

# TOWN MEETING ARTICLE 14

---

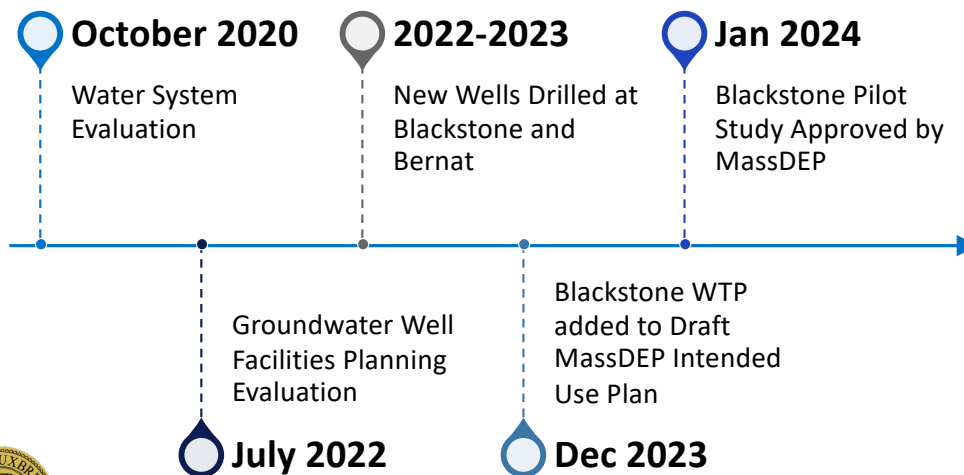
BORROWING AUTHORIZATION

BLACKSTONE WATER TREATMENT PLANT

# BLACKSTONE WATER TREATMENT PLANT PROJECT

## Project Background/History

- Wells constructed ~1944
- Three wells, only two operating since 2014
- 1.2 million gallons of water per day potential production
- Uxbridge Actions To Date



# BLACKSTONE WATER TREATMENT PLANT PROJECT

## Project Background/History (Continued)

- Water Quality Issues: Iron & Manganese present at Blackstone Wells
  - The 2 most common elements in the earth's crust
  - They are classified as 'secondary' water quality parameters
  - These particles come out of solution and cause discolored water
  - Raw and finished water exceed manganese SMCL of 0.05 mg/L. Iron is below the SMCL of 0.3 mg/L
  - Iron and manganese need to be removed prior to PFAS treatment



# BLACKSTONE WATER TREATMENT PLANT PROJECT

## Project Background/History (Continued)

- Emerging Contaminants: **What is the problem?**
  - Emerging Contaminant: Per and Polyfluoroalkyl Substances (PFAS)
  - PFAS exposure can cause harmful health effects to humans (cancer, thyroid disease, decreased fertility, high cholesterol, obesity)
- Current Massachusetts Limits for PFAS
  - MassDEP Maximum Contaminant Level is 20 parts per trillion (ppt) for PFAS6. PFAS6 = the sum of concentrations of:

Perfluorooctanoic Acid (PFOA)	Perfluorooctane Sulfonic Acid (PFOS)
Perfluorononanoic Acid (PFNA)	Pefluorohexane Sulfonic Acid (PFHxS)
Perfluoroheptanoic Acid (PFHpA)	Perfluorodecanoic Acid (PFDA)





# BLACKSTONE WATER TREATMENT PLANT PROJECT

## Project Background/History (Continued)

- Proposed EPA Limits for PFAS
  - EPA Proposed National Primary Drinking Water Regulation (NPDWR)

Compound	Proposed MCLG	Proposed MCL
PFOA	0	4 ppt
PFOS	0	4 ppt
PFNA	1 (unitless) *Hazard Index	1 (unitless) *Hazard Index
PFHxS		
PFBS		
HFPO-DA (GenX)		

\*Combined toxicity of 4 compounds based on fraction of health-based value for each compound (PFNA:10ppt, PFHxS:9ppt, PFBS 2000 ppt, GenX:10ppt)



- Finalized by 2025
- MassDEP will update their MCLs based on EPA's final MCLs

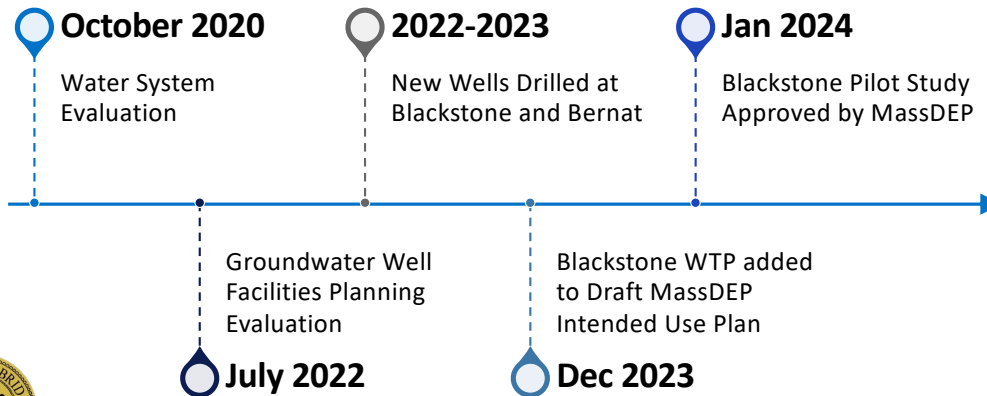


# BLACKSTONE WATER TREATMENT PLANT PROJECT

## Goals

- Address current & proposed water quality issues with treatment
- Increase well field production
  - Phase 3 well replacement: Wells 1, 2, and 3
  - Bringing Well #1 back online
- Upgrade the entire facility to meet the needs of tomorrow

## Project Status/Actions to date



Installation of Well No. 6R



Pumping Test of Well No. 4R

# BLACKSTONE WATER TREATMENT PLANT PROJECT

## Project Status/Actions to date (con't)

- Manganese & PFAS Pilot Underway
  - 2023 FATM approved Retained Earnings (RE) transfer
- Evaluating Technologies
  - **GreensandPlus Filtration or Biological:** Pilot testing is ongoing and results should be available early this summer
  - **Granular Activated Carbon (GAC):** Water passes over GAC media and GAC adsorbs PFAS. GAC filtration has been used/is currently being installed in several Town's in MA (Dudley, Townsend, Dracut, Littleton, Tyngsborough, Acton, Groton, Pepperell, Hudson, and Stow etc.)





# BLACKSTONE WATER TREATMENT PLANT PROJECT

## Project Status/Actions to date (con't)

- Conceptual Site Design: Water Treatment Plant (WTP)





# BLACKSTONE WATER TREATMENT PLANT PROJECT

## Project Status/Actions to date (con't)

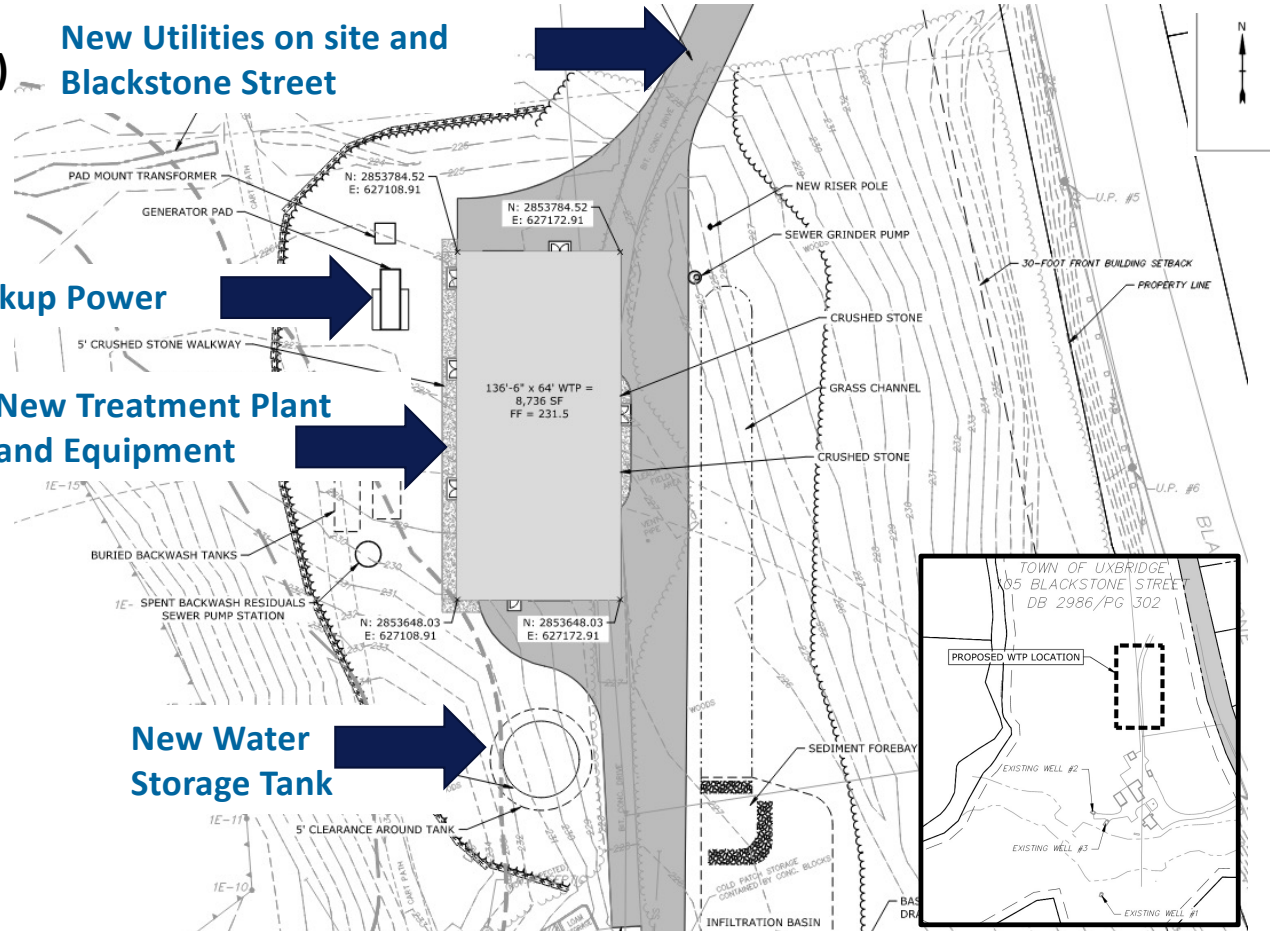
- Conceptual Site Design:  
Proposed WTP Site Plan

New Utilities on site and  
Blackstone Street

Backup Power

New Treatment Plant  
and Equipment

New Water  
Storage Tank



# BLACKSTONE WATER TREATMENT PLANT PROJECT

## Project Status/Actions to date (con't)

- Construction Funding Application to the MassDEP State Revolving Fund (SRF) Loan Program & Clean Water Trust
  - 20 or 30 year construction loan with below market interest rates: 0% interest rate for PFAS Projects
  - Uxbridge is eligible for principal forgiveness – minimum of 6.6%
  - Uxbridge is on the 2024 SRF Intended Use Plan (IUP) for projects to be financed through SRF
- Project Budget/Schedule



Budget for Blackstone Wells Water Treatment Plant	
Design	\$1,000,000
Construction	\$18,000,000
Owner's Project Manager	\$500,000
<b>SRF Design and Construction Total</b>	<b>\$19,500,000</b>

Task	Date
Pilot Study	March – June 2024
Preliminary Design	November 2023 – June 2024
Final Design and Construction Appropriations	2024 Spring Town Meeting (5/14)
SRF Construction Loan Appropriation Deadline	June 28, 2024
SRF Part A Application	October 11, 2024
SRF Construction Award Deadline	June 27, 2025



---

# BLACKSTONE WATER TREATMENT PLANT PROJECT

## Purpose of Article 14

- Issue
  - Aging well sources and site infrastructure
  - Existing and proposed water quality issues
  - Current and proposed state & federal water quality regulation changes
  - Future funding programs unclear
- Resolution
  - Design, Permit and Construct a new Water Treatment Plant at the Blackstone street location
- Town Meeting Action
  - Approval will authorize the BOS to execute agreements and borrow funds needed to construct required improvements

