CITY OF TRAVERSE CITY

DEPARTMENT OF MUNICIPAL UTILITIES

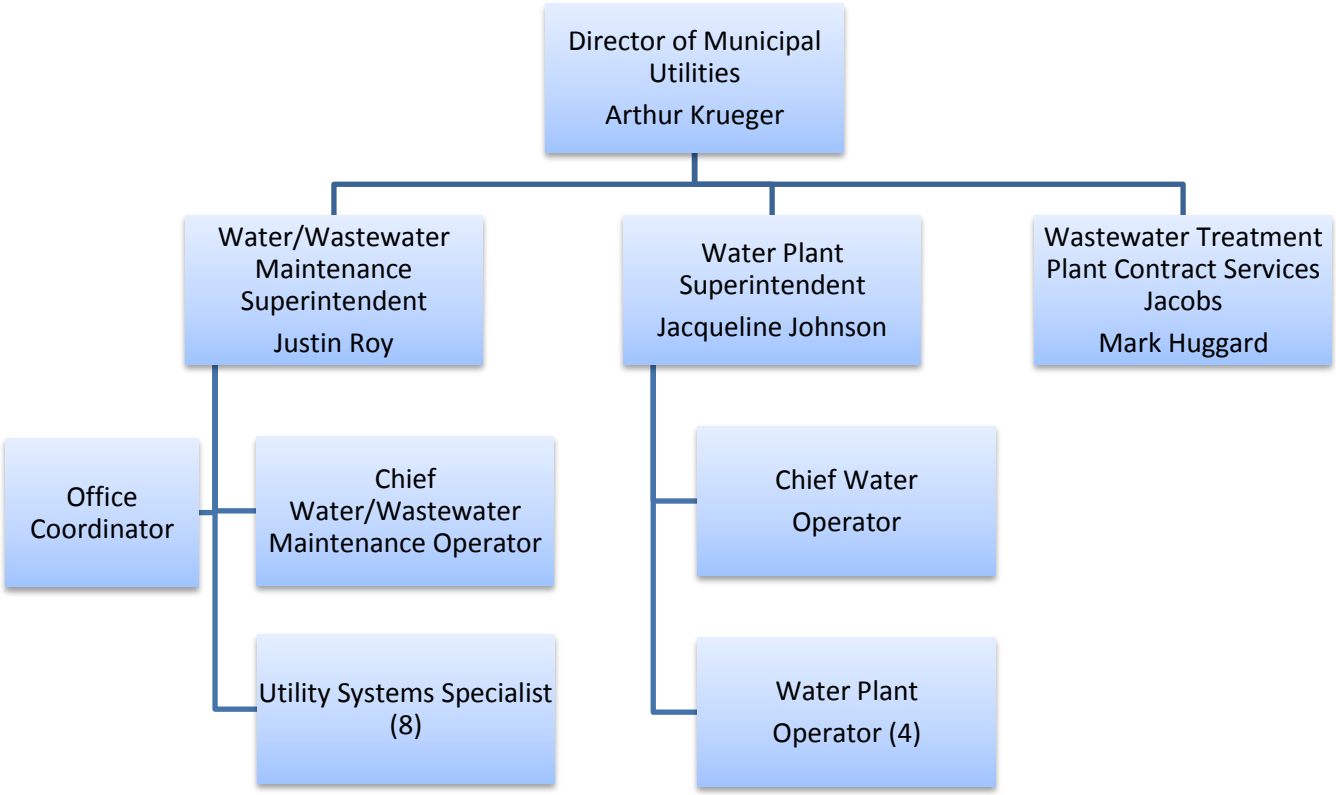
2022

ANNUAL REPORT

Barlow 2 MG Water Reservoir

TABLE OF CONTENTS

Department of Municipal Utilities
Organizational Chart



DEPARTMENT

OF

MUNICIPAL UTILITIES

MISSION STATEMENT

Preserve and enhance the safety, health, and quality of life for the people of Traverse City through the effective management and maintenance of its drinking water and wastewater infrastructure.

Barlow 4 MG Water Reservoir Rehabilitation Project (Completed in 2020)

WATER/WASTEWATER MAINTENANCE DIVISION

Staffing:

Superintendent – Justin Roy

Chief Water/Sewer Operator – Brian McManus

Office Coordinator – Julia Stout

7 - Utility Systems Specialists

1 - Utility Systems Apprentice

1 - Seasonal Laborer (summer)

Maintenance/Operational Responsibilities:

- 118 miles of pressurized water mains
- 90 miles of sanitary sewer mains; 4.8 miles of sewer forcemain
- 3,000 water system valves, 6” to 30” in diameter
- 1,005 fire hydrants
- 7,510 water meters
- 1,902 sanitary sewer manholes

WATER/WASTEWATER MAINTENANCE DIVISION

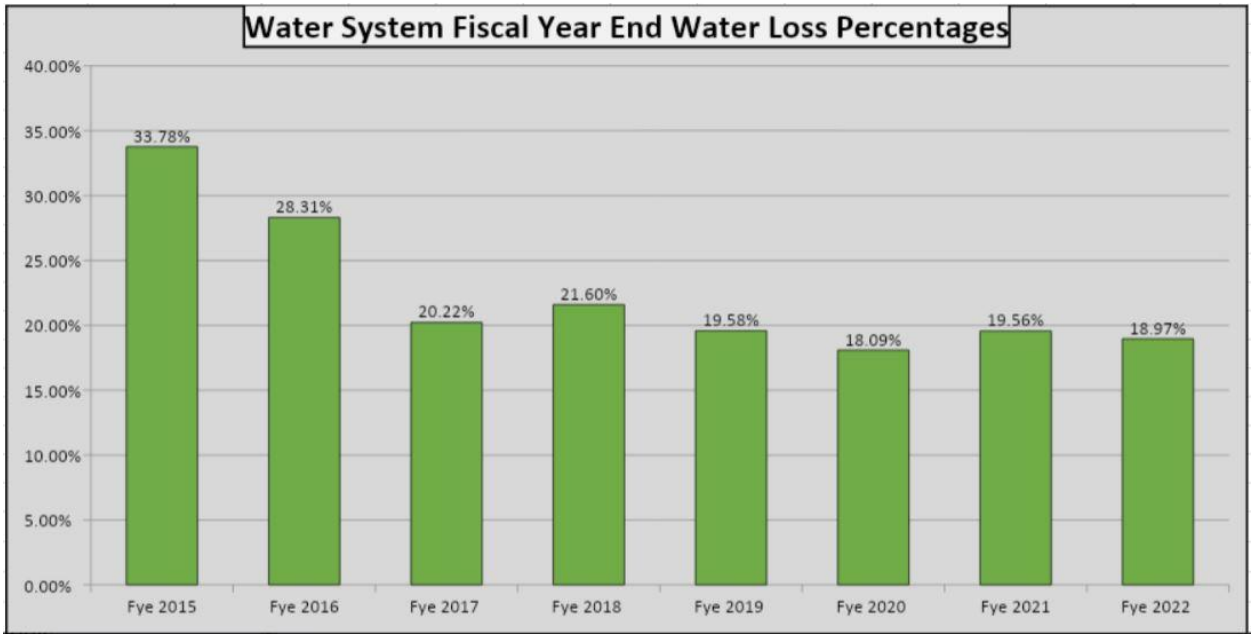
Customer Service Activities:

- 550+ new water meters installed as part of the ongoing Automated Metering Infrastructure (AMI) project.
- 4,000+ Miss Dig responses
- 500+ water service turn on/off requests
- 1005+ fire hydrants winterized
- 80 sewer calls; 20 City main related issues; 60 private property service line issues
- 15.2 miles of sanitary sewer cleaned
- 0.5 miles of sanitary sewer televised and inspected
- 29 water taps installed
- 75 valves turned
- 450+ service calls (sampling, leaks, inspections, meter reads/re-reads, low-pressure complaints, new meter installs, etc.)
- 5 emergency water main break repairs

Water/Wastewater System Activities/Improvements:

- Continued implementation of the Project Plan (5 years plan) for Clean Water State Revolving Fund (CWSRF) to align wastewater infrastructure improvement projects with EGLE's low-interest loan program for an estimated total of $27,601,000.
- Continued $2,093,629 grant from Michigan Department of Health and Human Services (MDHHS) for source tracking of SARS-COV2 (COVID-19) in wastewater for a multi-year project ending in September 2023.

- Completed engineering design services for the West Side Sanitary Sewer Pipe Lining Project for approximately 6,500 linear feet of sanitary sewer to reduce Infiltration & Inflow (I&I) in most critical areas of the sewer collection system.
- Participated in MDOTs design for US-31 Reconstruction Project (Garfield Ave. to Division St) to upgrade water, sanitary sewer, and storm sewer utilities.
- Awarded Construction contract to re-route the 24-inch sanitary sewer in the 100 block E Front Street alley away from the river wall and stabilize the sewer, alley, and river wall in the 200 block along the Boardman River between Cass and Park Streets.
- Increased Industrial Pre-Treatment Program (IPP) inspections downtown to monitor/remove grease from entering the sanitary sewer system by inspecting various restaurants. Several enforcement letters were issued to enhance grease management maintenance practices.
- Continued to monitor sanitary sewer flows tributary to the West Trunkline Sanitary Sewer with 4 sewer flow meters to collect/monitor continuous dry and wet weather flow data that will be used to complete a future Sanitary Sewer Evaluation Study (SSES).
- Continued enforcement of Cross-Connection Control program to improve water system safety. Completed 835 residential/commercial inspections (by contractor) that included illicit sanitary sewer connection inspections and enforcement to remove illicit connections to reduce I&I from sanitary sewers.
- Unaccounted-for water (water loss) is defined as the percent difference between the total volume of water produced at the Water Treatment Plant vs. the billed water to all customers and is displayed in the chart below on an annual basis:



The fiscal year ending (fye) 2021 was skewed higher due to the timing of billing. City customer billings for June 2021 were much lower than actual as several larger accounts were not billed until July 2021. If the July 1 and July 6th billings, which would have been included in the June usage were added to June, the water loss percentage would have decreased from 19.56% as shown above to 16.75%. Therefore, the actual water loss continues to trend downward since

fye 2015 as we continue to replace old inaccurate meters with new AMI meters in our system. An acceptable goal for water systems is to have water loss in the 10% to 15% range.

WATER TREATMENT PLANT DIVISION

Staffing:

Superintendent – Jacqueline Johnson

Chief Water Operator – Vern Coblentz

4 - Water Treatment Operators (Rotate through Maintenance)

Maintenance/Operation Responsibilities:

- 20 million gallons per day (MGD) rated Water Treatment Plant (5 high service pumps, numerous valves/meters, etc.)
- 19.7 MGD firm capacity; 16.7 MGD operational capacity at Low Service pump station intake system (4 pumps, 2 traveling screens, intake crib, etc.)
- 2 flocculation basins
- 5 sand & anthracite gravity filters
- 3 chemical feed systems (ferric sulfate, chlorine, and fluoride)
- Plant compressed air system (operates valves, bubbler systems, etc.)
- 1 backwash pump to clean filters via backwashing process

- 2 lagoons for settling solids out of filter backwash water; recycled water discharges to East Bay (NPDES permit)
- 750 kW diesel generator in plant
- 275 kW diesel generator in the Wayne Hill Booster Station
- 20 kW natural gas generator at Barlow Tanks site
- 4 water storage reservoirs (4 million gallons (MG) & 2 MG at Barlow Site; 1.3 MG at Wayne Hill & 1.5 MG treated water storage reservoir at the plant)
- 2 booster pump stations
- 7 pressure reducing valve vaults

Customer Service Activities:

- Produced 1.88 billion gallons of safe, clean drinking water for the City and portions of Garfield, Elmwood, and Peninsula Townships.
- The Water Treatment Plant's State-certified microbiology lab tested over 1400 water samples for bacteria to keep the City and nearby water supplies safe.
- Completed microcystin and anatoxin-a cylindrospermopsin (algal bloom) testing and only had one detect for microcystin for the raw water at 4.5 ng/L (micrograms/liter). No detects for the finished water.
- Completed quarterly Per- and Polyfluoroalkyl Substances (PFAS) testing. The results for one compound, PFOA was 2 parts per trillion (ppt) compared to the maximum contaminant level of 8 ppt. All other PFAS were non-detect.

Water Treatment Plant (WTP) & Water System Improvements:

- Completed Phase 2 of the Filters 1, 2 & 3 and Floc Tank Repairs Project at the Water Treatment Plant, replacing the filter media, valves, and piping on Filters #2 and #3 and recoating the East Floc Tank and Filters #2 and #3.
- Performed an extended cyber security audit of the WTP SCADA (operator control) system.
- Continued implementation of the Project Plan (5 years plan) for the Drinking Water State Revolving Fund (DWSRF) to align water infrastructure improvement projects with EGLE's low-interest loan program for an estimated total of $14,927,000.
- Awarded construction contract for $4.5M (DWSRF loan) to replace 300 private galvanized water services over the next 3 years to move toward compliance with EGLEs Lead and Copper Rule (LCR).

End of Report