



*City of Rochester, New Hampshire*  
PUBLIC WORKS DEPARTMENT  
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## **MEMO PUBLIC WORKS & BUILDING COMMITTEE AGENDA**

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**TO:** PUBLIC WORKS AND BUILDINGS COMMITTEE  
**FROM:** PETER C. NOURSE, PE  
DIRECTOR OF CITY SERVICES  
**DATE:** May 11, 2023  
**SUBJECT:** Public Works & Buildings Committee Meeting  
Meeting Date *Thursday May 18, 2023 at 7PM*

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There will be a Public Works and Buildings Committee Meeting held on Thursday May 18, 2023, at 7PM. This meeting will be at City Hall in City Council Chambers

### **AGENDA**

1. Approval of the April 20, 2023, PWC Minutes
2. Public Input
3. Main Street – Deck Project Presentation
4. Traffic Signal Modernization Project Update
5. Water Main Transmission Line Rehab Update
6. Bulk Water Hauling Station
7. Rt 202A Water Main Extension Project Update
8. Other

**Public Works and Buildings Committee**  
**City Hall Council Chambers**  
**Meeting Minutes**  
**April 20, 2023 7PM**

**MEMBERS PRESENT**

Councilor Donald Hamann, Chairman  
Councilor Jim Gray, Vice Chairman  
Councilor John Larochelle  
Councilor Steve Beaudoin

**MEMBERS ABSENT**

Councilor Alexander de Geofroy

**OTHERS PRESENT**

Councilor Dana Berlin  
Peter C. Nourse PE, Director of City Service  
Lisa Clark, Deputy Director DPW  
Dan Camara, Coordinator GIS & Asset Mgmt.  
Chuck Grassie  
Todd Radick  
Sam Kenney, Weston & Sampson Engineers

**MINUTES**

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

**1. Approval of February 16, 2023 Meeting Minutes**

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

**2. Public Input**

Chuck Grassie spoke to the Committee in reference to the elevate speed tables. He expressed his support for these traffic devices and stated he had previously spoken at the Public Safety Committee. Mr. Grassie stated that he believed the speed tables will assist the City to slow traffic in the downtown area. He suggested they be installed on North Main near the Revolution Restaurant, one on South Main near the Chamber of Commerce, and one near City Hall.

Todd Radick owner of Skeletones on North Main Street spoke to the Committee about his concerns for speeding in the downtown. He expressed his support for the speed tables in the downtown area. Mr. Radick suggested that Hanson Street one way traffic direction be changed to entering from Wakefield Street.

**3. Pavement Moratorium Waver – 165 Charles Street**

Mr. Nourse explained that this section of road was paved in 2020 and that the existing medical building at the location is being renovated for residential apartments. Mr.

Nourse stated that a new 2” water service will be pulled through and installed to provide both domestic and fire flow use. He stated that the DPW does support the request and will ensure that the patch is completed to City Standards.

***Councilor Larochelle made a motion to recommend City Council approve the pavement moratorium as recommended by DPW. Councilor Gray seconded the motion. The motion passed unanimously.***

#### **4. Howe Street / Apple Orchard – Walking Path**

Mr. Nourse stated he had received a request from a resident regarding land between Howe Street and Apple Orchard Road. He stated that this is a City owned parcel and the resident is requesting that the residents be able to use the area as walking path that would connect the streets. Mr. Nourse stated that he had discussed this with the City Attorney and that this would not be a liability concern for the City. He stated that when he discussed it with the Recreation Department Director, they had stated interest in making it a pocket park if the City wanted to create and maintain the space. Mr. Nourse stated if it is just to be used as a walking path, he believed the project could be for the residents to clear a path and use it as they want. Councilors Hamann, Beaudoin, and Gray stated that they agreed that the residents can use it at their own discretion and did not see the need for City Staff to clear or maintain it in the future.

#### **5. Autumn Street Sidewalk Request**

Mr. Nourse stated that a resident had contacted DPW regarding speeding traffic, truck traffic and the lack of sidewalks on Autumn Street in East Rochester. He stated that this Committee could discuss the sidewalks and the Public Safety Committee could address the other items. He stated that the sidewalks on Autumn Street to Salmon Fall Road and out to Highland were last discussed in November of 2021. Mr. Nourse stated that it is about four thousand feet of sidewalk to go from Autumn to Salmon Falls and another twenty-five hundred feet along Salmon Falls Road to connect it to Highland Street. Mr. Nourse stated that this area and several others were noted in the Transportation Master Plan as being ideal for new sidewalk projects. He noted that concrete sidewalks with curbing are estimated at one hundred and fifty dollars per foot which could make this project estimate about a million dollars. Mr. Nourse stated that this would need to be a standalone project and budgeted in a future CIP Project. He stated that this is a good future project and he stated that the DPW would be seeking Transportation Alternative Program funds (TAP Grant) and could submit this area for that funding. He noted that it took three years to be awarded funding through the TAP for the Portland Street Sidewalk Project and assumed that this project may take time as well. The Committee was in favor of submitting this project for TAP funding and discussed the funding criteria. Mr. Nourse stated that density of households in the area increases the chance of the award.

#### **6. Water Main 20” Transmission Main Project Update**

Mr. Nourse stated that there are two water mains that parallel cross country from the Water Treatment Plant to feed the water system. He noted that one is a 24 inch main that was installed 1984 and an older 20 inch main estimated to have been installed in the 1890’s. Mr. Nourse stated that the City Council had approved City ARPA funding in the amount of \$1.6 million to be used to examine and re-line the 20 inch main. Mr. Nourse stated that the examination has shown that the 20 inch ductile iron main installation was completed in 1956 and a preliminary assessment of a limited length of it indicates it is in

good condition. He had a section of the pipe for the Committee to examine. He stated that the contractor has drained and pigged the water main and that video inspection of the pipe will be completed within the next few days. He explained the pigging process used to clean the pipe. Mr. Nourse stated that there is a good chance that this pipe will not need the re-lining project and that the funding for that process will not be needed. He stated that there is approximately \$1.1 million remaining and could be used for another project. Mr. Nourse introduced Sam Kenny from Weston & Sampson Engineers. Mr. Kenny displayed a PowerPoint Presentation with pictures of the project for the Committee (attached to minutes). Mr. Kenny recapped Mr. Nourse's discussion and explained the infrastructure improvements that have been completed on the pipe. He explained that valve and tee insertions have been completed to give the City segmented access to the pipes for isolation of these segments which will allow for maintenance and repair as well as cleaning and flushing as needed in the future. Mr. Kenny showed pictures and explained the process of pigging a line to clean it. He also discussed additional work that is advised in the area of the chlorinator building. Mr. Nourse stated if there is a time in the future that this pipe does need to be lined, the valves have been inserted and will allow for that to happen. Mr. Nourse displayed a video of the work. Mr. Nourse stated that he may request that the City Council approve another water project to direct the unused portion of this project's funding.

**7. EPA Regulatory Limits for Per and Polyfluoroalkyl Substances (PFAS) as a Proposed National Primary Drinking Water Regulation:**

Mr. Nourse stated on March 14, 2023, the Environmental Protection Agency (EPA) released the new proposed Maximum Contamination Level (MCL) for six PFAS compounds. Mr. Nourse displayed and discussed the EPA Fact Sheets for this change (two fact sheets are attached to the minutes). He stated that these new rules will likely be implemented and enforceable by year's end and New Hampshire will have up to two years to comply. He discussed the sources of PFAS and the possible related health effects and noted that they are considered by EPA to be carcinogens. Mr. Nourse stated that there are up to four thousand different compounds considered PFAS. Mr. Nourse also discussed the different ways that these compounds enter the water supply systems. Mr. Nourse stated that we have had some detected levels of some of these compounds at our well site and that the recent levels are below the MCL's that are proposed. Mr. Nourse stated that these detections are very low and that they could be artifacts of our equipment or testing procedures. He noted there is Teflon in tubing and valves and samples can be contaminated by gloves and clothing. Mr. Nourse stated that the new rule requires 3 years of monitoring and quarterly monitoring from there on out. The compliance will be a running annual average. He stated that if our detection continues as it has been we will be compliant with the new MCL's. Council Larochelle discussed the testing parameters and detection levels and he volunteered to assist with the data evaluation. Mr. Grassie stated that he had some experience with the PFAS testing as he had been working on this in State Legislature and he discussed the correlation of PFAS with specific medical conditions in the Merrimack area.

**8. Wastewater Treatment Plant (WWTP) issued new EPA National Pollution Discharge System (NPDES) Individual Permit.**

Mr. Nourse stated that the City received its new permit for the WWTP. He stated that this permit is in effect as of June 1, 2023 through May 31, 2028. Mr. Nourse stated that this

long awaited permit is posted on the City website at [www.rochesternh.gov](http://www.rochesternh.gov). He stated that this succeeds the 1997 Permit. Mr. Nourse explained that the draft permit was issued in April 2022 for review and comment. He stated new permit is essentially identical as the draft permit and it is over three hundred pages long. He stated that the permit regulates our effluent discharge into the Cocheco River. He stated there is a stringent effluent phosphorus limit of 0.12 milligrams per liter, and the City's current effluent is routinely 20-60 times that level. He stated that on average it is 30 times greater. Mr. Nourse explained in detail the EPA's and the City of Rochester's conflicting views on the need for these limits in regards to the Cocheco River, and he explained the conflicting views on the data collection and interpretation used to determine this stringent level. Mr. Nourse stated that the City had proposed a pilot program for phosphorus and it was rejected by the EPA. Mr. Nourse explained that the permit includes a more extensive Industrial Pre-treatment Program (IPP) which will increase the commercial sites to be included in the program and PFAS sampling and monitoring will be required for 40 compounds at the Wastewater Treatment Plant (WWTP). He stated the new Permit reduces the ammonia limits, reduces the PH range and regulates acceptable flow to the design limit of the plant which is 5.03 million gallons per day. Mr. Nourse explained that the previous permit stated if you exceeded 80% of your design flows for 90 consecutive days then you would need to start designing for expansion of your process. He stated this permit changes that criteria to an 80% average of design flow for 3 months months. He noted we have already met those criteria. He stated that with these new criteria and the new phosphorus level we are already in non-compliance with the new permit. Mr. Nourse stated that while the EPA has rejected our request for inclusion of extended time frames for compliance in the permit, but it does appear that they are encouraging the City to enter into another Administrative Order of Consent (AOC) as we did with the Great Bay General Permit for Nitrogen. This AOC would give us a protracted schedule for implementation of the reduced limits which would give the City more time for infrastructure improvements. Mr. Nourse stated that the City has appealed the permit to the EPA Appeals Board on the grounds that it is technical and legal conclusions are erroneous and derived from abuse of discretion. He noted that any contested item is stayed until a decision is rendered. Mr. Nourse stated that history shows that the appeals take anywhere from two months to a year to resolve. Mr. Nourse stated that the phosphorus limits will have significant cost implications. He estimated twenty million dollars for the capital upgrades and an additional three hundred thousand in operations and maintenance costs. Mr. Nourse stated that attached to the addenda was the City's environmental attorneys letter summarizing the new permit impacts (attached to minutes). Councilor Beaudoin asked if the financial impacts for the users had been calculated. Mr. Nourse stated that the calculations were made a few years ago and would need to be brought out again. Councilor Beaudoin stated that the rate of growth is going to directly impact the cost due to this new permit. Mr. Nourse stated that the City's legal counsel will update and advise the City Council in May regarding the new permit.

**9. Conservation Law Foundation (CLF) Petitions EPA to Exercise for Residual Designation of Authority (RDA) of Storm Water Discharges**

Mr. Nourse referenced the letter included in the packet from the City's environmental, attorney dated April 12, 2023. He stated that CLF has petitioned the EPA to exercise Residual Designation of Authority (RDA) under the Clean Water Act to regulate

Stormwater to discrete community, industrial and institutional properties that are currently unpermitted and located in the Great Bay Estuary Watershed. They seek this authority on the grounds that these sources are contributing to violations of State of NH Water quality standards. CLF's motivation is to further reduce nitrogen from these sources in Communities regulated under the MS-4. He explained that Rochester is a MS-4 regulated Community and if you are in Rochester and are a community, industrial or institutional property with 0.75 acres or more of impervious cover then your storm water discharge would be regulated. If you were a non-MS-4 Community your regulation would begin at 1.5 acres or more. Mr. Nourse stated that including Rochester there are 18 MS-4 Communities that will be affected, 9 of which are also subject to the Great Bay Nitrogen Permit and 18 other non-MS4 Communities that will not be affected. He explained that CLF had petitioned for the RDA and prevailed in 2019 for the Charles, Neponsit and Mystic Watershed. He stated that CLF promotes that they used that RDA as a compliment to the General Permit to implement nitrogen limits more fairly as they would include other entities as opposed to just the communities with wastewater treatment facilities. However, the RDA would apply to the Great Bay General Permittees including Rochester. He stated that there are 11 Great Bay General Permittees that the RDA would apply to, but it ignores the pollutant contribution of 12 State of Maine Communities, including 10 WWTP that discharge into the Great Bay Estuary, and it ignores nitrogen from residential properties with septic systems, which accounts for 29% of the nitrogen load to Great Bay. Mr. Nourse listed significant statistics for the number properties that would require NPDES permits if CLF's petition is granted. Mr. Nourse stated that per the settlement agreement with CLF the City of Rochester formed a work group to discuss the possibility of a Stormwater Management Program and the possibly of setting up a Utility to manage the program. This RDA could jeopardize that plan as it would be difficult for the City to create a Utility and implement a program if these parcels would also regulated by the CLF RDA. Mr. Nourse stated that the City's legal counsel has been discussing this with CLF and will update and advise the City Council in May regarding this petition and the WWTP NPDES Permit.

#### **10. Drinking Water Watershed Conservation opportunity**

Mr. Nourse stated that the City has a great watershed that the Committee is familiar with. He stated that it encompasses approximately 8000 acres of which approximately 1/2 are conserved in conservation easements or by City ownership. In 2018 the City partnered with the South East Lant Trust (SELT) to conserve about 350 acres at a very modest cost. In 2021 we were able to conserve about 10 more acres. Mr. Nourse stated that we now have another opportunity to conserve property on Sheepsboro Road in Farmington. He stated that it would be 175 acres in Farmington and 25 in Strafford. Mr. Nourse stated that the property is privately owned, and the owner would like to have a conservation easement placed on it. Thee Moose Mountain Regional Greenway is requesting approximately twenty thousand dollars as a City contribution to the project. The total project is estimated at three hundred and thirty thousand dollars, with most of the cost funded by the Drinking Water Ground Water Trust Fund Land and Community Heritage Investment Program. City Staff is in favor of this opportunity and there are funds appropriated for this conservation easement. Councilor Hamann expressed his support.

#### **11. Rt11 Safety & Capacity Improvement Update**

Mr. Nourse stated that these two RT11 Projects have been discussed previously with the

Public Works Committee. He stated that the project are widely understood to be transportation priorities for Rochester and the region. The City Officials and Staff have been advocating for these projects for the past several years. The City has completed conceptual designs and project estimates as they have worked to advance the project schedule. The Safety Improvement Project will install a traffic signal at Nashoba Drive and to construct sidewalks along the east side of Rt11 to the overpass of the Spaulding Turnpike. This will eventually connect the sidewalk all the way to Strafford Square and the downtown. The Capacity Improvement Project will include two lanes in each direction for travel and will have a center left turn lane. Mr. Nourse stated that NHDOT has assigned a project manager, and both projects have been combined into one project with a singular construction effort. Mr. Nourse stated that we have received the project agreement for execution that includes an 80/20 split in state/city funding. He stated that the agreement proposes advertising for construction in the State of NH Fiscal year 2025 and construction completion in 2026 or 2027. The current NHDOT project estimate is Three million nine hundred thirty-nine thousand, five hundred and sixty-three dollars (\$3,939,563.00). The State Share of 80% would be Three million, one hundred and fifty-one thousand, six hundred and fifty dollars (\$3,151,650.40), and the City share would be 20% at seven hundred and eighty-seven thousand, nine hundred and twelve dollars (\$787,912.60). Mr. Nourse stated that the City had previously appropriated five hundred and twenty-nine thousand dollars (\$529,000) in two separate funding accounts for the project. This amount was based on the previous project estimate, two separate projects and a different funding understanding. Mr. Nourse said that the City Council will see on the May 2<sup>nd</sup>, 2023 agenda that we will be de-authorizing those funds and appropriating the full project now that we have the agreement and a clear understanding of the project estimate and funding splits. Councilor Gray asked about the intersection of Old Dover Road and Tebbetts Road. Mr. Nourse stated that this project is also moving forward as a Highway Safety Improvement Program Project (HSIP) with a 90% State and 10% City Split. He stated that NHDOT and the City have previously executed that agreement, the City has funded the project, and NHDOT has agreed to the City's selected consultant for design. The City is moving forward with design.

## **12. Traffic Devices – Speed Tables**

Mr. Nourse stated he was asked to add this item to the agenda. He stated that a draft policy was written by a member of the Public Safety Committee. Mr. Nourse stated there is currently one speed table in Rochester on Market Place Boulevard and there is one in the design of Strafford Square Roundabout project in the North Main Street slip lane that will be constructed this year. He stated that speed tables are traffic calming devices that raise the profile of the pavement for the width of the roadway or a partial width of the roadway. The length of the table is about 10 feet to accommodate most wheelbases. The height is about four inches. He stated that the intent is to reduce speeds at crosswalks or in other areas. Mr. Nourse stated that the National Institute of Transportation Engineers has extensive guidance for the use of speed tables. He stated that they have developed a very thick manual on this. Mr. Nourse suggested that there could be a standalone ordinance on the use of the speed tables, or if it is deemed appropriate, the DPW is in the process of reviewing and updating the Ordinance Chapter 223 Highways and Sidewalks, and it this could be added during this revision process. He stated he expects that the revisions will be going to City Council for approval late Spring or during the summer and

that a section on traffic calming, including speed tables could be added. The Committee discussed some of the recommendations and the many factors for consideration for placement of speed tables. Mr. Nourse stated that careful consideration and engineering judgement should be used when writing the ordinance. He also noted that there are costs associated with the implementation of the speed tables so funding would need to be considered. Councilor Hamann suggested that inclusion in the ordinance update would be the appropriate way to move this forward. Councilor Larochelle stated that politics should not be involved with the process. He suggested that this should be guided by DPW and engineers with City Council approval based on recommendations of staff. Mr. Grassie expressed his support for the speed tables and stated he understood the considerations for use. Councilor Berlin stated he had drafted some guidelines to prohibit overuse. Mr. Nourse stated he would review Councilor Berlin's draft policy for implementation of Speed Tables and use what the Councilor had drafted for the Ordinance on speed tables. Mr. Radick stated if this is going to take an extended amount of time then he would like to see a speed limit sign closer to downtown on North Main Street.

### **13. Highway Block Aid Funding – Pavement Program**

Mr. Nourse stated that there was a onetime supplemental payment to the City from the Highway Block Aid Funding in the amount of five hundred and thirty-six thousand, nine hundred and forty-nine thousand dollars (\$536,949). He stated that at the April 4, 2023, Regular City Council Meeting those funds had been delegated to the FY2023 Paving Rehabilitation Funds. Mr. Nourse displayed the DPW FY2023 paving recommendations and explained that the list had been presented and approved by the City Council, but that the bottom 3 streets were cut based on funding. Mr. Nourse stated that he is requesting the last three recommended streets be paved using these funds.

*Councilor Gray made a motion to approve Berry Street, Roberts Drive and Kipling Rock Road for paving as recommended by DPW. Councilor Beaudoin seconded the motion. The motion passed unanimously.*

### **14. Gonic Sewer Mystery Slime**

Mr. Nourse stated that in May of 2020 the Rt 125 Wastewater Pump Station experience the introduction of a mysterious, odorous substance that created a thick floating mat in the wet well. The substance was vacuumed out but reappeared in April and June of 2022. There was no damage to the pump station, but staff increased monitoring and vacuuming when the product was found. Staff spent time trying to determine the source and eventually had it sent out for analysis. It was determined that it is a filamentous bacterium that creates viscous filament sheets. Mr. Nourse stated that consultation with NHDES suggests that it is a result of a "perfect storm" environment. The first factor is that there is low dissolved oxygen. The next is the water temp is slightly higher in the area from WM discharge. Also noted is the food source (paper fibers) comes in from flag road, and the Flag Road pipe is made of pvc plastic that could have bellies and sags that hold water. Mr. Nourse stated that the staff has shocked the scum with chlorine and have built a puck dispensing system that regularly treats the area with chlorine like the way pools are treated.

### **15. Common Bandstand – Graffiti Problems**

Mr. Nourse displayed a video of the graffiti problem at the Rochester Common Bandstand. He stated that this is a regularly occurring problem that is using a significant



amount of staff time. He stated that there have been three recent incidents of this level of graffiti and there have also been bio hazards and burning of the deck from small fires and cigarette butts. Mr. Nourse stated that the area is well lit, he doesn't believe that is necessarily happening at night. Mr. Nourse stated that there are two projects in the FY 2024 budgets for cameras at each end of the Common. Ms. Clark stated that the City is also having difficulty finding vendors to supply the Common with portable toilets for the season. She stated two vendors will not supply us due to vandalism and abuse of the property. The Councilors agreed that this is a serious problem. Councilor Beaudoin stated that he would support the camera projects but suggested that Mr. Nourse investigate the State Statutes regarding the use of cameras in public locations.

**16. Ian's Way Winter Turf & Pavement Damage**

Mr. Nourse stated that plow damage was called in on Ian's Way. He displayed the pictures that were sent in. He stated that the damage has been repaired. Councilor Hamann stated that it has been repaired and that the neighborhood was please with the repairs.

**17. Other:**

There were no others discussed.

*Councilor Hamann adjourned the meeting at 9:22 PM.*

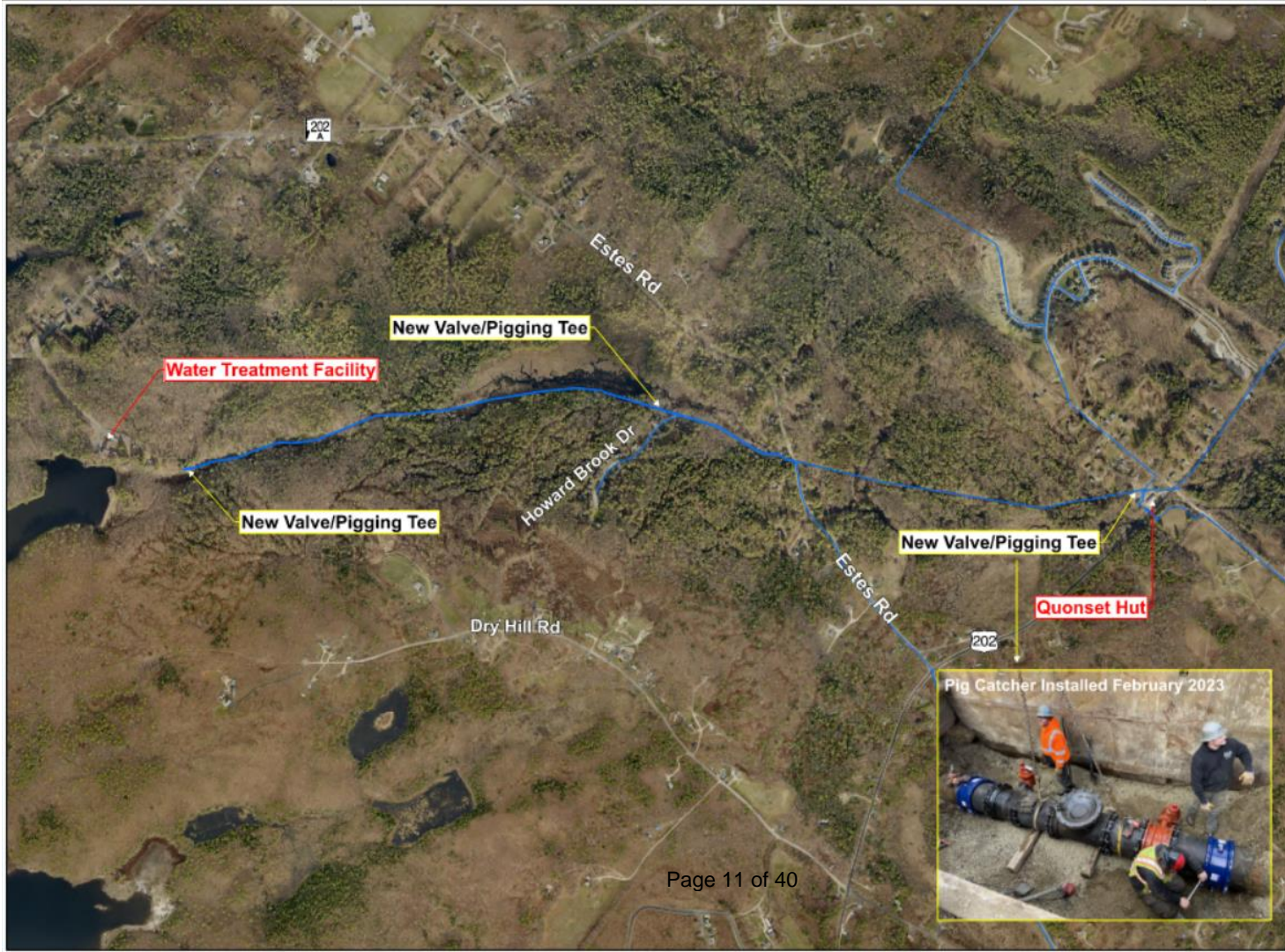
Minutes respectfully submitted by Lisa J. Clark, DPW Deputy Director Operations & Administration.

# welcome

# CITY OF ROCHESTER 20" WATER MAIN REHAB PROJECT



Public Works & Buildings Committee  
April 20, 2023



New Valve/Pigging Tee Locations  
20" Transmission Main

Legend

Water Main



DATE: 10/2023  
PROJECT: WATER MAIN REPLACEMENT  
DRAWN BY: [Name]  
CHECKED BY: [Name]



# BACKGROUND

- 20” main from Reservoir/WTP to Washington Street (~10,000 LF)
- Thought to be original main from reservoir to city (circa 1890s)
- Project started as exploration for water main rehabilitation/lining
- Further records were found indicating mid-1950s
- Infrastructure Improvements / pipe cleaning

# INFRASTRUCTURE IMPROVEMENTS



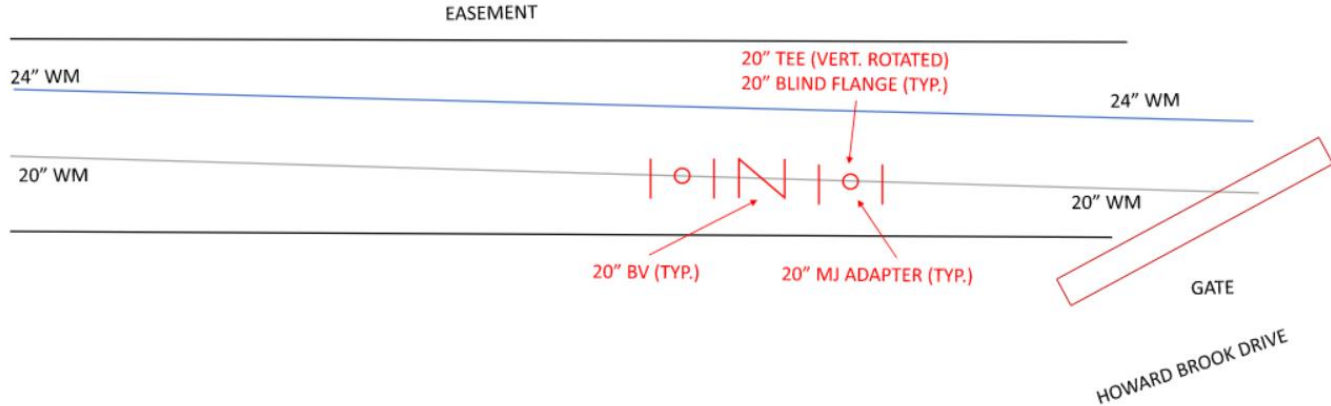
# INFRASTRUCTURE IMPROVEMENTS

ROCHESTER NH – PROPOSED IN-LINE  
VALVE LOCATIONS

HOWARD BROOK DRIVE GATE

SKETCH 2

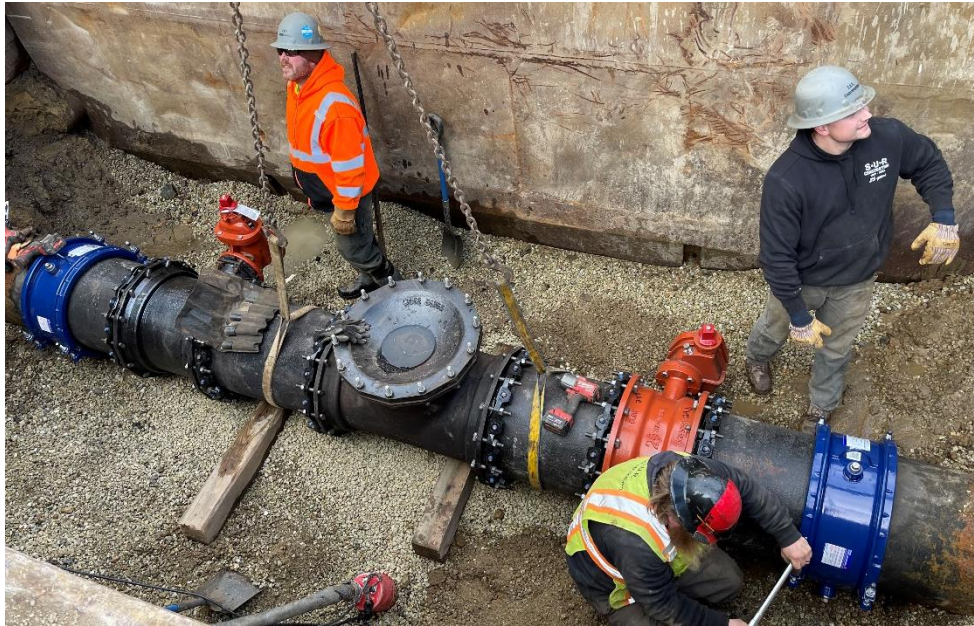
20" WM APPROXIMATE DEPTH:  
8' BELOW GRADE







# INFRASTRUCTURE IMPROVEMENTS



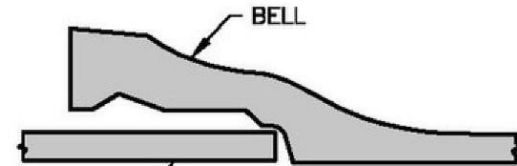
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# EXISTING PIPE CONDITION

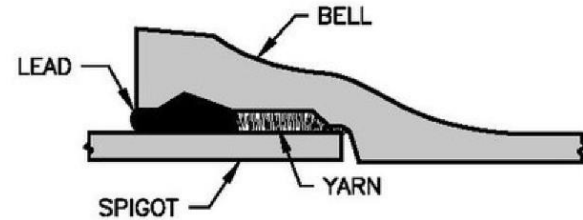


# EXISTING PIPE CONDITION

20" Transmission Main Joint Packing  
Washington Street



UNFINISHED JOINT

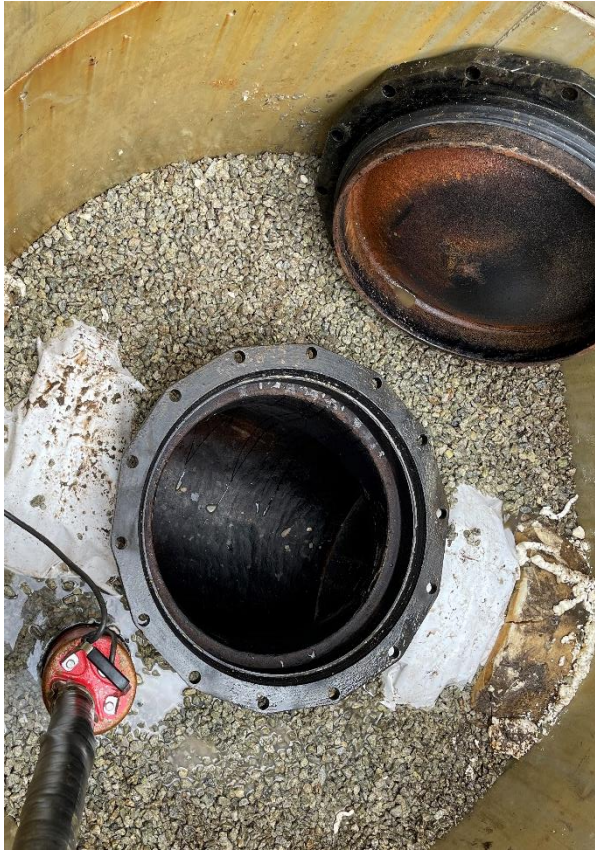


COMPLETED JOINT

# PIPE CLEANING / PIGGING



- Pipe cleaning technology
- Uses weighted foam cylinder
- Physical/mechanical scour of the interior of the pipe to remove debris



# PIPE CLEANING / PIGGING





# thank you

[westonandsampson.com](http://westonandsampson.com)



## EPA's Proposal to Limit PFAS in Drinking Water

### March 2023

We rely on water from the moment we wake up and make a cup of coffee to when we brush our teeth at night. Every person should have access to clean and safe drinking water. That's why the U.S. Environmental Protection Agency (EPA) is taking a key step to protect public health by proposing to establish legally enforceable levels for six PFAS known to occur in drinking water, fulfilling a foundational commitment in the Agency's PFAS Strategic Roadmap. Through this proposed rule, EPA is leveraging the most recent science and building on existing state efforts to limit PFAS and provide a nationwide, health-protective standard for these specific PFAS in drinking water.

### What are PFAS chemicals and why are they in our drinking water?

PFAS are a category of manufactured chemicals that have been used in industry and consumer products since the 1940s. PFAS have characteristics that make them useful in a variety of products, including nonstick cookware, waterproof clothing, and firefighting foam, as well as in certain manufacturing processes.

People can be exposed to PFAS in several ways. When their drinking water is contaminated with PFAS, it can be a significant portion of a person's total PFAS exposure. Exposure to PFAS over a long time, and during certain critical life stages, like during pregnancy and in developing babies, may lead to negative health effects.

PFAS can enter the environment from multiple sources, and because they tend to break down very slowly in the environment, PFAS can end up in the water sources that many communities rely on for drinking water. Reducing PFAS in drinking water helps reduce PFAS health risks.

### What is EPA doing to make our drinking water safe?

EPA is taking a key step to protect public health by proposing a National Primary Drinking Water Regulation (NPDWR) to establish legally enforceable levels, called Maximum Contaminant Levels (MCLs), for six PFAS known to occur in drinking water. The six PFAS are **PFOA, PFOS, PFNA, PFHxS, PFBS, and GenX Chemicals**.

An MCL protects public health by setting a maximum level of a contaminant allowed in drinking water which can be delivered to users of a public water system. Additionally, EPA is proposing health-based, non-enforceable Maximum Contaminant Level Goals (MCLGs) for these six PFAS. An MCLG is the maximum level of a contaminant in drinking water where there is no known or anticipated negative effect on an individual's health, allowing for a margin of safety.

### What levels EPA is proposing and what do water systems have to do?

Specifically, EPA is proposing:

- **An enforceable MCL for PFOA and PFOS.** EPA is proposing to regulate PFOA and PFOS at a level they can be reliably measured, which is 4 parts per trillion (4.0 nanograms/Liter).
- **An enforceable limit on a combination of PFNA, PFHxS, PFBS, and GenX Chemicals.** The proposed rule also would place limits on any mixture containing one or more of PFNA, PFHxS, PFBS, and/or GenX Chemicals. For these PFAS, water systems would use an approach called a hazard index, defined in the proposed rule and described later in this document, to determine if the combined levels of these PFAS

pose a potential risk. This approach protects communities from the additive effects of multiple PFAS when they occur together.

- **Monitoring.** EPA is proposing requirements for monitoring for the six PFAS that build upon EPA's long established monitoring frameworks where monitoring frequency depends on previous results. The proposal also includes flexibilities allowing systems to use some previously collected data to satisfy initial monitoring requirements.
- **Public notification.** Public water systems would be required to notify the public if monitoring detects these PFAS at levels that exceed the proposed regulatory standards.
- **Treatment.** Public water systems would be required take actions to reduce the levels of these PFAS in drinking water if they exceed the proposed regulatory standards. This could include removing these chemicals through various types of treatment or switching to an alternative water supply that meets the standard.

## Are testing and treatment technologies available to remove these six PFAS?

Available technologies exist to monitor for and treat these six PFAS. Technologies capable of reducing PFAS in drinking water include granular activated carbon (GAC), anion exchange resins (AIX), reverse osmosis (RO), and nanofiltration (NF).

## What does this proposal mean?

If finalized, the proposed regulation will require public water systems to monitor for these chemicals. It will also require systems to notify the public and reduce the levels of these PFAS if levels exceed the proposed regulatory standards. EPA anticipates that over time, if fully implemented, the rule will reduce tens of thousands of PFAS-attributable illnesses or deaths.

This proposal does not require any actions for drinking water systems until the rule is finalized, and water systems will be required to meet the MCLs after a specified implementation time period. EPA anticipates finalizing the rule by the end of 2023.

## Public input on the proposal

EPA welcomes public input as part of the regulatory development process. The public is invited to review the proposal and supporting information. Comments can be provided in the public docket associated with this rulemaking at [regulations.gov](https://www.regulations.gov), identified by Docket ID Number: EPA-HQ-OW-2022-0114. Comments must be submitted to the public docket during the 60-day public comment period.

EPA will consider all public comments in informing the development of the final regulation. For more information and instructions on how to submit input to the public docket, visit: [www.epa.gov/dockets/commenting-epa-dockets](https://www.epa.gov/dockets/commenting-epa-dockets). EPA will also hold a virtual public hearing on May 4, 2023 where the public is invited to provide EPA with verbal comments. For more information on the public hearing and how to provide EPA with verbal and written comments, please visit: [www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas](https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas).

## Is funding available?

Reducing PFAS in drinking water will likely require investments in water infrastructure. Thanks to President Biden's leadership and bipartisan action in Congress, the Bipartisan Infrastructure Law provides an unprecedented \$9 billion to invest in drinking water systems impacted by PFAS and other emerging contaminants. EPA will ensure that states, Tribes, and communities get their fair share of this federal water infrastructure investment—especially in disadvantaged communities. These funds include:

- **\$4 billion** in investment through the **Drinking Water State Revolving Funds**, including a requirement that states dedicate 25% of these resources to disadvantaged communities or public water systems serving fewer than 25,000 people.
- **\$5 billion** to communities as grants through EPA’s new **Emerging Contaminants in Small or Disadvantaged Communities (EC-SDC) Grant Program**. This program will promote access to safe and clean water in small, rural, and disadvantaged communities while supporting local economies. In February 2023, EPA announced the availability of the first \$2 billion of this funding.

For more information on Bipartisan Infrastructure Law funding, visit: [www.epa.gov/infrastructure](http://www.epa.gov/infrastructure).

### What if I am concerned about PFAS in my drinking water?

If you get your water from a drinking water system, reach out to your local water utility to learn about how they may be addressing PFAS as well as ask them to test the water for PFAS or to share information with you if they have already tested the water. Some public drinking water systems may not have this information. If you choose to test your water yourself, it is important to use a state-certified laboratory using EPA-developed testing methods. Check with your state’s drinking water program to see if they have issued guidance or standards for PFAS in your state and what actions they recommend or require when there is PFAS contamination. If your state does not have standards or guidance for PFAS see EPA’s Health Advisory levels for [certain PFAS](#) for EPA’s advice regarding these PFAS in drinking water. You may also consider installing in-home water treatment (e.g., filters) that are certified to lower the levels of PFAS in your water. [Learn about certified in-home water treatment filters.](#)

To learn more about PFAS and steps that can be taken to reduce risks: [www.epa.gov/pfas/meaningful-and-achievable-steps-you-can-take-reduce-your-risk](http://www.epa.gov/pfas/meaningful-and-achievable-steps-you-can-take-reduce-your-risk)

### What does this proposed regulation mean for households on private wells?

While the Safe Drinking Water Act does not regulate private wells and this proposed rule does not set any requirements or standards for private well owners, EPA understands that people who consume water from private wells may be concerned about contamination of their drinking water by PFAS or other contaminants. EPA has resources to help people who rely on private wells for their drinking water.

First, EPA has information on protecting private wells to prevent contamination, testing private wells and protecting your health at <https://www.epa.gov/privatewells>. (The Centers for Disease Control and Prevention also provides similar information about private water systems at <https://www.cdc.gov/healthywater/drinking/private/index.html>)

Second, if test results from an approved laboratory show levels of PFOA, PFOS, Gen X or PFBS, see EPA’s PFAS health advisories [Questions and Answers](#) to learn about actions that you might consider based on your test results.

Third, State Drinking Water State Revolving Loan Fund programs may provide funding to households served by private wells to connect to a drinking water system, or to form a new drinking water system that would be subject to Safe Drinking Water Act requirements. SRF funds can be used by states to provide household water quality testing for these PFAS where there is an intent to connect with a public water system, or to form a new one, and to provide temporary household or point-of-use filters while a connection to a public water system is established. For more information on these funding programs, please visit [www.epa.gov/infrastructure](http://www.epa.gov/infrastructure).

### My state drinking water standard for PFAS is higher than this proposal, is my water safe?

This proposal is based on the latest science and if finalized, states will need to establish standards that are as strict as the federal rule. In the interim, EPA currently has Health Advisories in place to act as a guide for states and water systems. EPA's 2022 lifetime health advisory levels represent the concentration of individual PFAS (PFOA, PFOS, GenX Chemicals, and PFBS) in drinking water at below which adverse health effects are not anticipated to occur over a lifetime. It's important to note that many states and utilities are already taking action to reduce PFAS in water, and less PFAS is better over a lifetime of exposure.

If you get your water from a drinking water system, reach out to your local water utility to learn about how they may be addressing PFAS as well as ask them to test the water for PFAS or to share information with you if they have already tested the water. NOTE: Some public drinking water systems may not have this information. If you choose to test your water yourself, it is important to use a state-certified laboratory using EPA-developed testing methods. Check with your state's drinking water program to see if they have issued guidance or standards for PFAS in your state and what actions they recommend or require when there is PFAS contamination. If your state does not have standards or guidance for PFAS see EPA's Health Advisory levels for [certain PFAS](#) for EPA's advice regarding these PFAS in drinking water. You may also consider installing in-home water treatment (e.g., filters) that are certified to lower the levels of PFAS in your water. [Learn about certified in-home water treatment filters.](#)

To learn more about PFAS and steps that can be taken to reduce risks: [www.epa.gov/pfas/meaningful-and-achievable-steps-you-can-take-reduce-your-risk](http://www.epa.gov/pfas/meaningful-and-achievable-steps-you-can-take-reduce-your-risk)

This is a proposed rule for public comment. It does not require any actions for drinking water systems until EPA has a chance to consider public input and the rule is finalized. Once the rule is finalized, water systems will not be required to meet the MCLs until after a specified implementation time period. EPA anticipates finalizing the rule by the end of 2023.

## Additional Background

### *What are MCLGs and MCLs?*

MCLGs are non-enforceable public health goals. MCLGs consider only public health, not the limits of detection and treatment technology effectiveness. Therefore, they are sometimes set at levels which water systems cannot meet because of technological limitations. For example, if a contaminant is a known or likely carcinogen, EPA sets the MCLG at 0. MCLGs also consider adverse health risks to sensitive groups, including infants, children, the elderly, and immuno-compromised individuals. Once the MCLG is established, EPA determines the MCL. MCLs are enforceable standards. An MCL is the maximum level of a contaminant allowed in drinking water which can be delivered to users of a public water system. For this rule proposal, EPA evaluated available methods and treatment technologies, that are shown to measure and remove these six PFAS and set the proposed MCLs as close as possible to the MCLGs. EPA also evaluated costs and benefits in determining the proposed MCLs.

### *What is a Hazard Index?*

The Hazard Index is a tool used to evaluate health risks of simultaneous exposure to mixtures of related chemicals. To prevent health risks from mixtures of certain PFAS in drinking water, EPA is proposing that water systems use this Hazard Index approach to regulate PFHxS, GenX Chemicals, PFNA, and PFBS. To determine the Hazard Index for these four PFAS, water systems would monitor and compare the amount of each PFAS in drinking water to its associated Health- Based Water Concentration (HBWC), which is the level at which no health effects are expected for that PFAS.

Water systems would add the comparison values for each PFAS contained within the mixture. If the value is greater than 1.0, it would be an exceedance of the proposed Hazard Index MCL for these four PFAS. For ease of use, EPA

intends to provide water systems with a web-based form that will automatically calculate the Hazard Index. More information on the Hazard Index, including an example of how to calculate it, can be found in the rule proposal at: [www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas](http://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas).

### ***What are PFAS and What are their Health Effects?***

There are thousands of different PFAS, and they can be found in many different consumer, commercial, and industrial products. PFAS can enter the environment from multiple sources and because they break down very slowly, concentrations of PFAS can accumulate in people, animals, and the environment over time and can end up in the water sources that many communities rely on for drinking water.

We now know that some PFAS can cause serious health problems if you are exposed to them – even at low levels – over a long period of time. Drinking water is one of several ways people may be exposed to PFAS and reducing PFAS in drinking water helps reduce PFAS health risks. Exposure to the PFAS EPA is proposing to regulate can increase the risks of a range of health effects, including:

- Reproductive effects such as increased high blood pressure in pregnant people
- Developmental effects or delays in children, including low birth weight, bone variations, or behavioral changes
- Increased risk of some cancers, including kidney and testicular cancers
- Reduced ability of the body’s immune system to fight infections, including reduced vaccine effectiveness
- Interference with the body’s natural hormones, including thyroid hormones
- Increased cholesterol levels
- Liver damage

### ***What Else is EPA Doing to Stop PFAS Pollution and Protect Communities?***

EPA released its PFAS Strategic Roadmap in October 2021 and has taken actions to reduce PFAS from entering the water we drink, fish, and swim; hold polluters accountable; and accelerate research that will help EPA and other agencies take future actions. EPA is committed to taking broader actions to help reduce Americans’ exposure to PFAS, including:

- Monitoring thousands of drinking water systems across the country for dozens of PFAS;
- Taking final action on a proposal to designate two PFAS as “hazardous substances” to help hold polluters accountable;
- Restricting PFAS discharges to our waterways by strengthening Clean Water Act standards; and
- Finalizing chemical data and safety rules that will increase our knowledge about PFAS, allow us to act faster and more strategically, and restrict legacy PFAS from reentering production.

**To learn more about the proposed rule visit:**  
[www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas](http://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas)

## Proposed PFAS National Primary Drinking Water Regulation Frequently Asked Questions and Answers

### Overview: What action is EPA taking to address PFAS in drinking water?

The U.S. Environmental Protection Agency (EPA) is taking a key step to protect public health by proposing to establish legally enforceable levels for six per- and polyfluoroalkyl substances (PFAS) known to occur in drinking water, fulfilling a foundational commitment in the Agency's PFAS Strategic Roadmap. Through this proposed rule, EPA is leveraging the most recent science and building on existing state efforts to limit PFAS and provide a nationwide, health-protective standard for these specific PFAS in drinking water. EPA is requesting public comment on this proposed National Primary Drinking Water Regulation (NPDWR).

### Question 1: What are PFAS chemicals, and why are they in our drinking water?

Per- and polyfluoroalkyl substances, also called "PFAS," are a group of manufactured chemicals that have been used in industry and consumer products since the 1940s. PFAS have characteristics that make them useful in a variety of products, including nonstick cookware, waterproof clothing, stain-resistant carpets and fabrics, and firefighting foam, as well as in certain manufacturing processes. There are thousands of different PFAS. The domestic production or use of some PFAS (like PFOA and PFOS) has been largely phased out but others continue to be used.

PFAS tend to break down extremely slowly in the environment and can build up in people, animals, and the environment over time. PFAS have been found in water, air, and soil across the nation and around the globe. Because of this, PFAS can end up in the water sources that communities rely on for drinking water. Scientific studies show links between certain levels of PFAS exposure and harmful health effects in humans and animals.

### Question 2: Which PFAS does this action propose to regulate?

EPA is proposing to regulate six specific PFAS: PFOS, PFOA, PFHxS, GenX chemicals (also known as HFPO-DA), PFNA, and PFBS. The proposed rule addresses PFOS and PFOA as individual contaminants and addresses the other four PFAS as a mixture of chemicals. For more information about these specific chemicals, including their uses and history of use in industry and products, and their known health effects, please see the following:

- [PFOS \(Perfluorooctane Sulfonic Acid\)](#)
- [PFOA \(Perfluorooctanoic Acid\)](#)
- [PFHxS \(Perfluorohexane Sulfonic Acid\)](#)
- [GenX chemicals \(hexafluoropropylene oxide \(HFPO\) dimer acid and its ammonium salt – developed as replacements for PFOA\)](#)
- [PFNA \(Perfluorononanoic Acid\)](#)
- [PFBS \(perfluorobutane sulfonic acid and its related compound potassium perfluorobutane sulfonate – developed as replacements for PFOS\)](#)

### Question 3: What health effects can result from exposure to PFAS, specifically the six covered by the proposed rule (PFOS, PFOA, PFHxS, GenX Chemicals, PFNA, and PFBS)?

People can be exposed to PFAS in several ways, including by consuming drinking water containing PFAS. EPA's analysis of a wide range of scientific studies shows that long-term exposure, and exposure during certain critical life stages like pregnancy and in developing babies, to certain levels of these six PFAS may lead to a range of

significant health effects including (but not limited to):

- Reproductive effects, such as increased high blood pressure in pregnant people
- Developmental effects or delays in babies and young children, including low birth weight, bone variations, or behavioral changes
- Increased risk of some cancers, including kidney and testicular cancers
- Reduced ability of the body's immune system to fight infections, including reduced vaccine effectiveness
- Interference with the body's natural hormones, including thyroid hormones
- Increased cholesterol levels, which can increase risk of heart attack and stroke
- Liver damage

#### **Question 4: What is a National Primary Drinking Water Regulation (NPDWR)?**

National Primary Drinking Water Regulations are legally enforceable standards that apply to public water systems. NPDWRs protect public health by limiting the levels of contaminants within drinking water. These standards are most frequently expressed as Maximum Contaminant Levels (MCLs), which are described further below.

#### **Question 5: How do I provide comment on the proposed PFAS NPDWR?**

EPA invites members of the public to review the proposed NPDWR and supporting information and provide comment in the public docket associated with this rulemaking at [www.regulations.gov](http://www.regulations.gov), identified by Docket ID Number: EPA-HQ-OW-2022-0114.

EPA will consider all public comments in informing the development of the final regulation. For more information and instructions on how to submit input to the public docket, visit [www.epa.gov/dockets/commenting-epa-dockets](http://www.epa.gov/dockets/commenting-epa-dockets). EPA will also hold a virtual public hearing on May 4, 2023, at which the public will be invited to provide EPA with verbal comments. For more information on the public hearing and how to provide EPA with verbal comments, visit <https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas>.

#### **Question 6: When is EPA issuing a final NPDWR for PFAS?**

EPA will issue a final PFAS NPDWR after reviewing public comments provided on the proposed NPDWR. As outlined in EPA's [PFAS Strategic Roadmap](#), EPA anticipates finalizing the regulation by the end of 2023. EPA will consider all comments submitted to the Agency as EPA develops the final regulation.

#### **Question 7: What is a Maximum Contaminant Level Goal (MCLG)? What is a Maximum Contaminant Level (MCL)?**

In the proposed rule, EPA is proposing a Maximum Contaminant Level Goal and a Maximum Contaminant Level for these six PFAS.

MCLGs are non-enforceable public health goals. An MCLG is the level of a contaminant in drinking water at which no known or anticipated negative health effects occur and which allows an adequate margin of safety. MCLGs consider only public health risks, including for sensitive populations like pregnant people, developing babies and infants, children, elderly, and immuno-compromised individuals. MCLGs do not consider limits of detection or treatment technology effectiveness. Therefore, MCLGs are sometimes set at levels that water systems cannot meet because of current technological limitations. For example, if a contaminant is a known or likely carcinogen, EPA sets the MCLG at 0.

MCLs are enforceable standards. An MCL protects public health by setting a maximum level of a contaminant allowed in drinking water, which can be delivered to users of a public water system. An MCL is set as close as feasible to an MCLG while taking into consideration the ability to measure and treat to remove a contaminant. EPA also evaluates costs and benefits in determining MCLs.

### Question 8: What are the proposed MCLs for these six PFAS and how did EPA determine these levels?

EPA must establish an enforceable MCL as close to the MCLG as is feasible. The Agency evaluates feasibility according to several factors including the availability of tests or “analytical methods” capable of measuring the regulated chemicals in drinking water. EPA also examines whether proven treatment technologies capable of removing these chemicals under both laboratory and field conditions exist. Based on these factors, EPA is proposing the following enforceable MCLs:

| Compounds   | Proposed Maximum Contaminant Levels |
|---|-------------------------------------|
| PFOS  | 4 parts per trillion (4.0 ng/L)     |
| PFOA  | 4 parts per trillion (4.0 ng/L)     |
| PFHxS   | Hazard Index = 1.0 (unitless)*      |
| GenX Chemicals  |                                     |
| PFNA  |                                     |
| PFBS  |                                     |
| *Learn more about the hazard index calculation, and the specific levels for these four PFAS below |                                     |

### Question 9: What is a Hazard Index and how is this implemented as an MCL?

EPA is proposing to regulate four PFAS – PFHxS, GenX Chemicals, PFNA, and PFBS – as a mixture, using an established approach called a hazard index. The Hazard Index is a tool used to evaluate health risks from simultaneous exposure to mixtures of certain chemicals. Many PFAS are found together and in different levels and combinations. Estimating risk by considering one chemical at a time may underestimate the health risks associated with exposure to many PFAS at the same time.

To prevent health risks from mixtures of certain PFAS in drinking water, EPA is proposing to use this Hazard Index calculation to regulate PFHxS, GenX Chemicals, PFNA, and PFBS in public water systems. To determine the Hazard Index for these four PFAS, water systems would monitor and compare the amount of each PFAS in drinking water to its associated Health Based Water Concentration (HBWC), which is the level below which no health effects are expected for that PFAS. Water systems would add the comparison values for each PFAS contained within the mixture. If the value is greater than 1.0, it would be an exceedance of the proposed Hazard Index MCL for PFHxS, GenX Chemicals, PFNA, and PFBS.

For ease of use, EPA intends to provide water systems with a web-based form that will automatically calculate the Hazard Index. More information on the Hazard Index, including an example of how to calculate it, can be found in the proposed rule at: [www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas](http://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas).

### Question 10: If the rule is finalized, what will public water systems have to do?

In addition to establishing MCLs and MCLGs, the proposed regulation, if finalized, would require water systems to take the following steps:

- **Monitor.** EPA is proposing requirements for monitoring for the six PFAS that build upon EPA’s long-established monitoring frameworks under which monitoring frequency depends on previous results. The



proposal also includes flexibilities allowing systems to use some previously collected data to satisfy initial monitoring requirements.

- **Notify consumers.** Public water systems would be required to notify the public if monitoring detects these PFAS at levels that exceed the proposed regulatory standards.
- **Treat to achieve the MCLs.** Public water systems would be required to take actions to reduce the levels of these PFAS in drinking water if they exceed the proposed regulatory standards. This could include removing these chemicals through various types of treatment or switching to an alternative water supply that meets the standard.

### Question 11: What should public water systems do now if they have concentrations of these contaminants above the proposed MCLs?

This is a proposed rule for public comment. It does not require any actions for drinking water systems until EPA considers public input on the proposed rule and finalizes a rule. Once the rule is finalized, water systems will not be required to meet the MCLs until after a specified implementation time period.

EPA has also developed Drinking Water Health Advisories for four PFAS: PFOS, PFOA, GenX Chemicals, and PFBS. These non-regulatory and non-enforceable health advisories provide information on actions that water systems may take to address PFAS contamination. For more information, <https://www.epa.gov/sdwa/drinking-water-health-advisories-pfoa-and-pfos>.

EPA and its partner agencies have several other materials that can inform steps that water systems and the public may take now to reduce levels of these PFAS in their drinking water.

- To learn more about PFAS and steps that can be taken to reduce risks: <https://www.epa.gov/pfas/meaningful-and-achievable-steps-you-can-take-reduce-your-risk>
- For information on protecting and maintaining home drinking water wells: <https://www.epa.gov/privatewells>
- Consider any resources and recommendations from states: <https://www.epa.gov/pfas/us-state-resources-about-pfas>
- Learn more about EPA's process of developing the PFAS National Primary Drinking Water Regulation: <https://www.epa.gov/sdwa/and-polyfluoroalkyl-substances-pfas>

### Question 12: How can I find out if there are PFAS in my drinking water?

If you are concerned about PFAS in your drinking water, EPA recommends you contact your local water utility to learn more and see whether they have monitoring data for PFAS or can provide any specific recommendations for your community.

If you own a home drinking water well, EPA recommends learning more about how to protect and maintain your well to address PFAS and other contaminants of concern. For information on home drinking water wells visit <https://www.epa.gov/privatewells>.

Additionally, between 2023 and 2025, EPA is collecting nationally representative drinking water occurrence data from public water systems for 29 PFAS, including these six PFAS, as part of EPA's Fifth Unregulated Contaminant Monitoring Rule (UCMR 5). EPA will be making these monitoring results available starting in mid-2023 at the following website: <https://www.epa.gov/dwucmr/occurrence-data-unregulated-contaminant-monitoring-rule>. EPA has proposed to allow using this newer UCMR 5 data to satisfy initial water system monitoring requirements under the proposed rule.

### **Question 13: What if I am concerned about PFAS in my drinking water?**

If you get your water from a drinking water system, reach out to your local water utility to learn about how they may be addressing PFAS as well as ask them to test the water for PFAS or to share information with you if they have already tested the water. NOTE: Some public drinking water systems may not have this information. If you choose to test your water yourself, it is important to use a state-certified laboratory using EPA-developed testing methods. Check with your state's drinking water program to see if they have issued guidance or standards for PFAS in your state and what actions they recommend or require when there is PFAS contamination. If your state does not have standards or guidance for PFAS see EPA's Health Advisories for certain PFAS for information regarding these PFAS in drinking water and [advice on actions that you may want to consider](#). You may also consider installing in-home water treatment (e.g., filters) that are certified to lower the levels of PFAS in your water. [Learn about certified in-home water treatment filters](#).

To learn more about PFAS and steps that can be taken to reduce risks: [www.epa.gov/pfas/meaningful-and-achievable-steps-you-can-take-reduce-your-risk](http://www.epa.gov/pfas/meaningful-and-achievable-steps-you-can-take-reduce-your-risk)

### **Question 14: What does this proposed regulation mean for households on private wells?**

While the Safe Drinking Water Act does not regulate private wells and this proposed rule does not set any requirements or standards for private well owners, EPA understands that people who consume water from private wells may be concerned about contamination of their drinking water by PFAS or other contaminants. EPA has resources to help people who rely on private wells for their drinking water. First, EPA has information on protecting private wells to prevent contamination, testing private wells, and protecting your health at <https://www.epa.gov/privatewells>. (The Centers for Disease Control and Prevention also provides similar information about private water systems at <https://www.cdc.gov/healthywater/drinking/private/index.html>)

Second, If test results from an approved laboratory show levels of PFOA, PFOS, Gen X or PFBS, see EPA's PFAS health advisories [Questions and Answers](#) to learn about actions that you might consider based on your test results. Third, State Drinking Water State Revolving Loan Fund programs may provide funding to households served by private wells to connect to a drinking water system, or to form a new drinking water system that would be subject to Safe Drinking Water Act requirements. SRF funds can be used by states to provide household water quality testing for these PFAS where there is an intent to connect with a public water system, or to form a new one, and to provide temporary household or point-of-use filters while a connection to a public water system is established. For more information on these funding programs, please visit [www.epa.gov/infrastructure](http://www.epa.gov/infrastructure).

### **Question 15: Does the proposed PFAS regulation apply to bottled water?**

The proposed National Primary Drinking Water Regulation does not apply to bottled water, it applies to public water systems. The Food and Drug Administration has authority for bottled water. EPA has coordinated with the FDA on this proposed rule. When EPA establishes a drinking water standard for a contaminant, the FDA evaluates and adopts the standard as appropriate for bottled water. See <https://www.fda.gov/consumers/consumer-updates/bottled-water-everywhere-keeping-it-safe> for more information about how FDA oversees bottled water standards.

### **Question 16: What tests or “analytical methods” exist to measure PFAS in drinking water?**

Using EPA methods 533 and 537.1, both government and private laboratories can now effectively measure 29

PFAS, including the six PFAS EPA is proposing to regulate, at very low levels in drinking water – including at the levels proposed as MCLs. EPA continues to conduct research and monitor advances in testing technology, methods, and techniques that may improve our ability to measure these and other PFAS at even lower levels.

### **Question 17: What treatment technologies exist to remove PFOS, PFOA, PFHxS, GenX Chemicals, PFNA, and PFBS in drinking water?**

Proven technologies, including activated carbon, anion exchange, and high-pressure membranes, can remove these six PFAS, as well as many other PFAS and additional contaminants, such as disinfection byproducts, organic contaminants, certain heavy metals, and pesticides, from drinking water systems. These treatment technologies can be installed at a water system’s treatment plant and are also available as in-home filter options.

The proposed drinking water regulation and related drinking water treatment supporting documents provide information on these treatment technologies that EPA has found effectively reduce the six PFAS. It may also be possible for water systems to reduce these six PFAS in their water by switching to other water supplies rather than through treatment.

### **Question 18: What do water systems do with treatment residuals that contain PFAS?**

Many treatment solutions generate “residuals” – filters or other by-products of media that have been used in the treatment process to capture PFAS and remove it from drinking water. As part of EPA’s evaluation of available treatment technologies for PFAS, the Agency has assessed factors around residuals waste streams and disposal options. For more information on current residuals management practices, see *EPA’s Best Available Technologies and Small System Compliance Technologies for Per- and Polyfluoroalkyl Substances (PFAS) in Drinking Water*, which will be available in the docket for the proposed rule at [www.regulations.gov](http://www.regulations.gov), identified by Docket ID Number: EPA-HQ-OW-2022-0114.

EPA’s 2020 [Interim Guidance on the Destruction and Disposal of PFAS Substances and Materials Containing PFAS Substances](#) outlines destruction and disposal technologies that may be effective for PFAS, as well as uncertainties and information gaps associated with these technologies and ongoing research to address them. As indicated in EPA’s PFAS Strategic Roadmap, the Agency anticipates releasing an updated version of the Guidance by December 2023. EPA is committed to ongoing efforts to evaluate and develop technologies for reducing PFAS in the environment.

### **Question 19: My state (or Tribe or territory) currently has a different safety level for PFOS, PFOA, PFHxS, GenX Chemicals, PFNA, and PFBS than EPA’s proposed values. Why is this?**

Some states have established drinking water regulations or guidance values for some PFAS prior to this proposed rule and have led the way in monitoring for and limiting some of these chemicals. The NPDWR proposed by EPA, if finalized, will provide a nationwide, health protective level for these six PFAS in drinking water. The rule reflects regulatory development requirements under the Safe Drinking Water Act (SDWA), including EPA’s analysis of the best available and most recent peer-reviewed science; available drinking water occurrence, treatment and analytical feasibility information; and consideration of costs and benefits.

At this time, communities and water systems should follow all applicable current state requirements, recognizing that EPA’s proposed rule does not require water systems to take any action at this time. When the final NPDWR goes into effect, states will be required to have a standard that is no less strict than the NPDWR, as

SDWA requires.

### **Question 20: Besides drinking water, how else can people be exposed to PFOS, PFOA, PFHxS, GenX Chemicals, PFNA, and PFBS?**

An individual's exposure to PFAS can vary due to a number of factors. PFAS have been found in the environment across the nation and around the globe. Certain PFAS have been detected in drinking water, soil, and water near waste sites, areas where fire extinguishing foam has been used, and around manufacturing or chemical production facilities that produce or use PFAS. PFAS can also be found in certain foods, food packaging, household products, dust, personal care products, and biosolids.

Current research shows that people can be exposed to PFAS by working in occupations such as firefighting or chemical manufacturing and processing, eating certain foods such as fish that may contain PFAS, swallowing contaminated soil or dust, breathing air containing PFAS, or using products made with PFAS or that are packaged in materials containing PFAS. When a person's drinking water is contaminated with PFAS, it can be a significant portion of their total PFAS exposure.

### **Question 21: What funding is available to support communities that are addressing PFAS contamination in drinking water?**

The Bipartisan Infrastructure Law provides an unprecedented \$9 billion specifically to invest in communities with drinking water impacted by PFAS and other emerging contaminants. This includes \$4 billion to the Drinking Water State Revolving Fund (DWSRF) and \$5 billion through EPA's Emerging Contaminants in Small or Disadvantaged Communities Grant Program. States and communities can further leverage an additional nearly \$12 billion in the DWSRF dedicated to making drinking water safer, and billions more that the federal government has annually provided to fund DWSRF loans. These funds will help communities make important investments in solutions to remove PFAS from drinking water.

EPA will ensure that states, Tribes, and localities get their fair share of this federal water infrastructure investment – especially disadvantaged communities. More information about the Bipartisan Infrastructure Law and its emerging contaminant funding can be found at <https://www.epa.gov/infrastructure>.

### **Question 22: Will EPA develop drinking water regulations for other PFAS?**

At this time, EPA is not proposing drinking water regulations for PFAS chemicals other than PFOS, PFOA, PFHxS, GenX Chemicals, PFNA, and PFBS. The Agency and other research organizations are actively working to better understand potential health risks for other PFAS in drinking water. EPA is gathering information from public water systems across the nation on the occurrence of 29 PFAS under the Fifth Unregulated Contaminant Monitoring Rule between 2023 and 2025. Using this and other occurrence information, as well as evolving research on PFAS health effects, treatment technologies, and other available scientific and technical information, EPA will evaluate if other PFAS should be regulated in the future.

The drinking water treatment technologies that EPA has found to effectively reduce the six PFAS that the Agency is proposing to regulate are also expected to reduce the levels of other PFAS.

### **Question 23: What is a regulatory determination, and why is EPA concurrently making a regulatory determination for PFHxS, GenX Chemicals, PFNA, and PFBS in this proposal?**

A regulatory determination is a decision on whether EPA should initiate a rulemaking process to develop an

NPDWR for a specific contaminant. In March 2021, EPA issued a final regulatory determination to regulate PFOA and PFOS. Concurrent with EPA's March 2023 proposed rule, EPA is making a preliminary determination to regulate PFHxS, GenX Chemicals, PFNA, and PFBS, as well as mixtures of these four PFAS. New information demonstrates that these PFAS meet the SDWA criteria for regulation including that they may have adverse health effects, that they are likely to be found in public water systems with a frequency and at levels of concern, and that there is a meaningful opportunity for health risk reduction through a national drinking water regulation.

EPA is publishing the preliminary regulatory determination for PFHxS, GenX Chemicals, PFNA, and PFBS for public comment. EPA will consider the comments prior to making the final regulatory determination and, if appropriate, publishing a final NPDWR that addresses these four PFAS.

**MEMORANDUM**

**TO: Peter Nourse, P.E., Director of City Services**

**FROM: Rath, Young & Pignatelli, P.C.**

**DATE: April 12, 2023**

**RE: Summary of the Conservation Law Foundation’s Petition to EPA for Remedial Designation Authority and Potential Impacts on the City of Rochester**

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On February 15, 2023, the Conservation Law Foundation (“CLF”) filed a Petition for Residual Designation Authority (“RDA”) with the Environmental Protection Agency (“EPA”) pursuant to 40 CFR 122.26 (a)(9)(i)(D). The purpose and intent of the petition is to require EPA to make a determination that certain non-regulated stormwater discharges are negatively impacting water quality of the Great Bay Estuary. The CLF RDA specifically requests that the EPA issue an RDA covering the Great Bay Watershed including 18 communities subject to the New Hampshire Small Municipal Separate Storm Sewer System (“MS4”) Permit for stormwater discharges, including 9 communities subject to the Great Bay Total Nitrogen General Permit, as well as 18 communities not subject to the NH Small MS4 permit. The Petition requests that EPA issue a designation that discharges from all industrial, commercial, and institutional properties exceeding .75 acres of impervious area in MS4 communities and 1.5 acres of impervious area in non-MS4 communities be subject to the RDA and apply for coverage under a new general NPDES permit to regulate stormwater discharges. Based upon discussions with CLF on Wednesday, April 12, 2023, the RDA would cover commercial, industrial and institutional properties located in the City, but would **not** include municipally owned property (including public schools, for example).

This RDA gives EPA the ability to regulate stormwater discharges via the Clean Water Act’s (“CWA’s”) primary permitting program, the long-established National Pollutant Discharge Elimination System (“NPDES”). For sites where EPA determines that storm water controls are needed for the discharge as part of meeting the required total maximum daily loads (TMDLs), that the discharge or category of stormwater discharges within a geographic area contributes to a violation of a water quality standard, or that the stormwater discharge is a significant contributor of pollutants to waters of the United States, RDA allows EPA to designate these stormwater sources for regulation. A TMDL is essentially a pollution budget that establishes a maximum amount of the pollutant that can enter a water body, and it allocates load reductions necessary from various sources of the pollutant.

Essentially, what RDA does is to allow the federal government to expand the scope of the CWA’s permitting coverage beyond the traditional industrial and municipal general permit

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programs to include the regulation of sites on a case-by-case or category-by-category basis by issuing NPDES permits for discharges of stormwater which result in localized adverse impacts to water quality. The RDA will require all commercial, industrial, and institutional properties within the designated area that meet the criteria to manage stormwater discharges from their respective properties to minimize the discharge of pollutants, particularly nitrogen. CLF clarified that the interpretation of “institutional” is only privately owned property, not publicly owned institutional properties such as public schools or public buildings.

Interestingly, the RDA petition omits application to residential properties with septic systems that cumulatively account for approximately 29% of the nitrogen load to the Great Bay Estuary. It also does not specifically exempt those discharges either to or from a system already subject to a NPDES permit or other stormwater permits. This is inconsistent with the recent RDA decision by EPA in Region 1 for the Charles River, Neponset River, and Mystic River watersheds, as well as the exemption for regulated discharges in a Vermont RDA issued after litigation in 2015. The RDA petition also ignores the impact of point and non-point sources from 12 communities in Maine, including 10 wastewater treatment facilities that discharge to the Great Bay Estuary.

Properties already subject to MS4 Permit requirements with more than .75 acres of impervious area would also need to apply for a general stormwater NPDES permit under the RDA program that may require them to institute additional best management practices (“BMPs”) such as good housekeeping (sweeping, catch basin cleaning, etc.) and install structural devices to capture and treat stormwater such as low impact development and green infrastructure. These same properties already must comply with the MS4 regulations and development/redevelopment obligations, thus subjecting them to double regulation.

This double regulation could also impact the City of Rochester’s ability to institute and implement a stormwater utility to establish a stable fund for stormwater related improvements. Properties subject to the MS4 and RDA general permit requirements to manage stormwater would likely strongly object to further municipal regulation and fees pursuant to a stormwater utility. Further adding to the uncertainty surrounding stormwater regulation is the upcoming renewal (possibly this Fall) of the NH small MS4 permit. EPA is contemplating further regulatory requirements within the renewed MS4 permit.

The RDA petition could impact the cost of construction, limit investment and growth in Rochester and other communities subject to the RDA in the Great Bay Estuary watershed. The timing of this CLF Petition is also questionable. Rochester and the other Municipal Alliance for Adaptive Management (“MAAM”) communities are in the middle of their first 5-year term of the recently issued Nitrogen General Permit. As part of that process, the communities and EPA have committed to undertaking extensive additional studies to better

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understand the impact of nitrogen levels in the Great Bay Estuary, and what other impacts unrelated to nitrogen may be negatively affecting eel grass health in the Estuary. Further, in Rochester, Portsmouth and Dover's settlement agreements with CLF, each municipality committed to exploring the possibility of implementing a stormwater utility. Each of these communities is currently doing so, and the impact of this RDA Petition puts those efforts in doubt.

EPA technically has 90 days to respond and make a determination as to how it will proceed. However, EPA often does not respond within this time frame, and CLF has sued EPA over other RDA Petitions to force it to respond. EPA has recently indicated to us that the RDA process is a long and deliberate one based on scientific data and analyses regarding stormwater impacts. It will require a finding that defined stormwater discharges are impairing the Great Bay Estuary. One limitation is the lack of a TMDL for nitrogen in the Great Bay Estuary. The RDA issued in Vermont and the Charles River watershed were based upon established TMDLs that had identified the sources of stormwater discharges. An RDA issued for Long Creek near Portland, Maine was not based upon a TMDL, but upon extensive data and studies conducted by the State of Maine.

While the Piscataqua Region Estuaries Partnership ("PREP"), University of New Hampshire ("UNH") and MAAM have studied the health of the Great Bay Estuary, EPA will likely need to conduct additional studies to determine the sources of nitrogen, whether and how they create an impairment, and evaluate the land uses and parcels in each regulated community. This will surely result in additional delay in either an RDA finding or implementation of a general permit by EPA.

One additional challenge for CLF is that EPA has issued waivers to a number of NH Small MS4 communities in the Great Bay Watershed. This is problematic to CLF's petition because EPA can only grant a waiver with a finding that discharges from those communities are not impacting or causing an impairment of water quality.

If EPA makes an RDA determination for the Great Bay Estuary, EPA would then need to issue a general NPDES permit which would be subject to public comment and potential challenges from the various impacted stakeholders. So clearly IF this process goes forward, it will be a long and involved one. Recently EPA Region 1 has urged the MAAM communities to meet with CLF and EPA to discuss these concerns, and the timing and scope of the Petition. Working with representatives of Dover and Portsmouth we met with Tom Irwin and Melissa Paly with the CLF to discuss the concerns and potential impacts of the RDA petition. CLF was open to the concerns raised that the RDA could impact, stall or otherwise restrict the ability of the three communities to develop, approve and implement stormwater utilities. CLF is very interested in making sure those programs move forward



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and may be willing to consider a carve-out or exemption for communities in the RDA area that implement a stormwater utility. The parties discussed setting up a follow-up meeting with CLF and EPA in mid-May.