



City of Rochester, New Hampshire
PUBLIC WORKS DEPARTMENT
45 Old Dover Road • Rochester, NH 03867
(603) 332-4096
www.RochesterNH.net



MEMO PUBLIC WORKS & BUILDING COMMITTEE AGENDA

TO: PUBLIC WORKS AND BUILDINGS COMMITTEE
FROM: PETER C. NOURSE, PE
DIRECTOR OF CITY SERVICES
DATE: June 8, 2023
SUBJECT: Public Works & Buildings Committee Meeting
Meeting Date *Thursday June 15, 2023, at 7PM*

There will be a Public Works and Buildings Committee Meeting held on Thursday June 15, 2023, at 7PM. This meeting will be at City Hall in City Council Chambers

AGENDA

1. Approval of the May 18, PWC Minutes
2. Public Input
3. Sidewalk Rehabilitation Program
4. Drinking Water Consumer Confidence Report (CCR)
5. City Cemetery Mapping
6. Rt. 108 Complete Streets Project
7. Other

Public Works and Buildings Committee
City Hall Council Chambers
Meeting Minutes
May 18, 2023 7PM

MEMBERS PRESENT

Councilor Donald Hamann, Chairman
Councilor Jim Gray, Vice Chairman
Councilor John Larochelle
Councilor Alexander de Geofroy

MEMBERS ABSENT

Councilor Steve Beaudoin

OTHERS PRESENT

Peter C. Nourse PE, Director of City Service
Lisa Clark, Deputy Director DPW
Dan Camara, Coordinator GIS & Asset Mgmt.
Susan Rice, North Main Business Owner, resident 159 Ten Rod Rd
Mark Sullivan, Deputy Finance Director, Main Street Org Representative
Jeff Bisson, Main Street Representative
Curt Thompson, PE Traffic Operations Engineer

MINUTES

Councilor Hamann called the Public Works and Building Committee to order at 7PM

1. Approval of April 20, 2023 Meeting Minutes

Councilor Larochelle made a motion to accept the minutes of the February, 2023 meeting as presented. Councilor Gray seconded the motion. The motion passed unanimously.

2. Public Input

Susan Rice of 159 Ten Rod Road and Business owner North Main Street. Mrs. Rice spoke to the Committee regarding the construction site work on North Main Street. She voiced concerns for public safety due to poor signage for construction zone and poor maintenance of the construction zone when not in operation. Mrs. Rice stated that construction materials were not swept up and she stated particular concern for motorcycle traffic in the area and the pedestrian crosswalk.

3. Main Street Deck Project

Mr. Sullivan spoke on behalf of the Main Street Organization. He stated he had previously discussed conceptual plans with this Committee for a deck project in the alley / walkway from North Main Street down to Wyandotte Falls. He presented a PowerPoint presentation to show the Committee the location for the deck and the design. (See Attached). Mr. Sullivan explained that the area has the potential to be a gateway to the Water Street Project and it can be used for small stage performances & other planned popup events. He stated that there will be some bistro tables and chairs and there might

also be artwork and plantings to spruce up the area. Mr. Bisson stated that this alley has had complaints regarding people hanging out and public safety concerns. He noted that last year some lights were put up to assist in that regard, and this project is planned to make this a better utilized safe area for the public. Councilor de Geofroy asked if there was electrical power to supply the stage for performances. Mr. Bisson stated that while there is a business owner that will allow electrical use if needed, Main Street sees this more as an acoustic situation for performers. Mr. Bisson stated that the Deck should be completed by the end of May and then there will be some bistro tables and chairs added. Councilor Hamann asked if permits were in place. Mr. Bisson stated that the permit is in place and Jim Grant from the Building & Licensing Department has been helpful and will assist with any issues that arise. He explained that the deck is going in where there is currently an area railed off. Councilor Gray asked for the PP be attached to the minutes.

4. Traffic Signal Modernization Project Update

Mr. Nourse stated that the City owns and maintains twenty (20) traffic signalized intersections and the funds for traffic signal modernizations were first obtained in the FY2020 CIP Budget. He noted that there have been additional appropriations since that time and that he will continue annually to request funding for the modernization of signals. Mr. Nourse stated that the goal is to utilize recent adaptive management technologies to proactively optimize the operations of the traffic signals. Mr. Nourse stated that Sebago Technics of South Portland is the City's designated signalization integrator, and he introduced Curt Thompson, PE from Sebago Technics. Mr. Nourse stated that in 2019, Sebago Technics assisted the City to install upgrades to 5 signalized intersections in the Columbus Avenue corridor (from Lowell to Brock Street). The upgrades provided the ability to coordinate the timings from intersection to intersection. He stated that these upgrades resulted in an approximate 20% reduction of the travel time through that area. Mr. Nourse stated that most recently we upgraded the intersection of South Main and Columbus with a new controller equipped with a secure internet connection to a traffic link server and a video-based vehicle detection system. The installed equipment included point-to-point radio technology to communicate with the other five intersections along the corridor. Mr. Nourse stated that this technology gives the City the ability to optimize the timings by coordinating all six intersections. He stated that timings and phasing of the signals can be changed remotely in real time if warranted and will also identify any malfunctioning equipment remotely. Mr. Nourse stated that Sebago Technics is assisting the City with a master plan design that will prioritize future intersection based on existing equipment and traffic conditions. Mr. Thompson displayed a PowerPoint (PP) presentation on the monitors. (Attached to the minutes). He explained the implemented equipment and results of the upgrades in detail using graphics and video. He also demonstrated the operations video equipment in real time. Mr. Thompson discussed the age and the limitations of the City's current traffic signal equipment. He noted most equipment dates to the 1980's and 1990's. Mr. Thompson stated that upgrading to this technology gives the ability to proactively monitor these signals and to adjust timings as required, prior to complaints.

5. Water Main Transmission Line Rehab Update

Mr. Nourse stated that he had last discussed this 20" transmission rehabilitation project in detail with the Committee at the April 20, 2023, meeting. He noted that work done at that point included pipe condition investigations, valve insertions necessary for future

maintenance and operations and cleaning of the main by pigging the line. He noted that if any of the public was interested in this project, they should watch the meeting online via the City website. Mr. Nourse stated that since that time the closed-circuit television (CCTV) inspections have confirmed the condition of the pipe and that the lining of the 20-inch water transmission main will not be necessary. Mr. Nourse stated that there is additional work that includes re-routing of the water main around the 217 Washington Street Chlorinator building. He stated that the main is routed through this building and there is a connection to a 1943 water main and other abandoned system components that do not meet the drinking water standard requirements. Mr. Nourse discussed hydraulic restrictions and flow reduction due to varying sizes in pipe as it flows through the building. He stated that the flow restriction reduces water quality, fire flows and redundancy in the area when needed. Mr. Nourse stated that there is sufficient funding for the follow-up work to re-route the main as part of the the rehabilitation project and he stated that the work is qualified under the ARPA guidelines. Mr. Nourse explained the funding of the project. He stated that the City Council delegated two million dollars of the City's American Rescue Plan Act (ARPA) funds for the 20" Transmission Main Rehabilitation Project. He noted that we have expended approximately three hundred and nine thousand to date and this work estimated at one hundred and fifty thousand dollars. Mr. Nourse stated that the remaining balance will be returned to the ARPA pool of funding, and he would like to discuss delegating these funds to another water project that is in progress. Councilor Hamann asked if the pipe work is in progress. Mr. Nourse stated that they are currently working on the design specification to re-route the pipe. Councilor Gray stated that once this project wraps up the remaining funds will need to be delegated though the Finance Committee and the full City Council if it were to be used for a different project.

6. Bulk Water Hauling Station

Mr. Nourse stated also located with the old chlorinator building and Quonset hut at 217 Washington Street site there is now a bulk water metering station. He stated that this station is used by bulk water haulers, such as tankers for filling pools, landscapers and construction contractors who need water for site maintenance. Mr. Nourse stated it is also used by City staff to fill sweepers and jet and Vacon trucks. He stated that previously this service was offered at the 45 Old Dover Road location and a meter with manual readings was used. Mr. Nourse said that due to the closure of the 45 Old Dover Road site this location was selected as it provides the traffic flow space, available water flows, and electrical and communication equipment for the automated system. He noted the recent water audit included a recommendation to better account for billed metered water. Mr. Nourse stated that this automated system is a package system from Portologic that provides automated metering and account tracking software. He stated that it is equipped with a flow meter and backflow prevention device, automatic valve drains and it controls the communications via the internet to the Utility Billing Office. Mr. Nourse displayed a graphic on the monitors of the station. (Attached to minutes). He stated that this allows for real time communication for volumes used and tracking per user. Each user is issued a unique account number and pin code that is assigned by DPW Administrative staff and access can be restricted in real time if necessary. Mr. Nourse also stated that three cameras are being mounted at this site for the security of inventory stored at the location and the security of this automated system. Mr. Nourse stated that there have been

instances of contractors accessing hydrants and natural water ways to obtain water for their operations, which is illegal and subject to violations. He stated by providing this station for access it is helpful to eliminate those practices. Ms. Clark noted that this system's efficiency for billing and accurate metering has been very successful. Mr. Nourse stated that we will be using a similar Portologic System at the new septage receiving facility. The Committee discussed the revenue received from the septage receiving station and what impacts to the treatment process and NPDES permit could occur if there were increase volumes of private septic received. Councilor de Geofroy requested information on revenues and process impacts as the septage receiving project moves forward.

7. Rt202A Water Main Extension & Tank Project Update:

Mr. Nourse stated that the project is proceeding without significant issues. He stated that construction started in 2021 and water main installation is completed from the Highfields Common development, down Bickford Road to 202A (Walnut Street). The main has been installed down 202A to the area of Crown Point and installation is completed on Winkley Farm Road and Fiddlehead Lane. Mr. Nourse stated that the services have been completed on Winkley Farm and will start on Fiddlehead soon. He noted that all properties that wish to tie in, including the 10 MTBE homes, will be completed this calendar year (2023). Mr. Nourse stated that work on the tank has resumed, and the project completion date is scheduled for May or June of 2024. He noted that there will be a Public Relations event scheduled for summer or fall regarding this project.

8. Other:

Tebbetts Road - Councilor Hamann asked the reason for road closure. Ms. Clark stated that it was closed 3-4 hours for tree removal.

Staffing Update – Mr. Nourse informed the committee of the resignation of the City Engineer, Michael S. Bezanson, PE. He noted that Mr. Bezanson had been with the Department for 10 years and that he has served the City well and was a very dedicated employee. Mr. Nourse stated that this is a key position at the DPW as responsibilities include management of Capital Infrastructure projects, private development and interagency interactions. Mr. Nourse stated that the leadership team at the DPW is now down tree positions, He listed these positions as an Assistant Engineer, the City Engineer and the Deputy Director of Technical Services. Mr. Nourse stated he will be picking up most of these duties but that it is not sustainable in the long term. He explained that these vacancies have and will continue to have an impact on the level of work within the department. Councilor LaRochelle asked the Director of possible reasons why he is having trouble filling the vacancies. Mr. Nourse stated that there is a national shortage of engineers and although he believes the City has done a good job elevating staff wages, it is tough to compete with what the private sector offers for wages and working from home. Mr. Nourse stated that there has been an increase in funding and that he has spoken with consultants that are expressing the same staffing issues due to the increase in projects both Municipal and private.

Councilor Larochelle made a motion for adjournment at 8:35. The motion was seconded by Councilor de Geofroy. The motion passed unanimously.

Minutes respectfully submitted by Lisa J. Clark, DPW Deputy Director Operations &



Wyandotte Alley deck project

Public Works Committee

May 18, 2023

Current Condition



Viewed from North Main looking toward Wyndotte



Closer View from North Main looking toward Wyndotte

Current Condition



Old Rail Fenced area



Location & size of deck

-
- The alley has potential to be a gateway for Water Street redevelopment.
 - Main Street has received the support of City Manager Cox for the project.
 - The alley will become a desirable space that is more greatly utilized.
 - The deck can be used as a stage for performers (pop-up or planned events).
 - The Main Street organization will maintain the deck, as well as chairs/tables/art.

Columbus Avenue

Overview of Traffic Signal Improvement Projects

Curt Thompson, P.E. PTOE

Sr. Traffic Operations Engineer



CIVIL ENGINEERING • SURVEYING • LANDSCAPE ARCHITECTURE

Agenda

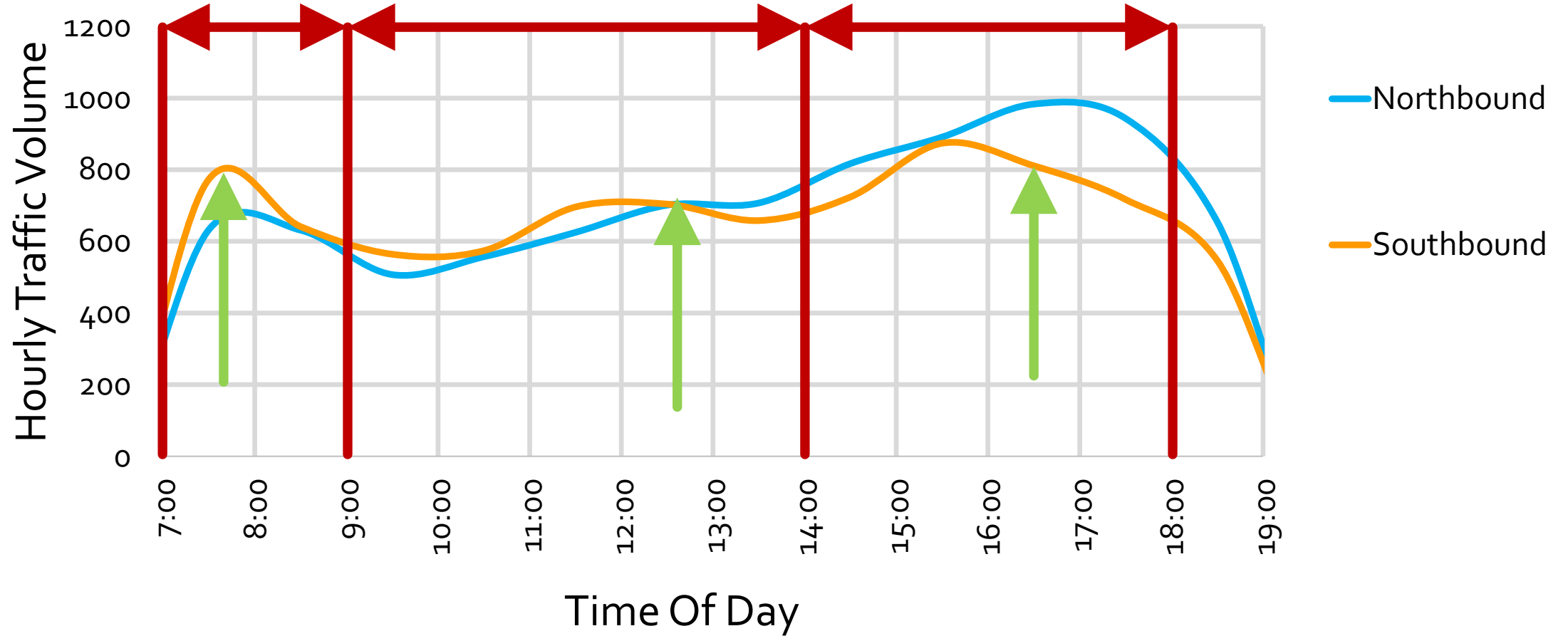
- 2018-2019 : Traffic Signal Evaluation and Coordinated Signal Timings Deployment
- 2022-2023 : Columbus Ave. Traffic Signal Improvements
- Demonstration of Video Detection and Reporting
- Recommended Next Steps

2018-2019 : Traffic Signal Evaluation and Coordinated Signal Timings Deployment

- Completed safety audit of existing signal timings.
- Developed coordination plans utilizing traffic movement volumes collected in 2018.
- Deployed the coordination plans to the corridor.

11/2018 Hourly Traffic Profile

North of Old Dover Road





2018-2019 : Traffic Signal Evaluation and Coordinated Signal Timings Deployment

Results

- 10-20% Average Reduction in Delay
- 23% Reduction in AM SB Total Travel Time
- 12% Reduction in PM NB Total Travel Time
- 10-20 Second Reduction in 80th percentile Travel Times

2018-2019 : Traffic Signal Evaluation and Coordinated Signal Timings Deployment

Recommendations

- Create Traffic Signal Network With Remote Connection Capabilities.
- Upgrade vehicle detection to Video with Signal Performance Measures.
- Install travel time monitoring.

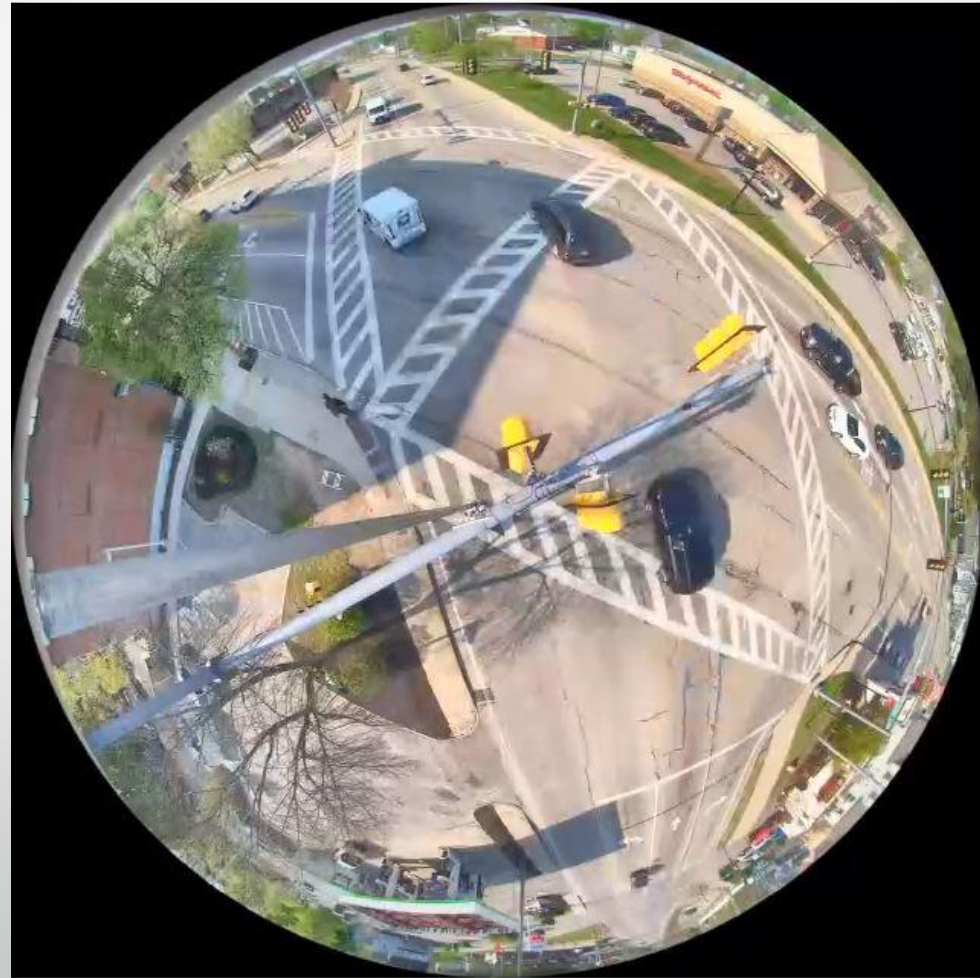
2022-2023 : Columbus Ave. Traffic Signal Improvements

- Equipment Upgrades for Columbus Ave. at South Main St. Signal.
- Deployed wireless radio interconnect along the corridor and created a traffic network.
- Established remote communication to the traffic network.

2022-2023 : Columbus Ave. Traffic Signal Improvements



2022-2023 : Columbus Ave. Traffic Signal Improvements



2022-2023 : Columbus Ave. Traffic Signal Improvements



Traffic Signal Network Diagram

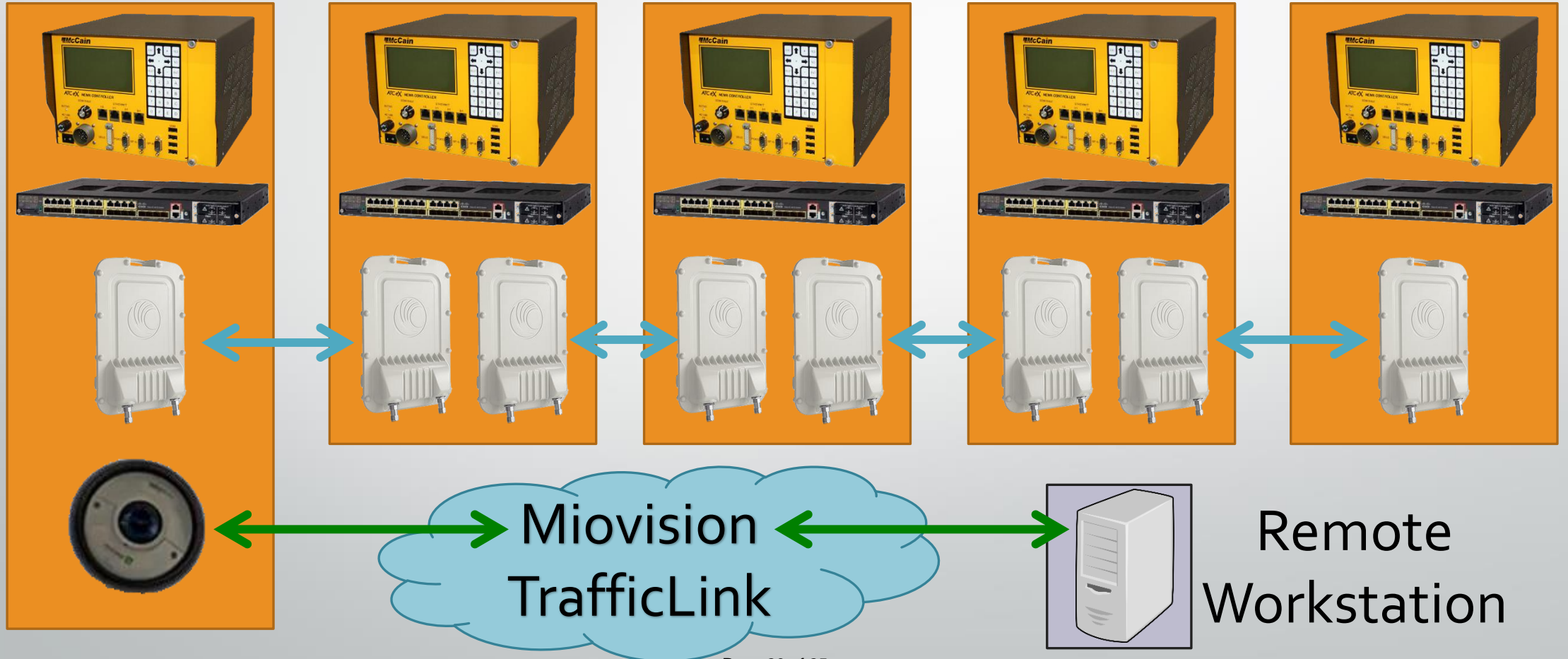
S Main St


Lowell St

Charles St

Old Dover Rd

Brock St





Demonstration of Miovision TrafficLink



Demonstration of Power Bi Detector SPM Report

Recommended Next Steps

- Upgrade Detection at other Columbus Ave Intersections
- Traffic Network Master Communication Plan
- Traffic Signal Asset Management Plan

Questions?



Curt Thompson, P.E. PTOE
Sr. Traffic Operations Engineer
cthompson@sebagotechnics.com

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NOTICE
THIS AREA IS UNDER
24 HOUR
VIDEO
SURVEILLANCE

Control panel area with a keypad and a red emergency stop button.

Small informational sticker on the cabinet door.



Water Quality Report

City of Rochester, NH

Water Testing Performed in 2022
Prepared by the Rochester Water Treatment Facility
PWS ID: NH2001010

"A better world through better water"



Drinking Water Sources

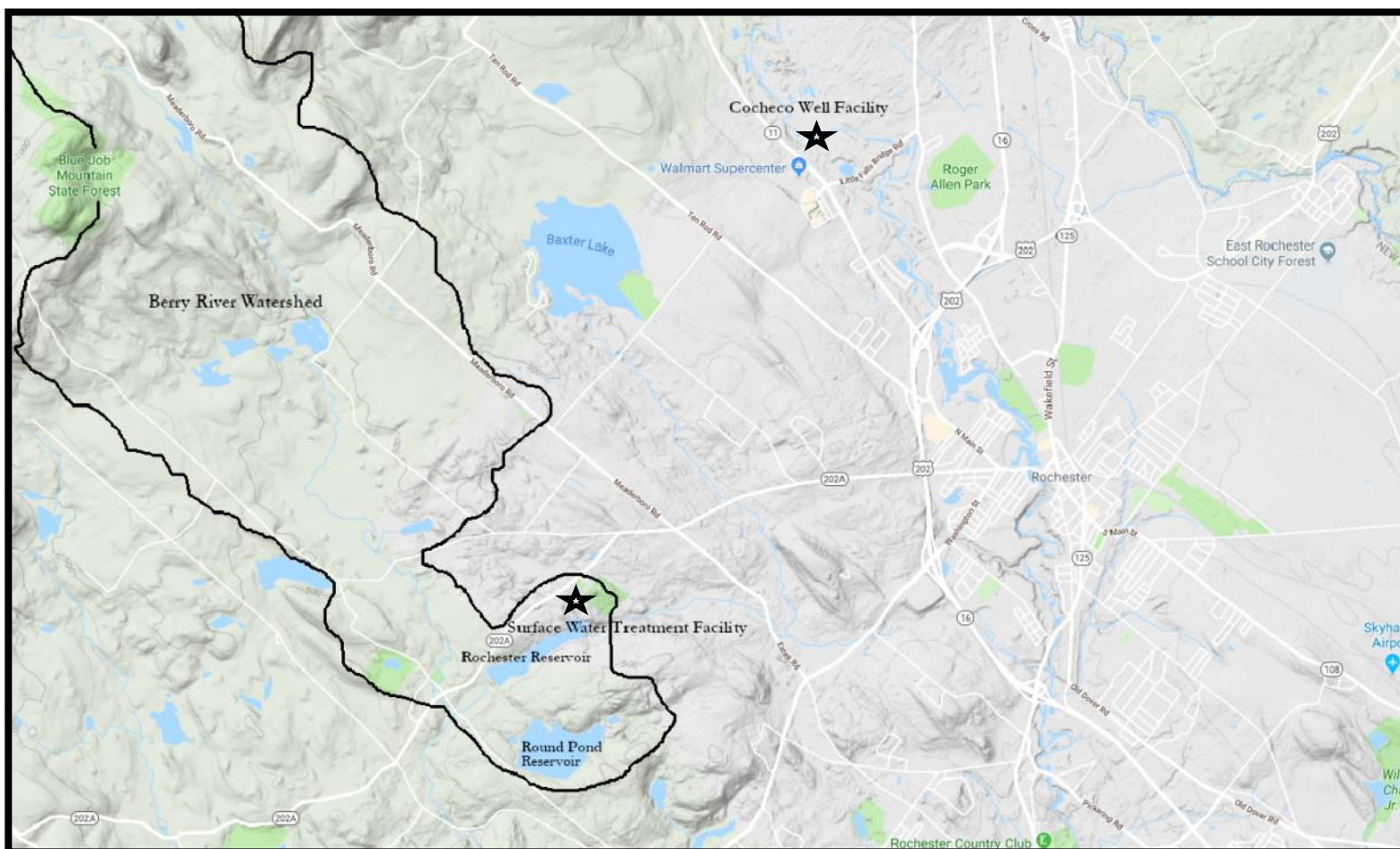
The City of Rochester consumed approximately 801 million gallons of drinking water in 2022. The surface water treatment facility is our primary supply, which draws from the Rochester Reservoir. Water is diverted from the Berry River watershed and stored in both the Rochester Reservoir and Round Pond Reservoir. The City also produces drinking water from the Cocheco Well treatment plant. The distribution system supplies potable water to every tap and hydrant and consists of approximately 150 miles of water main, three water storage tanks, six water booster stations and approximately 7,500 service connections.

The City of Rochester operates the surface water filtration facility 24 hours per day, seven days per week. Our operators are required to maintain certifications and participate in training programs. Our two water treatment facilities are capable of treating approximately 5.5 million gallons of water per day. The treatment process at the surface water plant removes impurities from the water through oxidation, coagulation, flocculation, settling and filtration. Water then flows by gravity into the distribution system to your home or business. Treatment at the well consists of aeration to remove dissolved carbon dioxide and is pumped from the site into the distribution system. Both facilities add chlorine for disinfection, fluoride to promote strong teeth, sodium bicarbonate to increase the alkalinity, and blended phosphate for corrosion control.

Raw surface water quality fluctuates seasonally, with turbidity averaging 1.5 nephelometric turbidity units and color averaging 40 platinum-cobalt color units; total organic carbon from 4-7mg/l; and pH from 5.5 to 6.5. Raw groundwater quality, specifically dissolved carbon dioxide and manganese, fluctuates based on withdrawal rates.

Water Source Map

The City of Rochester map below shows most of the Berry River Watershed, which is outlined in black and located in Rochester, Barrington, Farmington and a bit of Strafford. The drinking water treatment facilities that supply the City of Rochester and a small corner of Lebanon, Maine are represented by the star icons.



How's My Water?

From source to tap, the City of Rochester remains committed to providing our customers with the highest quality drinking water that meets or exceeds state and federal requirements. We continue to work on your behalf to ensure delivery of a quality product. Throughout 2022 we conducted more than 2200 tests for over 175 drinking water compounds and sampled continuously throughout the distribution system.

Our mission as a responsible public water system is to deliver the best-quality drinking water and reliable service at an economical cost. We rely on instrumentation, equipment and training, along with communication from our customers, for successful operations.

The water treatment facility operates at or below projected operations & maintenance costs, due to the skill, planning, effort, and training of our innovative and dedicated staff. Maintenance and efficiency remain a primary focus for the staff, who are invested in the customers, department, and each other. Our pursuit of excellent water quality and efficient operations never ceases.

The NH Department of Environmental Services conducted a routine facilities and operations inspection (called a Sanitary Survey) this year. This process includes a thorough review of financial, technical, and managerial capacities of the utility for regulatory compliance and sustainable planning. Also this year, the NH Dam Bureau performed routine inspections on structures in the upper watershed.

As a Rochester water customer, your investment in a safe and sustainable water supply allowed the City to make considerable improvements in source water protection, energy efficiencies, and treatment process infrastructure.

Major projects undertaken or advanced in 2022 included design of an Iron and Manganese treatment train at the groundwater plant; furtherance of our lead service line inventory and replacement program; permitting and engineering for the surface water reservoir augmentation project; upgrades to control valves at the surface water treatment facility; substantial revisions to the municipal water ordinance; the Route 202A Water Main Extension and Storage Tank Project; large meter replacement and fixed network reading equipment projects; and preliminary engineering for a hydraulic capacity upgrade at the surface water treatment facility.

Upcoming projects include inspection and rehabilitation of a 20" finish water transmission main; improvements in our distribution system pipelines; repairs to the Tuft's Pond Reservoir Dam; and

upgrades to the Salmon Falls Booster Pump Station.

Public outreach and customer communication is always a critical part of drinking water excellence. This year we hosted student tours from Spaulding High School's Environmental Science and Advancement Placement Chemistry classes; presented at the New England Water Works spring conference; supported staff involvement in both leadership and instruction roles for various professional organizations including the New Hampshire Water Works Association and New Hampshire Public Works Association. Water department staff also hosted and were keynote speakers for a conference on leadership, workforce retention and culture within the drinking water industry.

(Aerial photo of Rochester Reservoir by Jim Martino)

Your water is a valuable, plentiful and cost effective resource.



When considering the high value we place on water, it is truly a bargain to have water service that protects public health, fights fires, supports businesses and the economy, and provides us with the high-quality of life we enjoy.

Water Quality Monitoring & Sourcewater Assessment

Water is one of the world's most precious resources and we take seriously the integrity and conservation of our supply. In 2002, the NH Department of Environmental Services (DES) prepared the most recent Source Water Assessment Report for our surface water supply, which evaluated the source's vulnerability to contamination. The results of the assessment, prepared on 10/29/02, are as follows: Berrys River received 1 high susceptibility rating, 3 medium susceptibility ratings and 8 low susceptibility ratings. Source water assessment information and comprehensive water quality data may be obtained from the Water Department, please call 603-335-4291 for more information or visit NH Department of Environmental Services Drinking Water and Groundwater Bureau web site at: <http://des.nh.gov/organization/divisions/water/dwgb/dwspp/dwsap.htm>

In order to ensure that tap water is safe to drink, the United States Environmental Protection Agency (EPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The United States Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

We continually refine and advance water treatment techniques in response to new regulations and our duty to provide safe and clean water for our customers. This requires us to perform extensive water sample collection and analysis for many different waterborne substances including: pH, Color, Turbidity, Coliform, Cryptosporidium, Total Organic Carbon, Disinfection Byproducts (TTHM/HAA5), Lead and Copper, Iron, Manganese, Nitrates, Volatile/Synthetic Organic and Inorganic Chemicals, Per- and Poly-Fluorinated Compounds, and Alkalinity.



Surface water facility chemical feed room

Health Information

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline 800-426-4791.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include: **Microbial contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. **Inorganic contaminants**, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming. **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses. **Organic chemical contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems. **Radioactive contaminants**, can be naturally occurring or be the result of the oil and gas production and mining activities.

Do I need to take special precautions? Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Tap vs. Bottled

Thanks in part to aggressive marketing, the bottled water industry has successfully convinced us all that water purchased in bottles is a healthier alternative to tap water. However, according to a four-year study conducted by the Natural Resources Defense Council, bottled water is not necessarily cleaner or safer than most tap water. In fact, about 25 percent of bottled water is actually just bottled tap water (40 percent, according to government estimates).

The Food and Drug Administration is responsible for regulating bottled water, but these rules allow for less rigorous testing and purity standards than those required by the U.S. EPA for community tap water. For instance, the high mineral content of some bottled water makes them unsuitable for babies and young children. Furthermore, the FDA completely exempts bottled water that's packaged and sold within the same state, which accounts for 70 percent of all bottled water sold in the United States.

People spend 3,000 times more per gallon for bottled water than they typically do for tap water. If you get your recommended eight glasses a day from bottled water, you could spend up to \$1,400 annually. The same amount of tap water would cost about 49 cents. Even if you installed a filter device on your tap, your annual expenditure would be far less than what you'd pay for bottled water.

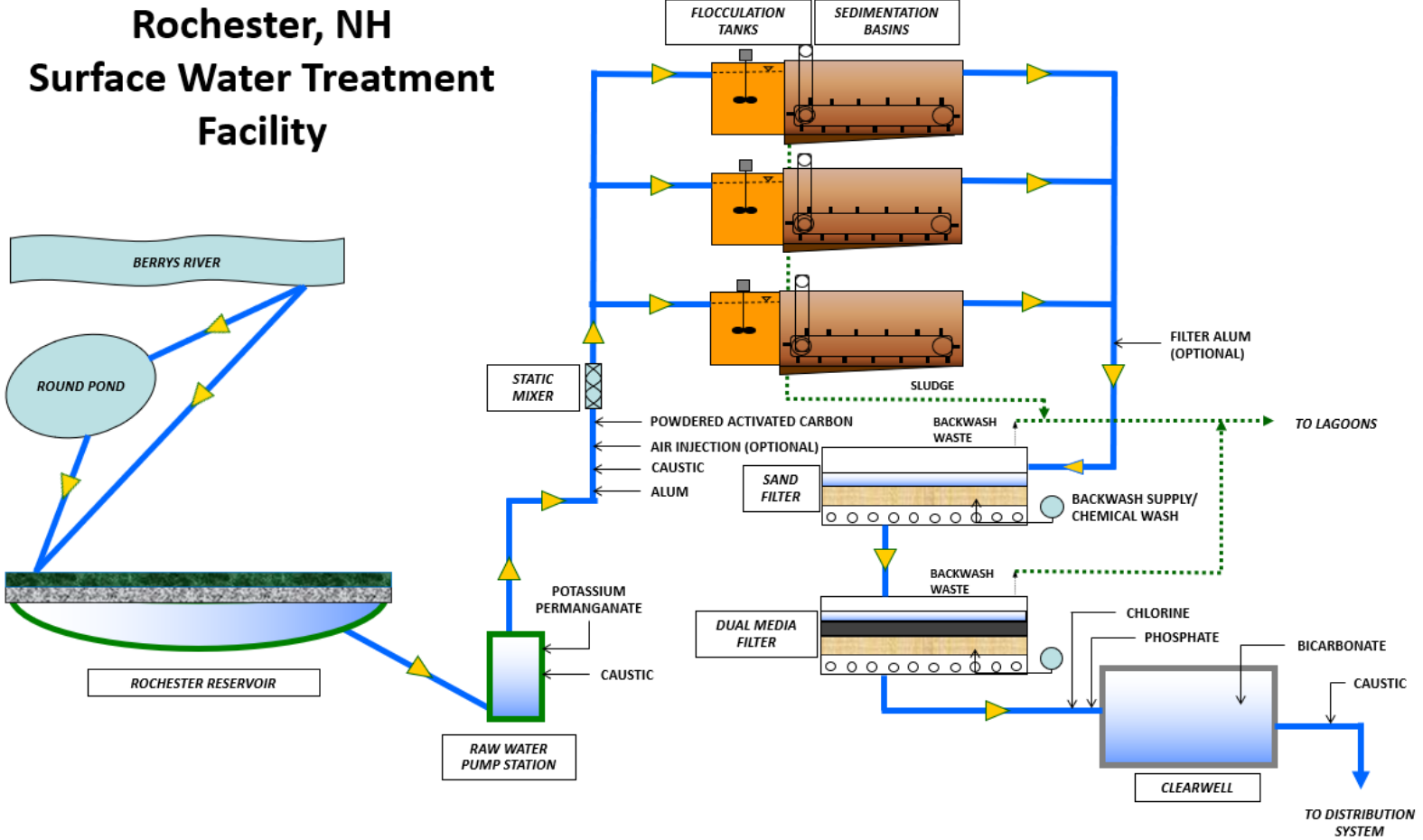
We'd like to thank all of our sample site hosts!

Cleary Cleaners, Burger King, McDonald's on North Main Street, Holiday Inn, Shell Station On Route 11, Nantucket Beadboard, Tara Estates, James Foley Community Center, Rochester Post Office, City Hall, Blue Seal Feeds, Subway on North Main Street, Dunkin' Donuts on Washington Street, Public Works, Cumberland Farms on Knight Street, Varney's Laundry Center, Granite State Glass, Skyhaven Airport, Rochester Public Library, Fallen Leaf Bistro, Dunkin' Donuts on Highland Street, Cumberland Farms on Highland Street, Discount Borderline Beverages, The Rubber Group, Gonic Post Office, Rte. 125 RV & Marine, Dunkin' Donuts Rte.125, Merchants Plaza, Cleary Cleaners and Holy Rosary Credit Union.



Eisenhower Tank mid-construction

Rochester, NH Surface Water Treatment Facility



City of Rochester Water Treatment Facility

Facility Address: 64 Strafford Road
 Mailing Address: 209 Chestnut Hill Road
 Rochester, NH 03867
 PWS ID: NH2001010

Owner: Peter Nourse, PE, Director of City Services
 Owner's Rep.: Michael Bezanson, PE, City Engineer
 Primary Operator: Ian Rohrbacher, Superintendent
 Lead Operator: Zeke Lapierre
 Phone: 603-335-4291 (M-F 7am-3pm)
 Fax: 603-335-9286

Questions or Concerns

If you are interested in a tour of the facilities or have questions on water quality and our treatment and supply systems, please call Ian Rohrbacher, Water System Superintendent, at 603-335-4291 Monday through Friday 7:00am to 3:00pm. We will be pleased to answer all of your questions.



Water Quality Results for 2022

This table lists all drinking water contaminants we detected during the 2022 calendar year. The presence of these contaminants in the water does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in the table is from testing done January 1 through December 31, 2022. The state requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Finished water production typically enters the distribution system at less than 0.07 NTU, 0 ptcu, <2.5mg/l TOC, 7.3 pH, 1.70 mg/l free chlorine, 0.03 mg/L manganese, and a hardness of 20-30 mg/l.

Detected Analyte / Contaminant	Our Water	MCL	MCLG	Meets Limits?	Typical Source of Contamination	Health Effects
Microbiological Contaminants						
E. coli Bacteria	0	0	0	Y	Human and animal fecal waste	E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems.
Turbidity (NTU)	100% compliance Avg: 0.069 Max: 0.161	TT (0.3)	N/A	Y	Soil runoff	Turbidity has no health effects. However, turbidity can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.
Total Organic Carbon (TOC, mg/L)	Avg: 2.4 Range: 1.9-2.9	TT	N/A	Y	Naturally present in environment	Total organic carbon (TOC) has no health effects. However, total organic carbon provides a medium for the formation of disinfection byproducts. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these byproducts in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.
Radioactive Contaminants						
Compliance Gross Alpha(pCi/L)-(Surface Water)	0.6	15	0	Y	Erosion of natural deposits.	Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Compliance Gross Alpha(pCi/L)-(Cocheco Well)	ND			Y		
Uranium(ug/L)-(Surface Water)	ND	30	0	Y	Erosion of natural deposits.	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk of getting cancer and kidney toxicity.
Uranium(ug/L)-(Cocheco Well)	ND			Y		
Combined Radium 226+228 (pCi/L)-(Surface Water)	0.6	5	0	Y	Erosion of natural deposits.	Some people who drink water containing radium 226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
Combined Radium 226+228 (pCi/L)-(Cocheco Well)	1			Y		
Lead and Copper						
Copper (2020) (mg/L)*	0.178	1.3mg/L (AL)	1.3	Y	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.
Lead (2020) (ppb)**	0	15ppb (AL)	0	Y	Corrosion of household plumbing systems; Erosion of natural deposits	(15 ppb in more than 5%) Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing.
Inorganic Contaminants						
Chlorine (ppm) (Distribution System Average)	0.83			Y		
(Surface Water Plant ppm range)	1.32-1.93	MRDL=4	MRDLG=4	Y	Water additive used to control microbes	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
(Cocheco Well ppm range)	0.89-1.55			Y		
Barium (mg/L) - (Surface Water)	0.0034	2	2	Y	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Barium (mg/L) - (Cocheco Well)	0.0049			Y		
Fluoride (mg/L) - (Surface Water)	0	4	4	Y	Erosion natural deposits; additive to promote strong teeth.	Your public water supply is fluoridated. According to the Centers for Disease Control and Prevention, if your child under the age of 6 months is exclusively consuming infant formula reconstituted with fluoridated water, there may be an increased chance of dental fluorosis. Consult your child's health care provider for more information.
Fluoride (mg/L) - (Cocheco Well)	0			Y		
Nickel (mg/L) - (Surface Water)	ND	NA	N/A	Y	Erosion of natural deposits; runoff from orchards, power plants, metal factories, waste incinerators	Monitoring required (MCL and MGL were removed from State/Federal regulations)
Nickel (mg/L) - (Cocheco Well)	0.0017			Y		
Nitrate (mg/L) - (Surface Water)	ND	10	10	Y	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	(5 ppm through 10ppm) Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your health care provider. (Above 10 ppm) Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Nitrate (mg/L) - (Cocheco Well)	ND			Y		
Nitrite (mg/L) - (Surface Water)	ND	1	1	Y	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits	Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill, and if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Nitrite (mg/L) - (Cocheco Well)	ND			Y		
Synthetic Organic Contaminants (including Pesticides and Herbicides)						
No Detects	ND	N/A	N/A	Y		N/A
Volatile Organic Contaminants						
THMs [Total Trihalomethanes] (ug/L)***	Highest Avg: 70 (Site 324) Range: 1.2-112	80ug/L	N/A	Y	By-product of drinking water chlorination	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
HAA5 [Haloacetic Acids] (ug/L)***	Highest Avg: 61 (Site 325) Range: 0-60	60ug/L	N/A	N	By-product of drinking water chlorination	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Water Quality Results for 2022

Secondary Contaminants

Detected Analyte / Contaminant	Our Water	SMCL	TT	Specific contaminant criteria and reason for monitoring
Chloride (mg/L) - (Surface Water)	12	250	N/A	Runoff from road de-icing, use of inorganic fertilizers, landfill leachates, septic tank effluents, animal feeds, industrial effluents, irrigation drainage, and seawater intrusion in coastal areas
Chloride (mg/L) - (Cocheco Well)	34			
Iron (mg/L) - (Surface Water)	0.011	0.3	N/A	Erosion of natural geological deposits; corrosion of cast iron pipes
Iron (mg/L) - (Cocheco Well)	0.403			
Manganese (mg/L) - (Surface Water)	0.0039	0.05	N/A	Erosion of natural geological deposits
Manganese (mg/L) - (Cocheco Well)	0.0836			
Sodium (mg/L) - (Surface Water)	20.9	250	N/A	Natural sources; runoff from use as salt on roadways; by-product of treatment process
Sodium (mg/L) - (Cocheco Well)	20.3			
Sulfate (mg/L) - (Surface Water)	16	250	N/A	Natural sources
Sulfate (mg/L) - (Cocheco Well)	6			
Zinc (mg/L) - (Surface Water)	0.0017	5	N/A	Erosion of natural deposits; leaching from plumbing materials, galvanized pipe
Zinc (mg/L) - (Cocheco Well)	0.0153			

Additional Testing

Per- and Polyfluoroalkyl Substances (PFAS)

Analyte	Result	MCL	Meets Limits?	Specific contaminant criteria and reason for monitoring
Perfluorooctanoic acid (PFOA) (ppt)				Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/leachate from landfills and septic systems
Surface Water Treatment Facility Finish Water	ND	12	Y	
Surface Water Treatment Facility Raw Water	ND	12	Y	
Cocheco Well Groundwater	3.92	12	Y	
Perfluorooctane sulfonic acid (PFOS) (ppt)				Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/leachate from landfills and septic systems
Surface Water Treatment Facility Finish Water	ND	15	Y	
Surface Water Treatment Facility Raw Water	ND	15	Y	
Cocheco Well Groundwater	3.15	15	Y	
Perfluorononanoic acid (PFNA) (ppt)				Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/leachate from landfills and septic systems
Surface Water Treatment Facility Finish Water	ND	11	Y	
Surface Water Treatment Facility Raw Water	ND	11	Y	
Cocheco Well Groundwater	ND	11	Y	
Perfluorohexane sulfonic acid (PFHxS) (ppt)				Discharge from industrial processes, wastewater treatment, residuals from firefighting foam, runoff/leachate from landfills and septic systems
Surface Water Treatment Facility Finish Water	ND	18	Y	
Surface Water Treatment Facility Raw Water	ND	18	Y	
Cocheco Well Groundwater	ND	18	Y	

Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR)

Raw Cryptosporidium (Oocysts/L) (data from 2018)	0	NA	NA	The public water supply completed a 24 month sample schedule for cryptosporidium from 2016-2018. Results showed concentrations of 0 cysts/L in discrete samples.
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VIOLATIONS

VIOLATION	Date of Violation	Explain Violation	Length of Violation	Action Taken	Health Effects
Disinfection Byproduct MCL / Sample Average	Quarter 1	HAAS Exceedence at Site 325	One Quarter	Corrected a valve configuration in the distribution system and flushed the affected areas to reduce residence time.	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

Footnotes:

- * Copper content in the treated water prior to entering the distribution system was < .001mg/L from surface water and 0.0020mg/L from groundwater . Corrosion of household plumbing contributes to the higher average.
- ** Lead: If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. This contaminant is tested for once every three years, on the corresponding dates per regulation. The next monitoring period is 2023. This water system is responsible for high quality drinking water, but can not control the variety of materials used in your plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing cold water your tap for at least 30 seconds
- *** For TTHM and HAA5 results it is possible to get a slightly higher level at one site and still be within MCL range. This level is derived from samples taken at 4 locations monthly and is a locational running annual average of sample site specific disinfection byproduct (DBP) concentrations.

Definitions and Abbreviations

MCLG – Maximum Contaminant Level Goal, or the level of a contaminant in drinking water below which there are no known or expected health risks. **MCL** – Maximum contaminant level, the highest level of a contaminant that is allowed in drinking water. **AL** - Action level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow. **TT** – Treatment technique, or required process intended to reduce the level of a contaminant in drinking water. **MRDLG** – Maximum residual disinfectant level goal or the level of drinking water disinfectants below which there is no known or expected health risk. **MRDL** – Maximum residual disinfectant level or the highest level of a disinfectant allowed in drinking water. **NA** – not applicable, **ND** – none detected, **NR** – not regulated, **NTU** – Nephelometric Turbidity Units, **ppm** – parts per million, **ppb** – parts per billion, **ppt** - parts per trillion, **ppq** - parts per quadrillion, **MFL** – million fibers per liter, **pCi/L** – pico curies per liter, a measurement of radioactivity. **SMCL** - Secondary (aesthetical) maximum contaminant level. **mg/L** - milligrams per liter. **ug/L** - micrograms per liter. **ptcu** - Platinum-Cobalt color unit.

Radon – EPA sets drinking water standards and has determined that radon is a health concern at certain levels of exposure. Radon is a naturally occurring radioactive contaminant that occurs in groundwater. It is a gas and is released from water into household air during water use. Radon has been found in epidemiology studies to cause lung cancer in humans at high exposure levels. At lower exposure, the risk of lung cancer is reduced. The City of Rochester is supplied by surface water and groundwater from a gravelly sand aquifer. High levels of radon are typically associated with deep bedrock wells.

Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality and the effectiveness of filtration. High Turbidity can hinder the effectiveness of disinfectants.