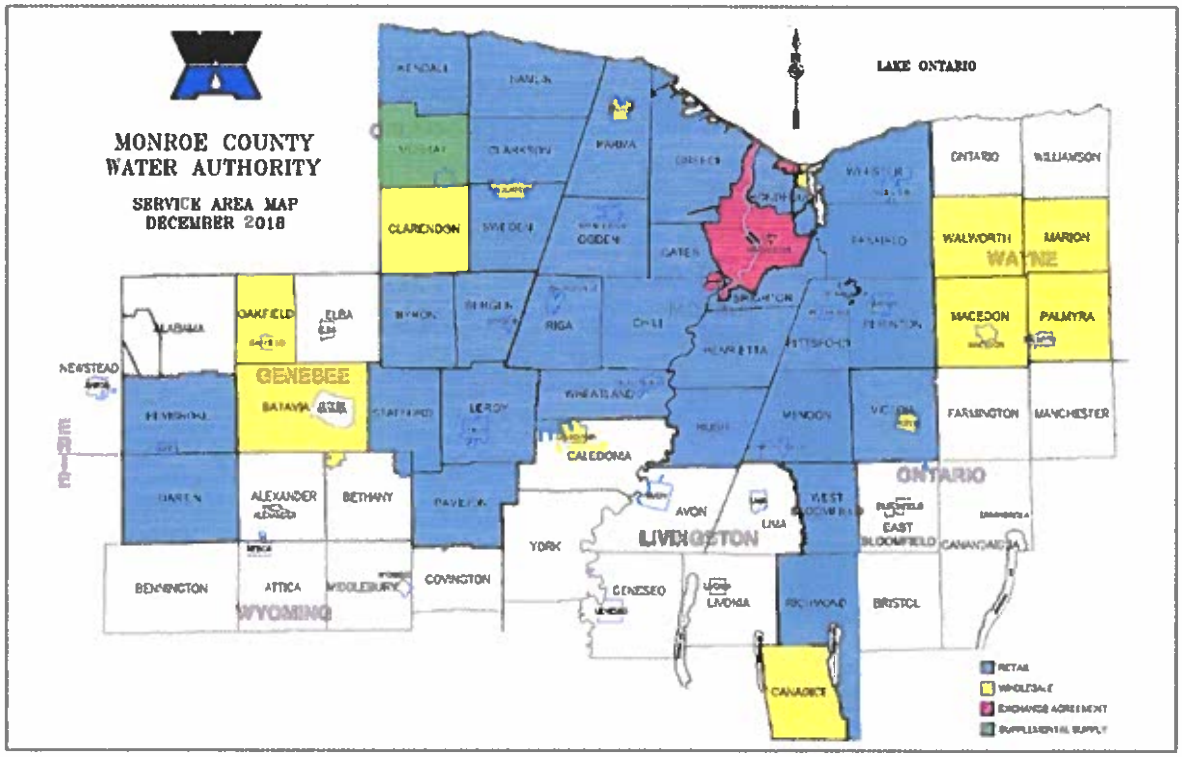
OPERATIONS OF THE MONROE COUNTY WATER AUTHORITY

BACKGROUND

The Monroe County Water Authority (the "Authority") services Monroe County and portions of each of the five surrounding counties. Our service area includes over 50 towns, villages, cities, and other water authorities. The Authority presently serves approximately 200,000 separate retail, wholesale, and other customer accounts. It also provides the City of Rochester with up to 26 million gallons per day (mgd) for distribution within its retail service area.



The Authority currently sets rates at levels sufficient to pay debt service on outstanding Authority obligations, to pay operating and maintenance expenses, and to make payments to the County under the existing lease and financing agreement between the Authority and the County.

WATER SUPPLY

The Authority's primary source of water is Lake Ontario. The water is treated at the Shoremont Water Treatment Plant (WTP) in the Town of Greece, and the 50 mgd Webster WTP in the Town of Webster. The Authority's other major source of water consists of water purchases from the City of Rochester pursuant to an existing exchange agreement. This water comes from Hemlock and Canadice Lakes in Livingston County south of Monroe County.

The Authority can also purchase water from the Town of Ontario, Wayne County; the City of Batavia, Genesee County; and the Erie County Water Authority. These sources are minor in relation to the overall water system and are for our convenience or pursuant to terms of agreements when the Authority became the provider of water.

The Authority provides water on a retail or wholesale basis. In retail areas the Authority supplies the water, maintains the distribution system, and bills the customer directly. In wholesale areas, a municipality or water district buys some or all of its water from the Authority, but maintains its own distribution and customer billing systems.

FACILITIES

The Shoremont and Webster Water Treatment Plants employ the direct filtration process using Lake Ontario as their source of supply. The main components of each plant are the raw water intake, pumping and transmission, chemical addition, rapid mixing, contact basins, filtration, residuals disposal, clearwell storage, and high lift pumping. The Authority also operates a small well supply to a plant in the Village of Corfu. With the exception of the Corfu plant, the entire water supply receives the same chemical process, coagulation, filtration, carbon absorption, and disinfection. The Corfu Water Plant uses carbon absorption, softening, and disinfection. Water is pumped from the treatment plants to storage facilities and customers in the water system service area through approximately 3,385 miles of transmission and distribution mains, ranging in diameter from 2-inch to 60-inch. The water system operates 43 pumping stations to provide the pressure to distribute water to storage facilities and customers. The system includes two reservoirs and 49 other storage facilities with an aggregate capacity of 140 million gallons. All service connections are metered, with the meters owned by the Authority.

As with most other water systems, our water usage also varies year to year depending on weather variations. Hot, dry summers tend to increase water usage, while colder and wetter summers tend to dampen or reduce water usage.

FINANCIAL HIGHLIGHTS

Water Authority Rates & Charges – The Authority sets its rates annually in concurrence with the adoption of its annual operating budget. The Authority is required by its Trust Indenture dated October 1, 1991 and Supplemental Indentures issued with and specific to each subsequent revenue bond issue (Trust Indentures) to set rates and fees sufficient to cover all its operating and capital expenses. The Authority raised rates in 2020 to achieve the projected revenues to cover total budgeted expenses.

Summary of Operating Revenues

	2020
Water Sales:	
Residential/Quarterly	$63,283,710
Large Commercial/Monthly	6,221,883
Water Districts/Wholesale	4,024,113
Total Water Sales	$73,529,706
Other Water and Operating Revenue	4,296,287
Total Operating Revenue	$77,825,993

OPERATING EXPENSES

The Authority's expenses (excluding depreciation and amortization) are budgeted and tracked functionally by operating department. The Authority is functionally divided into: Administration; Production/Transmission; Engineering; Facilities, Fleet & Operations; and Finance & Business Services.

The following is a breakdown of the Authority's functional expenses by operating department (excluding depreciation and amortization):

Functional Expenses

	2020
Administration	$4,048,684
Production/Transmission	14,161,400
Engineering	4,236,786
Facilities, Fleet & Operations	14,873,172
Finance & Business Services	8,448,903
Total Functional Expenses	$45,768,945

LONG-TERM DEBT ADMINISTRATION

The Authority has six water revenue bond series outstanding totaling $143,885,000 as of December 31, 2020.

CREDIT RATINGS

The Authority is the recipient of very favorable credit ratings from both Moody's and Standard & Poor's. The Authority has an Aa1 rating assigned to its revenue bonds by Moody's Investors Service and an AA+ rating by Standard & Poor's. The Authority's bond ratings were last reviewed by Moody's Investors Service and Standard & Poor's in March of 2020. The Authority issues revenue bonds subject to its master Trust Indenture dated October 1, 1991 and Supplemental Indentures issued with and specific to each subsequent revenue bond issue.

Monroe County Water Authority
2020 Water System Accomplishments / Projects

Below is a summary of improvements made to the Monroe County Water Authority (MCWA) water system in 2020. This list includes both completed and ongoing projects, but does not include all bids and procurements completed.

Water Mains

- ✓ Completed the design, bid, and substantially completed the construction of the Wolcott/Grenell Main Replacements project. This project included the replacement of 2,700 linear feet of 6-inch diameter water main on Wolcott Drive in the Town of Gates and 900 linear feet of 6-inch diameter water main on Grenell Drive in the Town of Chili.

- ✓ Completed the design, bid, and substantially completed the construction for the Manitou Beach Road Water Main Replacement Project. This project consisted of the replacement of approximately 7,700 linear feet of 8-inch water main and approximately 9,500 linear feet of 12-inch water main on Manitou Beach Road in the Town of Greece.

- ✓ Completed the construction of the East River Road Water Main Replacement project. This project consists of the replacement of approximately 10,500 linear feet of 12-inch water main on East River Road between Brooks Road and River Meadow Drive in the Town of Henrietta.

- ✓ Completed the construction of the Buckeye pipeline crossings that have impressed current cathodic protection systems. The 2020 portion of the project included the replacement of approximately 285 linear feet of 8-inch PVC water main on Brooks Road in the Town of Henrietta, approximately 950 linear feet of 16-inch PVC water main on Morgan Road in the Town of Chili, and approximately 680 linear feet of 8-inch water main on Transit Road in the Town of Stafford.

- ✓ Completed the construction of the Brace Road and County Road 41 Main Replacement project. This project consisted of the replacement of approximately 7,600 linear feet of 8-inch and 10-inch ductile iron water main and replacement of an existing Pressure Reducing Valve and Vault on Brace Road and County Road 41 in the Town of Victor.

- ✓ Completed the construction of the Ridge Road West Main Replacement project. This project included the replacement of approximately 7,000 linear feet of 8-inch and 12-inch ductile iron water main along Ridge Road West in the Town of Parma.

- ✓ Completed the design, permitting and constructed with a hybrid of staffing, materials, and equipment, the following water main replacement projects:

o Bayberry Drive	Town of Irondequoit	230 LF	6-inch
o Eaglehead Point	Town of Perinton	210 LF	6-inch
o Hollywood Crescent	Town of Brighton	380 LF	6-inch
o Lime Rock Lane	Town of Brighton	270 LF	6-inch
o Helendale Road	Town of Irondquoit	265 LF	6-inch
o VanVoorhis Road	Town of Irondequoit	360 LF	8-inch
o Log Cabin Circle	Town of Perinton	660 LF	6-inch
o Raymond Road	Town of Perinton	310 LF	6-inch
o Deming Street	Town of Greece	165 LF	6-inch
o Ontario County CR 41	Town of Victor	320 lf	12-inch

o Winton Road South	Town of Henrietta	2,170 LF	12-inch
o Smith Road & Mile Sq. Road	Town of Mendon	2,600 LF	12-inch
o Malden Street	Town of Greece	150 LF	6-inch
o North Lake Road	Town of Bergen	270 LF	6-inch
o Gateway Drive	Town of Perinton	185 LF	8-inch
o Edgemere Drive	Town of Greece	130 LF	6-inch
o Maiden Lane	Town of Greece	120 LF	12-inch
	Total	8,795 LF	

- ✓ Completed the construction of the Westfall Road Main Installation project. This project includes the installation of approximately 530 linear feet of 8-inch ductile iron water main on Westfall Road, between Sawgrass Drive and Metropolitan Drive, in the Town of Brighton.

- ✓ Substantially competed the design for the 2020 Roof Replacement project. This scope of this project has changed and will be bid and constructed in 2021. This project includes the replacement of the standing seam metal roof along the storefront of the Water Authority's East Side Operations Center. It will also include the replacement of the sign and some of the EIFS material between the roof and the parapet.

- ✓ Obtained easements from New York State for existing water main crossings of the Lake Ontario State Parkway at Huffer Road and North Avenue in the Town of Parma and Westphal Road in the Town of Hamlin.

- ✓ Completed the design, permitting, and easement acquisition for the Pavilion Water Main Replacement project. This project is scheduled for 2021 and consists of the replacement of approximately 2,100 linear feet of 6-inch water main and appurtenances along Big Tree Road and York Road in the Town of Pavilion.

- ✓ Completed the preliminary design for the Salt Road Main Replacement project. This project is scheduled to be constructed in 2021 and will include the replacement of 10,450 linear feet of 8-inch ductile iron water main and appurtenances on Salt Road (County Road 6) in the Town of Webster.

- ✓ Completed preliminary design for the Hard Road Main Replacement project.

- ✓ Completed preliminary design for the Commerce Drive Main Replacement project. This project consists of the replacement of approximately 4,100 linear feet of 10-inch ductile iron water main and appurtenances on Commerce Drive in the Town of Henrietta.

- ✓ Completed preliminary design for the Stuart Road Main Replacement project. This project will consist of the replacement of approximately 2,500 linear feet of 6-inch ductile iron water main on Stuart Road in the Town of Chili.

- ✓ Designed, permitted, bid and completed the construction of the 2020 Cathodic Protection Project. This project consisted of the replacement of existing cathodic protection with new magnesium anodes. Approximately 260 anodes were installed along the 30-inch steel East county Transmission main at various locations in the Towns of Irondequoit and Penfield between Echo Street and Empire Boulevard.

- ✓ Bid the purchase of 30-inch and 48-inch butterfly valves for replacing the existing valves on the 48-inch transmission main between the Mt. Read Boulevard Pump Station and the Shoremont Water Treatment Plant. Developed detailed drawings for vault work and commenced with the replacement of the valve and vault.

- ✓ Assisted Monroe County Department of Transportation (MCDOT) and the Town of Rush with the Middle Road Culvert Replacement Project. This project included the relocation of 10-inch water main to allow for the replacement of the culvert. The project was a joint effort led by MCDOT as the owner, the Town of Rush as the Contractor.

- ✓ Performed acoustical leak detection survey of approximately 390 miles of water main.

Water Storage Facilities

- ✓ Completed the design, bid and construction for the rehabilitation of the Garbutt tank in the Town of Wheatland, the High Street tank in the Town of Victor and Alleyn's Rise tank in the Town of Perinton. . This project consists of making some structural repair and modifications to the tank and completing the blasting, priming and painting of the interior and exterior of the three stand pipe water storage tanks..

- ✓ Cleaned and inspected the following water storage facilities:
  - Spencerport Tank
  - West Brighton Tank
  - Buffalo Road Tank
  - South Ave Tank
  - Canfield Tank
  - Ogden Tank
  - Betteridge Road Tank

- ✓ Performed a tank rehabilitation warrantee inspection for Lee Road West. Reviewed and commented on the warranty inspection report for Buffalo Road tank.

- ✓ Coordinated the replacement of the failed interior coating at the West Main Street tank.

- ✓ Prepared Requests for Proposals for the present condition assessment of Temperance Hill tank in the Town of Stafford and the Lee Road East tank in the Town of Greece.

- ✓ Repaired the interior coating system at Churchville water storage tank in the Village of Churchville.

- ✓ Assisted with the interior coating repairs identified during the warranty inspection of Lee Road West tank.

- ✓ Coordinated the repair to the Union Street tank's overflow pipe and wall panel joints. Coordinated repairs to the interior of the West Main Street Tank in the Village of LeRoy and the Lee Road West Tank in the Town of Greece.

- ✓ Completed the concrete repairs to the Douglas Road Tank.

- ✓ Completed the construction of the Baker Hill Tank Rehabilitation project.

Water Districts

At the request of Towns in the MCWA service area, we assist with their implementation of water district projects. In 2020 we:

- Provided design review, completed and activated the following water district projects:
  - Hamlin - Redman Road WD — 16,200 LF — 45 Services
  - Kendall WD8 – Kendall and Creek Road's — 13,500 LF — 61 Services
  - Pembroke - GCEDC STAMP - WM Ph#4 — 9,800 LF — No Services

- Stafford - WD13 - Ivison Road 350 LF 3 Services

Total 39,850 LF 109 Services

- Provided design review comments for the following in progress water district projects:
  - LeRoy - WD11 - East Bethany-LeRoy Road 1,000 LF 8 Services
  - Kendall WD10 - W. Kendall Road 6,800 LF 26 Services
  - Clarkson-Hamlin Joint WD (Rte.18 - Roosevelt Hwy) 8,900 LF 28 Services
  - Pavilion - Consolidated WD - York Road 6,000 LF No Services
  - Pavilion – 300,000 gal Tank & PRV Modifications 400 LF No Services

  Totals 23,100 LF 62 Services

- Provided preliminary comments for the following proposed water district projects:
  - Sweden - Lake Road & Redman Road WD 30,000 LF 80 services
  - Bethany - WD5 (Overall Town District) 152,000 LF 380 services
  - Byron – Improvements Benefits Area No.1 WD 150,000 LF 200 services
  - Bergen - Improvement Benefits Area No.1 WD 163,700 LF 352 services
  - Pembroke - WD4 109,470 LF 303 services
  - Pavilion - WD7 21,100 LF 40 services
  - Stafford – WD12 28,450 LF 78 services

  Total 654,720 LF 1,433 services

- Reviewed and commented on 6 preliminary engineering reports, compared to 7 in 2018/2019 and 9 in 2017/2018.

Genesee County Phase #2 – Transmission Mains & Pump Stations Projects.

- Provided an extensive amount of design review for the following completed and activated projects:
  - Contract 2 (Chili) - Chestnut Ridge Road6,500 LF - approximately 6,500 linear feet of 36-inch transmission main and appurtenances along Chestnut Ridge Road in the Town of Chili
  - Contract 3W- Churchville & Mumford Main Upgrades 3,000 LF and 8 services - replacement of 2,000 lf of water main

- Provided an extensive amount of design and construction review for the following in progress projects:
  - Contract 1 - Vallance and North Roads. This project consists of the installation of approximately 16,000 LF of 16-inch and 36-inch transmission main along Vallance Road and North Road in the Town of LeRoy, including a NYS Thruway crossing.
  - Contract 3A&B – Construction of pump stations in Churchville & Mumford.
    - Churchville Pump Station in the Town of Riga. The pump station will provide approximately 150,000 gallons of water per day (GPD) directly to the 820 zone.
    - New Caledonia – Mumford Pump Station – in the Town of Wheatland. This pump station will provide approximately 350,000 GPD to the Village of Caledonia
  - Provided comments for the New Golden Road Pump Station in the Town of Chili – The pump station will increase and redirect flow from the Shoremont Water Treatment Plant towards Genesee County. It will provide ~8 MGD to Morgan Road and Scottsville Road pump station as well as Union Street storage tank. Constructed is expected to commence in 2021.

Developer Main Extensions (DME's) and New Services

- Generated 25 Main Extension Agreements (MEA) and 29 were executed. Generated 13 Water Service Installation Agreements (WSIA) and 11 were executed. Placed 26 projects in service this year compared to 49 in 2018/2019 and 42 in 2017/2018.

- Processed 50 initial and 50 revised DME application submissions this year compared to 36 initial and 30 revised in 2018/2019 and 44 initial and 40 revised in 2017/2018. Of the 50 DME initial application reviews 21 ended up being categorized under a Water Service Installation Agreement (WSIA).

New Service Program:

- Coordinated the creation of 659 new 1-inch service accounts
  - 430 were generated by DMEs
  - 38 were generated by water districts
  - 26 were generated by secondary source change-overs
  - 165 were generated by new construction

Booster Pump Stations

- ✓ Completed rehabilitation of Pump No. 1 at the Twin Hills Booster Pump Station (BPS).

- ✓ Completed rehabilitation of Pump No. 3 at the Kreag Road BPS.

- ✓ Completed rehabilitation of Pump No. 1 at the Mendon BPS.

- ✓ Completed installation of new variable frequency drives (VFDs) for Pump Nos. 1 and 2 at the Woodcliff BPS.

- ✓ Completed construction for replacement and upgrade of the sodium hypochlorite storage and feed system at Briggs Street Pressure Reducing Valve (PRV) station.

- ✓ Completed construction for replacement and upgrade of the sodium hypochlorite storage and feed system at the Victor-Holcomb BPS.

- ✓ Completed construction for replacement and upgrade of the chlorination chemical storage and feed systems at the Thornell Road BPS/Denise Reservoir.

- ✓ Initiated construction for replacement and upgrade of the dechlorination chemical storage and feed system at the Thornell Road BPS/Denise Reservoir.

- ✓ Completed construction of the Generator Optimization – Phase 1 project that included relocation of the Webster Water Treatment Plant house generator to the Lee Road BPS.

- ✓ Completed installation of a new third pump and VFD at the Darien BPS.

- ✓ Completed construction for replacement and upgrade of the electrical service at the LaSalle BPS.

- ✓ Purchased a new trailer mounted 375 kW portable generator that can be utilized to provide emergency electrical power at various BPSs and other facilities.

- ✓ Completed installation of new carbon monoxide (CO) monitoring and alarm systems at various BPSs.

- ✓ Initiated construction of the new Mumford BPS in the Town of Wheatland, which is a component of the Genesee County Phase 2 Water Supply project to increase supply to Genesee County.

- ✓ Initiated construction of the new Churchville BPS in the Town of Riga, which is a component of the Genesee County Phase 2 Water Supply project to increase supply to Genesee County.

- ✓ Initiated design of the new Golden Road BPS in the Town of Chili, which is a component of the Genesee County Phase 2 Water Supply project to increase supply to Genesee County.

- ✓ Initiated design of improvements to the North Road BPS, Morgan Road BPS, Riga BPS, and Scottsville BPS, which is a component of the Genesee County Phase 2 Water Supply project to increase supply to Genesee County.

Treatment Plants

Shoremont Water Treatment Plant

- ✓ Completed construction of the West 1 Plant Improvements – Phase 1 project that included rehabilitation of the contact basins and installation of an additional second floor egress.

- ✓ Initiated design of the West 1 Plant Improvements – Phase 2 project that will include rehabilitation of the filters and replacement of filter valves.

- ✓ Completed construction of the Concrete Repairs – Phase 1 project that included installation of supplemental support column and block wall crack repairs in the East Plant, and repair of railing in the High Duty pump mezzanine.

- ✓ Completed design and initiated construction of the Concrete Repairs – Phase 2 project that includes repairs to deteriorated concrete in the North and South Clear Wells.

- ✓ Initiated design and purchase of materials for replacement of High Duty Pump No. 3 discharge pump control and isolation valves.

- ✓ Initiated design and purchase of materials for replacement of a surge control valve on the High Duty pump discharge header.

- ✓ Continued with construction of the Low Lift Pump Station Electrical Improvements project that includes replacement of electrical equipment and VFDs at Low Lift Pump Station Nos. 1 and 2.

- ✓ Completed replacement and upgrade of the individual and combined filter effluent turbidimeters for the West 2 Plant.

Webster Water Treatment Plant

- ✓ Completed construction of the Generator Optimization – Phase 1 project that included relocation of the house generator to the Lee Road BPS and installation of new generator connection cabinet.

- ✓ Initiated design of the Generator Optimization – Phase 2 project that will include automation of generator switchgear and installation of new uninterruptible power supply (UPS) equipment at the Webster Water Treatment Plant; and installation of a new 1500 kW generator and automation of the generator switchgear at the Lake Water Pump Station.

- ✓ Completed design and initiated construction of the Filter GAC Replacement project that includes replacement of the granular activated carbon filter media.

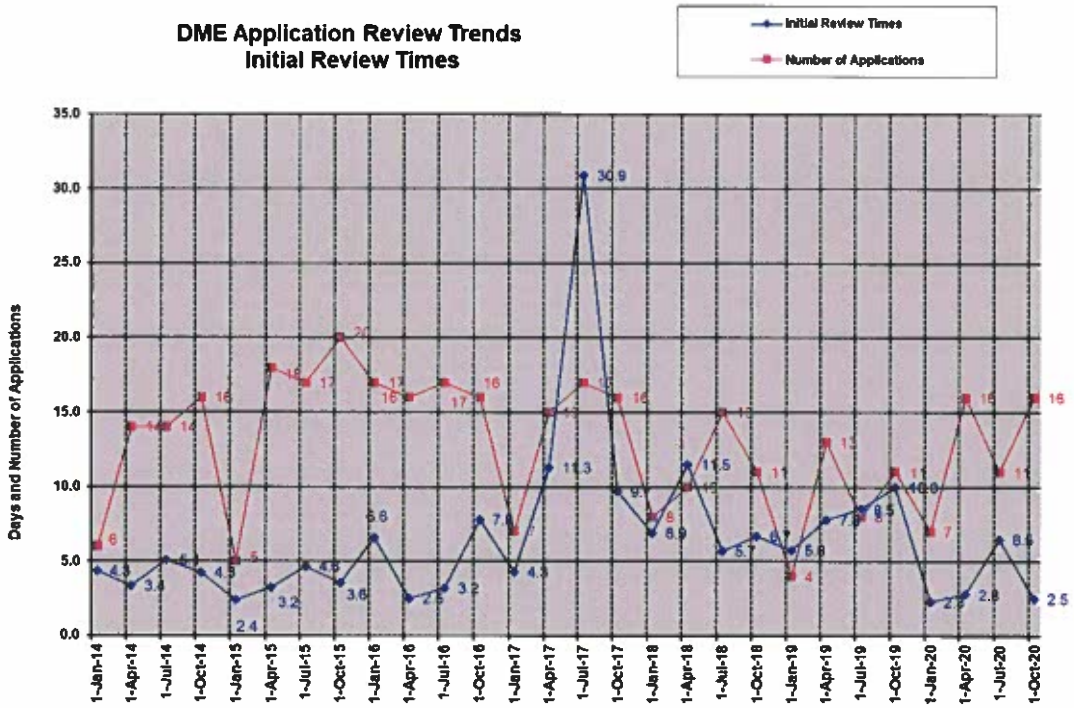
- ✓ Completed installation of new carbon monoxide (CO) monitoring and alarm systems at the Webster Water Treatment Plant and Lake Water Pump Station.

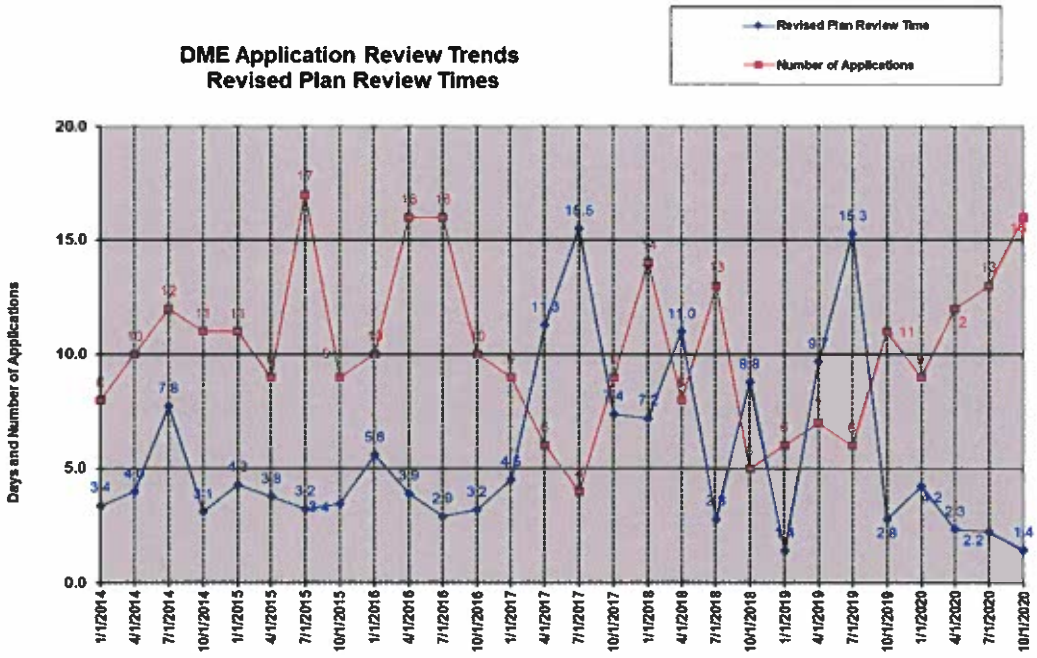
- ✓ Completed upgrades to the firmware and software for the medium voltage VFDs for the High Duty pumps at the Webster Water Treatment Plant and the Low Lift pumps at the Lake Water Pump Station.

- ✓ Completed replacement of intake grates at the intake crib.

Corfu Water Treatment Plant

- ✓ Completed replacement of a portion of resin in the water softener equipment.




DME Application Review Trends
Revised Plan Review Times
Revised Plan Review Time
Number of Applications
Days and Number of Applications
20.0
15.0
10.0
5.0
0.0
1/1/2014
4/1/2014
7/1/2014
10/1/2014
1/1/2015
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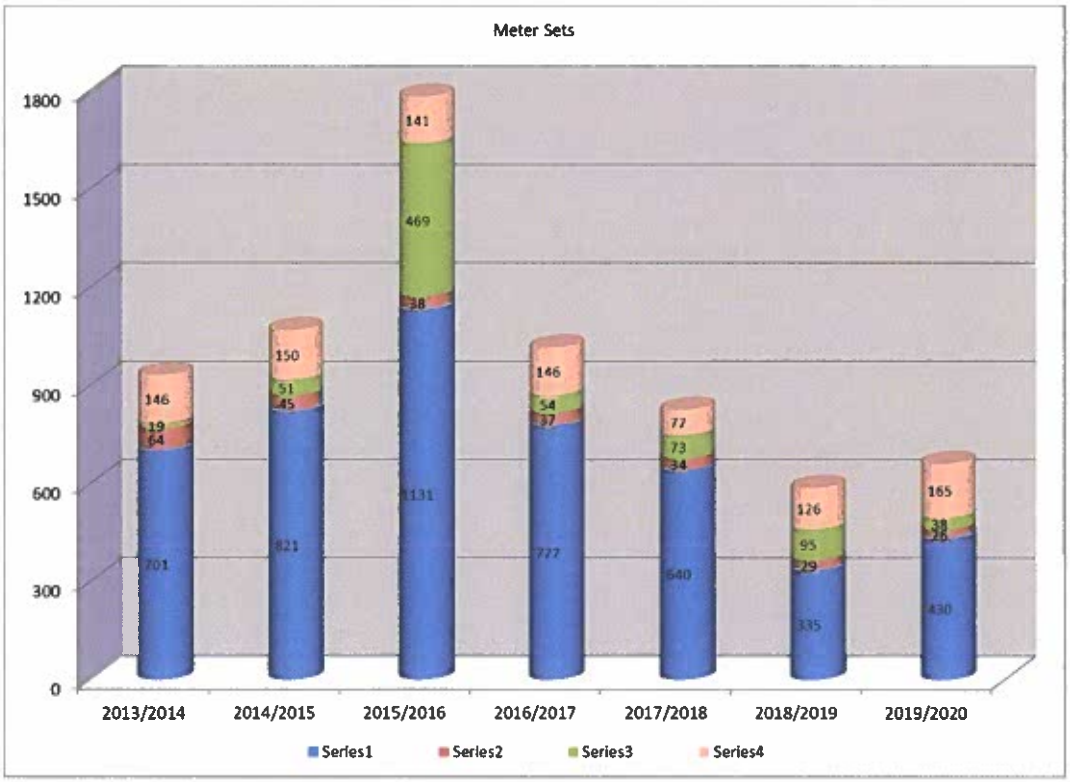
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1500
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900
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300
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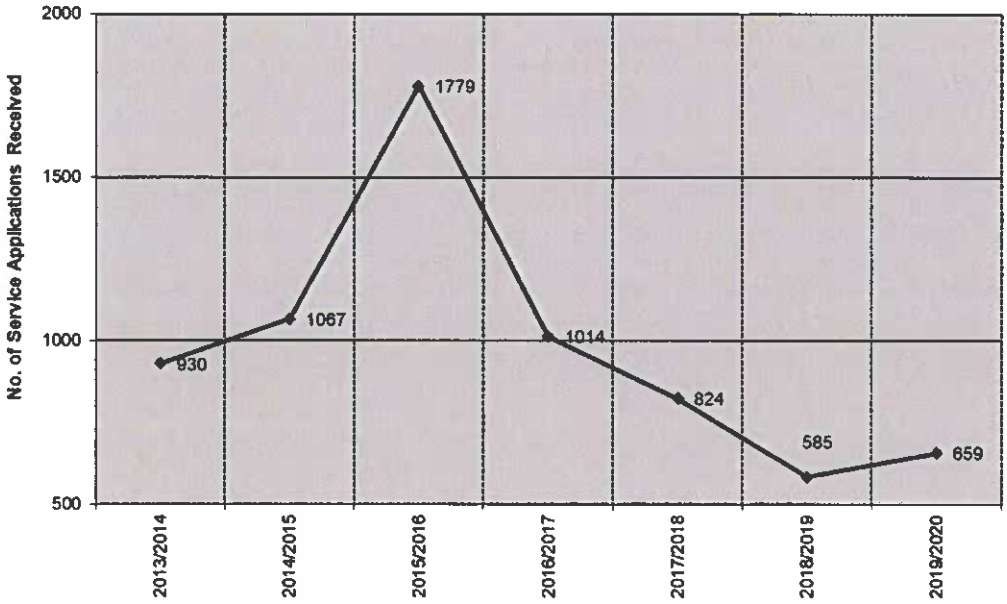
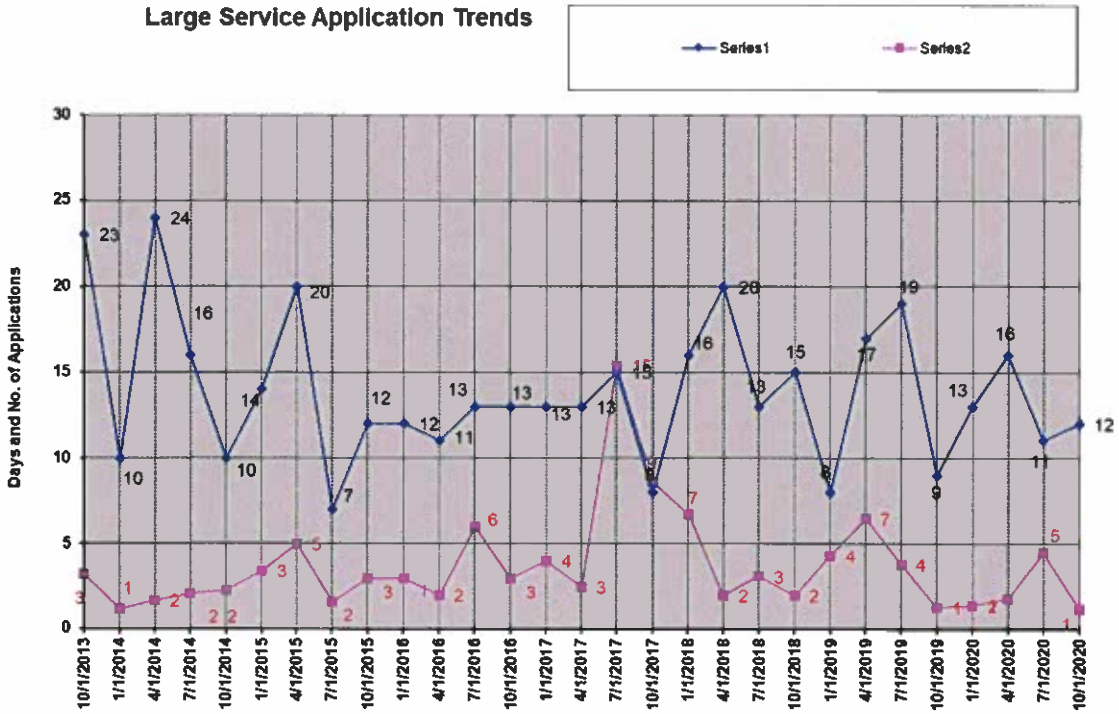
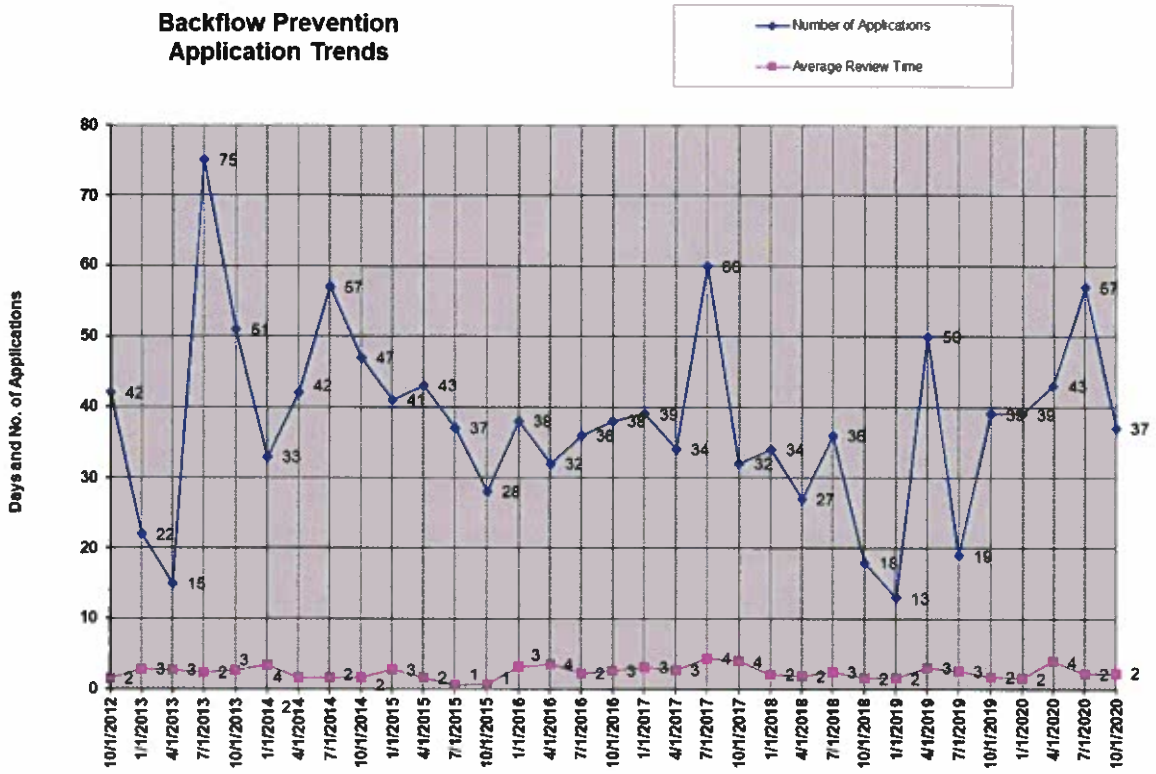
2013/2014
2014/2015
2015/2016
2016/2017
2017/2018
2018/2019
2019/2020
Series1
Series2
Series3
Series4

Total Number of Service Applications Received



Large Service Application Trends





Water District Extensions