iron, radionuclides, arsenic, or manganese removal. Air scouring can be considered in place of surface wash.
    - Filter to waste function is inoperable in one of the filters and may contribute to diminished finished water quality following a filter backwash cycle in that filter.
    - Planned upgrades to the finished water clear well include adding mixing curtains (baffles) to the clear well to improve water quality in the finished water supply.
    - The reservoir was last drained and cleaned in 2010. The procedure requires bypassing the reservoir and running pumps at the intake continuously for a total of 49 days while the reservoir is drained, cleaned, and refilled. Bypassing the reservoir would be problematic for filter operation in their current condition without the benefit of natural pre-sedimentation in the reservoir.

Recommendations and Comments

- Please forward copies of recent inspections of the raw water intake, raw water reservoir, and finished water clear well. As part of the Village's long term infrastructure improvement planning, the condition of the raw water transmission main from the Silver Lake intake to the reservoir at the WTP should be determined. The transmission main represents a single point of failure that would interrupt service for the entire system.
- Determine the condition and serviceability of the raw water pumps at the WTP and make repairs or replacement if warranted. The pumps have not been used in recent years and would be required if the level of the raw water reservoir fell below 15'.
- Public water facility security is always a concern. Please continue to ensure that all plant entrances, gates, valve vaults, tank hatches, and other areas remain locked at all times except when access is necessary. Consider installing security cameras and entry alarms at the WTP to discourage unauthorized entry and to alert operators when the facility is not staffed.
- A mapping program was purchased in 2018 but has not been implemented. The LCDOH encourages the Village of Mount Morris to move forward with implementing this program for locating vital infrastructure. The program may also prove beneficial for EPA Lead and Copper Rule Revisions (LCRR) that went into effect on December 31, 2021. The LCRR require all community water systems to submit a lead service line inventory (LSLI) by October 14, 2024. The NYSDOH, Bureau of Water Supply Protection, has released a LSLI template for water system operators and administrators to use. The Village of Mount Morris has well documented tap card information for the locations of service connections. Continue the process of documenting and recording service line materials on the reporting template.
- A certified water operator must be available or able to be contacted within one hour during plant operation to initiate appropriate actions and to address emergencies in the water system. Recommended Standards for Water Works states that operational oversight and full-time operators are necessary, except where the reviewing authority has approved an automation plan for automated/unattended operation of a surface water treatment plant. An operator must be available at the WTP during peak hours to maintain the plant and make adjustments as needed. An on-site operator can identify and correct problems in the treatment process if they occur.

- LCDOH recommends continuing a coordinated a flushing schedule with the Town of Mount Morris, the Village of Leicester. The entire distribution system should be flushed thoroughly at least twice per year. Dead end lines should be flushed more frequently and before seasonal production begins at the canning factory. An adequate flushing program can protect the water system from bacterial growth, may help to reduce disinfection byproducts, and avoid turbid water complaints.
- Filter media in a WTP is typically replaced every 10-15 years depending on the type of media and raw water quality and characteristics. The current filter media has been in place for over 30 years. Consider a proactive approach when planning and budgeting for routine replacement of filter media to maintain optimal finished water quality.
- Currently there are no regulatory standards for HABs in drinking water. However, the New York State Department of Health (NYSDOH) refers to the Environmental Protection Agency 2015 drinking water health advisories pertaining to HABs. The NYSDOH is in the process of developing standards to protect our public water supplies from harmful toxins that may enter the water supply. The NYSDOH will consider water supply monitoring for microcystin toxins if some combination of the following conditions exist:
    - ❖ Suspected illness association
    - ❖ Intake is near or in a bloom
    - ❖ Source water significantly changes as a result of a bloom
    - ❖ Plant is having treatment difficulties as a result of a bloom including a change in turbidity
    - ❖ Data becomes available (DEC, other) that shows the source water contains toxins
    - ❖ Recent algaecide treatment although we do not recommend this if the bloom is near the intake

  Updates to the NYSDOH plans to develop standards for HAB will be made available as the plan is developed. The Village of Mount Morris coordinates monitoring source water with the Village of Perry and the Wyoming County Health Department and completed a detailed HAB Response Plan in 2022. Please continue to report any changes in water quality that may be associated with harmful algal blooms.

Enclosed is a copy of the Water System Field Compliance Inspection Summary Report. Please review this form and take note of the comments above. You may contact this office at (585) 243-7280 if you have any questions or concerns.

Sincerely,

Heath M. Clester
Public Health Sanitarian

cc: Chris Young, Village of Mount Morris
April Kellerhouse, NYSDOH
Wade Silkworth, NYSDOH

Enc.