

NORTH CHAUTAUQUA COUNTY REGIONAL WATER SYSTEM MAP AND PLAN—AMENDMENT #2



Prepared By:

CPL

**1279 NORTH MAIN STREET
JAMESTOWN, NY 14701**

JANUARY 2019

Summary

This amendment to the “*North Chautauqua County Regional Water Supply System Implementation Plan – Amended July 2017*” replaces Amendment No. 1 and shall be known as Amendment No. 2 dated January 2019.

7.0 Proposed Project

7.1 Proposed Project Map

Details of the proposed project are shown in the Proposed Project map in Appendix A. The proposed North Chautauqua County Regional Water District map and description are included in Appendix R.

7.2 Project Description

The following provides a summary of the scope of the capital project broken down by municipality:

7.2.1 Village of Brocton

The Village of Brocton currently produces their own water and supplies water to a portion of the Town of Portland. The Regional Water Supply Program will result in the abandonment of the Village water treatment plant and water will be supplied by the District. The work includes the installation of a new pump station, replacement of the supply main from the existing water treatment plant to the Village, replacement of water main along NYS Route 20 to accommodate emergency supply from the Village of Fredonia, and a new water storage tank.

West Side Tank & Pump Station

The pump station will be installed along NYS Route 5 near Park View Lane and will pump water from the City of Dunkirk hydraulic grade to the Village of Brocton hydraulic grade. The station will include two (2) pumps sized to meet the maximum daily demand of the areas currently served by the Village of Brocton. The station will also include a chlorine feed system and generator.

The Village has two (2) buried concrete treated water storage tanks at the water treatment plant that are in need of repair or replacement due to their age and condition. These tanks will be replaced with a new 500,000 gallon water storage tank. The tank will provide storage for the areas currently served by the Village and will also be a redundant source of supply for the other areas in the regional water system.

The Village will finance and “own” the **West Side Tank & Pump Station** through a financing package with the NYSEFC. The Village will have an IMA with the North Chautauqua County Water District that will specify that the District will be responsible for operation and maintenance and for making the annual debt

payments to the Village for the full amount and the District will assume ownership of the improvements after the term of the loan.

Village of Brocton Transmission

The supply main from the existing water treatment plant to the Village will be replaced with approximately 10,300 linear feet of new water main to provide for current and future demands. The existing water main is approximately 100 years old and portions are exposed in creek beds. Currently, the main is the only supply to the water storage for the Village and replacement is required to ensure system reliability.

The Village will finance and “own” the **Village of Brocton Transmission** through a financing package with the NYSEFC. The Village will have an IMA with the North Chautauqua County Water District that will specify that the District will be responsible for operation and maintenance and for making the annual debt payments to the Village for the full amount and the District will assume ownership of the improvements after the term of the loan.

West Side Fredonia Interconnect

The existing 6-inch water main that runs along NYS Route 20 from Old Mill Street to the Portland town line would be replaced with 1,500 linear feet of 12-inch main.

Note, this work is part of the **West Side Fredonia Interconnect**. Refer to Section 7.2.3 for a description of the other portion of the **West Side Fredonia Interconnect**. This portion of the project will only proceed if additional funding is obtained by the Village of Brocton from DOCCS in the amount of \$1,600,000.

7.2.2 Village of Fredonia

The Village of Fredonia produces their own water and supplies water to the Village and a portion of the Town of Pomfret. The system would be maintained under the Regional Water Supply Program.

The original plan under Phase 1 included the replacement of existing water main along Willowbrook Avenue and Central Avenue and a new booster pump station. However, these components will be moved to a future phase should the Village wish to participate in the regional water project.

7.2.3 Town of Portland

The Town of Portland currently buys water from the Village of Brocton and the City of Dunkirk. As a result of the proposed project, the Town will be supplied by the District. The work includes the replacement of up to 9,000 linear feet of existing water main along

NYS Route 5, the replacement of water main along NYS Route 20 to accommodate emergency supply from the Village of Fredonia, demolition of an old water storage tank, and installation of water main along NYS Route 5 to accommodate an interconnection with the Village of Westfield supply.

West Side Transmission Main

The existing water main along NYS Route 5 is composed of aging 8-inch cast iron and asbestos cement main with limited fire flow. The main will be replaced with a new water main sized to supply the areas currently serviced by the Village of Brocton.

Note, this work is part of the **West Side Transmission Main**, referring to Sections 7.2.4 and 7.2.5 for the rest of the transmission main. Also, the Village of Brocton will finance and “own” the **West Side Transmission Main** through a financing package with the NYSEFC. The Village will have an IMA with the North Chautauqua County Water District that will specify that the District will be responsible for operation and maintenance and for making the annual debt payments to the Village for the full amount and the District will assume ownership of the improvements after the term of the loan.

West Side Fredonia Interconnect

The existing 6-inch water main that runs along NYS Route 20 from the Brocton village line to the Pomfret town line would be replaced with 6,500 linear feet of 12-inch main.

Note, this work is part of the **West Side Fredonia Interconnect**. Refer to Section 7.2.1 for a description of the other portion of the **West Side Fredonia Interconnect**. This portion of the project will only proceed if additional funding is obtained by the Village of Brocton from DOCCS in the amount of \$1,600,000.

Westfield Interconnect

Approximately 1,000 linear feet of water main will be installed along NYS Route 5 to accommodate a future interconnection with the Village of Westfield supply.

The **Westfield Interconnect** will only proceed if additional funding is obtained by the Village of Brocton from DOCCS in the amount of \$1,600,000.

Tank Demolition

The existing water storage tank located on NYS Route 5 is no longer required and can be demolished.

Note, this work is part of the **Tank Demolition**. Refer to Section 7.2.6 for a description of the other portion of the **Tank Demolition**. This portion of the project will only proceed if additional funding is obtained by the Village of Brocton from DOCCS in the amount of \$1,600,000.

7.2.4 Town of Pomfret

The Town of Pomfret currently buys water from the Village of Fredonia and the City of Dunkirk. As a result of the proposed project, the Town will buy water from the District. The work includes the replacement of existing water main along NYS Route 5.

West Side Transmission Main

The existing water main along NYS Route 5 is composed of aging 8-inch cast iron and asbestos cement main with limited fire flow, and will be replaced with approximately 6,100 linear feet of new water main to appropriately provide for current and future demands. The proposed size will be based on the continued supply of the Town of Pomfret, portions of the Town of Portland, and the areas currently serviced by the Village of Brocton.

Note, this work is part of the **West Side Transmission Main**, referring to Sections 7.2.3 and 7.2.5 for the rest of the transmission main. Also, the Village of Brocton will finance and “own” the **West Side Transmission Main** through a financing package with the NYSEFC. The Village will have an IMA with the North Chautauqua County Water District that will specify that the District will be responsible for operation and maintenance and for making the annual debt payments to the Village for the full amount and the District will assume ownership of the improvements after the term of the loan.

7.2.5 Town of Dunkirk

The Town of Dunkirk currently buys water from the City of Dunkirk. As a result of the proposed project, the Town will be supplied by the District. The work includes the replacement of the existing water main along NYS Route 5, the installation of a new water main along Willow Road connecting to the 20-inch supply main in the City of Dunkirk, upsizing water main along Roberts Road, pump station upgrades, and additional water main along Urban Road.

West Side Transmission Main

The existing water main along NYS Route 5 is composed of aging 8-inch cast iron and asbestos cement main with limited fire flow. The main from the Town of Pomfret to Willow Road will be replaced with approximately 8,000 linear feet of new water main sized to appropriately provide for current and future demands.

The main east of Willow Road and along Willow Road will be replaced with approximately 14,500 linear feet of new water main to appropriately provide for current and future demands. The proposed sizes will be based on the continued supply of the Town of Dunkirk, Town of Pomfret, portions of the Town of Portland, and the areas currently serviced by the Village of Brocton.

Note, this work is part of the **West Side Transmission Main**, referring to Sections 7.2.3 and 7.2.4 for the rest of the transmission main. Also, the Village of Brocton will finance and “own” the **West Side Transmission Main** through a financing package with the NYSEFC. The Village will have an IMA with the North Chautauqua County Water District that will specify that the District will be responsible for operation and maintenance and for making the annual debt payments to the Village for the full amount and the District will assume ownership of the improvements after the term of the loan.

East Side Fredonia Interconnect

In order to supply water to the proposed water storage tank in the Town of Sheridan, approximately 6,000 linear feet of 12-inch main will be installed from the pump station on Middle Road to Roberts Road.

Note, this work is part of the **East Side Fredonia Interconnect**. Refer to Section 7.2.6 for a description of the other portion of the **East Side Fredonia Interconnect**.

East Side Tank & Pump Station

In order to supply water to the proposed water storage tank in the Town of Sheridan upgrades will be required to the existing pump station located on Middle Road.

Note, this work is part of the **East Side Tank & Pump Station**. Refer to Section 7.2.6 for a description of the other portion of the **East Side Tank & Pump Station**.

Dunkirk Contribution

The **Dunkirk Contribution** is related to the North Chautauqua County Regional Water District paying for the up-sizing of water main along Robert Road in order to accommodate flows to the Town of Sheridan and the East Side Fredonia Interconnect.

7.2.6 Town of Sheridan

Improvements in the Town of Sheridan will include new water main along NYS Route 5, NYS Route 20, Roberts Road, and Miller Road. In addition, a water storage tank will be removed on Progress Drive and a new 500,000 gallon tank constructed on Miller Road.

East Side Transmission Main

The work includes the installation of approximately 3,200 linear feet of new water main along NYS Route 5 from the Town of Dunkirk to Harrington Road sized to appropriately provide for current and future demands.

The project will also include the installation of approximately 12,000 linear feet of new water main along NYS Route 5 from the Eagle Bay to the Village of Silver Creek sized to appropriately provide for current and future demands.

Note, this work is known as the **East Side Transmission Main**.

East Side Fredonia Interconnect

In order to supply water to the proposed water storage tank in the Town of Sheridan and accommodate the interconnection with the Village of Fredonia, approximately 11,500 linear feet of 12-inch main will be installed along Roberts Road, Miller Road, and NYS Route 20.

Note, this work is part of the **East Side Fredonia Interconnect**. Refer to Section 7.2.5 for a description of the other portion of the **East Side Fredonia Interconnect**.

Tank Demolition

The existing water storage tank located on Progress Drive is no longer required and can be demolished.

Note, this work is part of the **Tank Demolition**. Refer to Section 7.2.3 for a description of the other portion of the **Tank Demolition**. This portion of the project will only proceed if additional funding is obtained by the Village of Brocton from DOCCS in the amount of \$1,600,000.

East Side Tank & Pump Station

A 500,000 gallon water storage tank will be constructed on Miller Road to supply water to portions of the Towns of Sheridan and Dunkirk, along with the Village of Fredonia as an emergency supply.

Note, this work is part of the **East Side Tank & Pump Station**. Refer to Section 7.2.5 for a description of the other portion of the **East Side Tank & Pump Station**.

7.2.7 Village of Silver Creek

The Village of Silver Creek currently buys water from the Erie County Water Authority (ECWA).

7.2.8 Town of Hanover

The Town of Hanover currently buys water from the Erie County Water Authority (ECWA).

7.2.9 City of Dunkirk

The City currently uses Lake Erie as the sole source of water for its system. The entire population of the City (as well as areas in the Towns of Dunkirk, Sheridan, Portland, and Pomfret) are served by the Dunkirk system. The City of Dunkirk is in the midst of significant improvements and will maintain its current service and system.

Costs will be associated with the installation of the **Master Meters** to account for all water leaving the City to the District, estimated to be \$450,000.

7.3 Project Cost

Table 7.3.1 below identifies the estimated costs associated with the proposed project construction. This includes capital costs for upgrades, improvements, and the installation of new transmission lines between communities to develop the regional system.

Table 7.3.1 – Proposed Project Capital Costs

Description	Total Estimated Cost
West Side Tank & Pump Station	\$1,600,000
West Side Transmission Main	\$5,800,000
Dunkirk Contribution	\$271,000
Village of Brocton Transmission	\$1,964,000
East Side Transmission Main	\$1,575,000
Master Meters	\$450,000
East Side Fredonia Interconnect	\$1,700,000
East Side Tank & Pump Station	\$1,300,000
Westfield Interconnect ¹	\$525,000
West Side Fredonia Interconnect ¹	\$800,000
Tank Demolition ¹	\$125,000
Soft Costs & Contingencies ²	\$3,289,500
TOTAL COSTS	\$19,399,500

¹ Will be completed based on availability of additional \$1,600,000 from DOCCS.

² \$125,000 related to availability of additional \$1,600,000 from DOCCS.

Table 7.3.2 summarizes the total project construction capital costs, anticipated grants, bonding and the expected first year payment for the District.

Table 7.3.2 – Proposed Project Financial Summary

Total Capital Cost	Grants & Contributions¹	Net Bond²	Annual District Payment
\$19,399,500	\$9,660,000	\$9,739,500	\$395,050

¹ Assumes an additional contribution through the Village of Brocton from the DOCCS of \$1,600,000

² Financing will include 0% interest, subsidized, and market rate for certain portions of the project

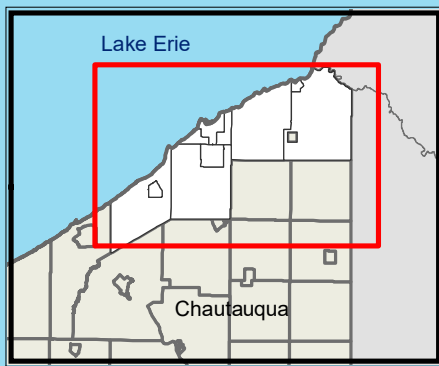
As a water supply District, no assessments will be made against properties or user charges to consumers of water. All income for the District will be from individual municipalities by agreement. Therefore, the cost to the typical property in the District is \$0.

7.4 Hydraulic Analysis

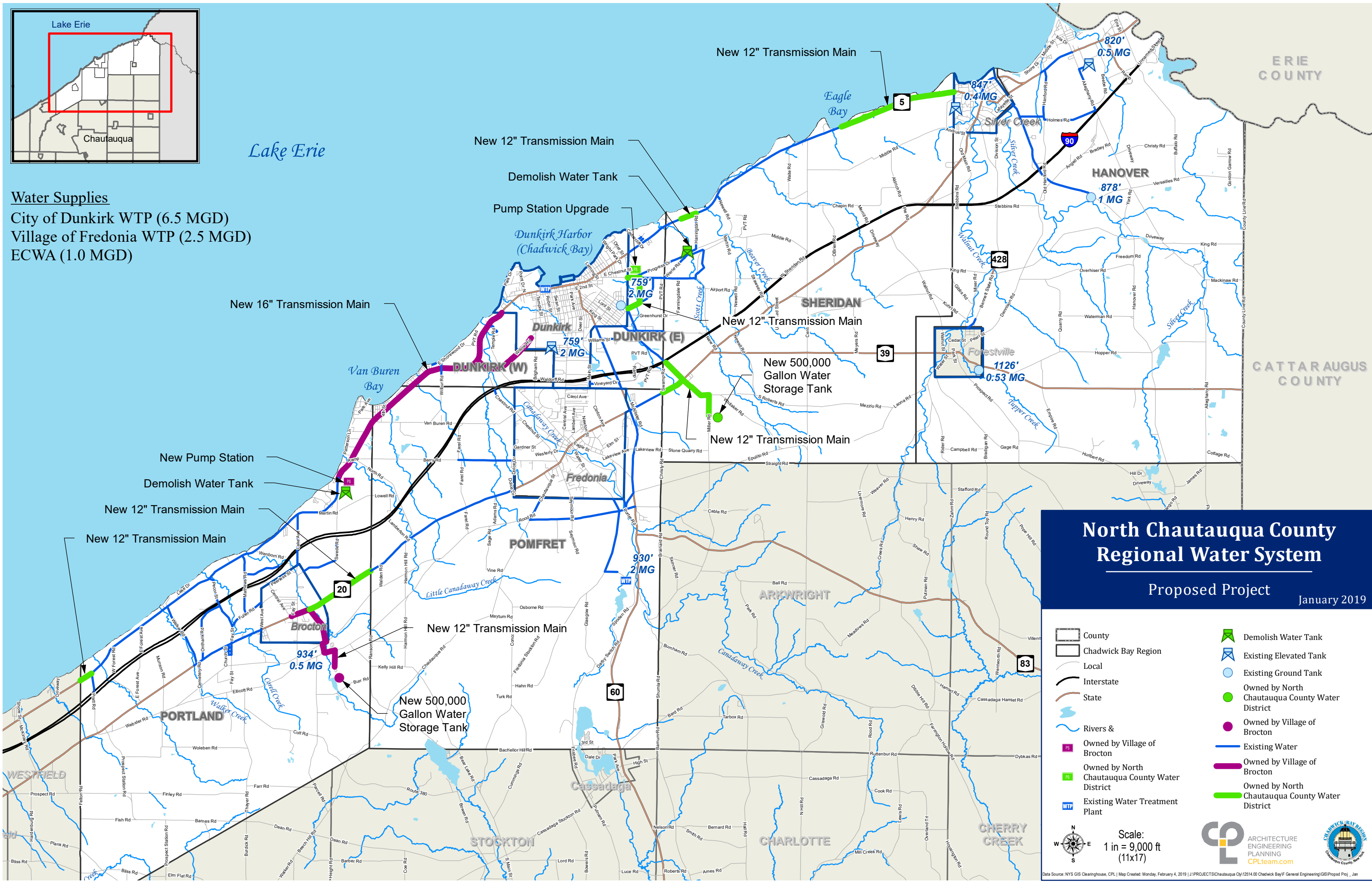
An engineering report, including a detailed hydraulic analysis, will be completed as part of the design engineering tasks for the proposed project.

7.5 Implementation

It is recommended that the proposed project be implemented as a phased project as described in previous sections of this report. The Region is committed to providing safe and reliable potable water supply and fire protection to its residents. Phase I of this project will be the first step in achieving that goal.



Water Supplies
 City of Dunkirk WTP (6.5 MGD)
 Village of Fredonia WTP (2.5 MGD)
 ECWA (1.0 MGD)



North Chautauqua County Regional Water System

Proposed Project January 2019

<ul style="list-style-type: none"> County Chadwick Bay Region Local Interstate State Rivers & Owned by Village of Brocton Owned by North Chautauqua County Water District Existing Water Treatment Plant 	<ul style="list-style-type: none"> Demolish Water Tank Existing Elevated Tank Existing Ground Tank Owned by North Chautauqua County Water District Owned by Village of Brocton Existing Water Owned by Village of Brocton Owned by North Chautauqua County Water District
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Scale:
1 in = 9,000 ft
(11x17)

Data Source: NYS GIS Clearinghouse, CPL | Map Created: Monday, February 4, 2019 | J:\PROJECTS\Chautauqua Co\12514.00 Chadwick Bay\F General Engineering\GIS\Propd Proj_1.jan