



PFAS Update

**Select Board
April 10, 2023**

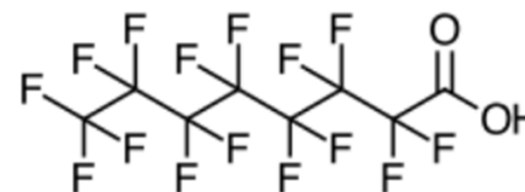
Paul Brinkman, DPW Business Manager

Department of Public Works

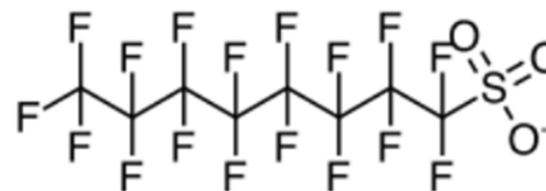
New EPA Regulations



- Proposed March 14, 2023
- Open For Public Comment (due May 30, 2023)
- Public Hearing May 4, 2023
- Finalize by end of 2023



Perfluorooctanoic acid (PFOA)



Perfluorooctane sulfonate (PFOS)

How have the limits changed?



Compound	MassDEP	EPA	MassDEP Limit	EPA Limit
PFDA	X		Total of 20 ng/l (parts per trillion)	
PFHPA	X			
PFOA	X	X		4 ng/l (ppt)*
PFOS	X	X		4 ng/l (ppt)*
PFNA	X	X		Health Index
PFHxS	X	X		
PFBS		X		
GenX (HFPO-DA)		X		

* MCLG Maximum Contaminant Level Goal is non-detectable

Health Index?



- Ratio of four specific compounds to standards
- The total of which cannot exceed 1.0

$$HI_{MCLG} = \left(\frac{[GenX_{water}]}{[GenX_{HBWC}]} \right) + \left(\frac{[PFBS_{water}]}{[PFBS_{HBWC}]} \right) + \left(\frac{[PFNA_{water}]}{[PFNA_{HBWC}]} \right) + \left(\frac{[PFHxS_{water}]}{[PFHxS_{HBWC}]} \right) = 1.0$$

$$HI_{MCLG} = \left(\frac{[GenX_{water}]}{[10 \text{ ng/L}]} \right) + \left(\frac{[PFBS_{water}]}{[2000 \text{ ng/L}]} \right) + \left(\frac{[PFNA_{water}]}{[10 \text{ ng/L}]} \right) + \left(\frac{[PFHxS_{water}]}{[9 \text{ ng/L}]} \right) = 1.0$$

here

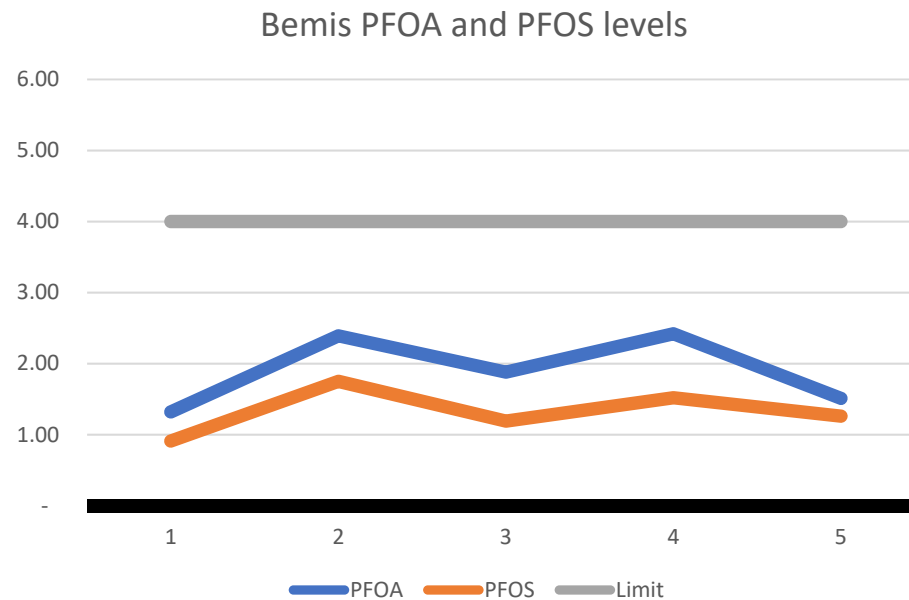
$[PFAS_{water}]$ = the measured component PFAS concentration in water and

$[PFAS_{HBWC}]$ = the HBWC of a component PFAS.

Where does Pepperell stand?



Source	MassDEP	EPA Proposed
Nashua Road Well	Does not meet	Does not meet
Bemis Road Well	Meets	Meets
Jersey Street Well	Meets	Does not meet



Initial Efforts



- Sources – where is it coming from?
 - Former dump sites
 - Releases – aqueous fire fighting foam, etc.
 - Air deposition
 - Development
 - Septic systems
- Treating the groundwater – how do we fix it?
- Finding new water supplies
- Finding funding – Legal, State grants, Low interest loans

The Detailed Plan

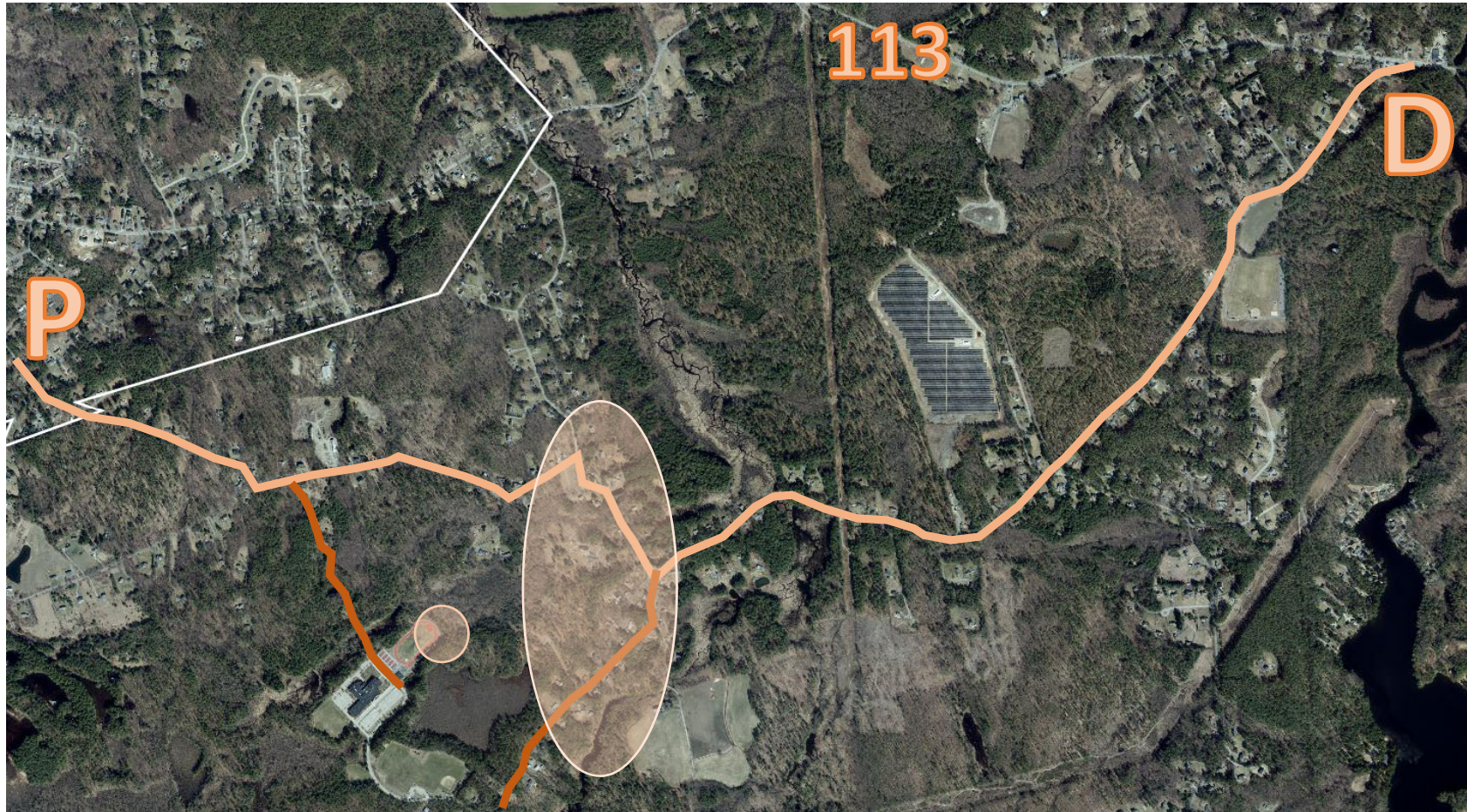


Location	Big Picture	Action
Nashua Rd Well Supply	Needs \$30M+ to comply with PFAS (and Fe & Mn)	Hold as Emergency only
Bemis St Wells Supply	Complies with Mass and EPA	Monitor and Protect
Jersey St Wells Supply	Complies with Mass limits exceeds EPA limits	Pilot Treatment Design Treatment Plant Construct Treatment Plant
New Supplies	Utilize existing sources of water	Extend water system to Dunstable
New Supplies	Find alternate supplies in Pepperell	Identify new supplies and conduct preliminary analysis

Jersey Street Wells



Water Main Extension



Current Actions - Detailed



- Starting a Pilot at Jersey Street Well - **\$13M+/-**
 - Determine best type of treatment
 - Determine sizing and better define costs
 - Design and Construct Water Treatment Plant
- Extend Water System to Dunstable - **\$17M+/-**
 - Permit, Design and Construct water main extension to Dunstable including a service to GDRHS
 - GDRHS to pay for **\$7M** of project
- Lawsuit
- Funding – ATM Article \$30M, SRF Loans

Future Actions



- Remediate known releases
- Cost recovery
- Change/Improve groundwater protections
 - Land acquisition
 - Private well / Septic systems
- Expand Sewer District
- New water supplies
- Nashua Road Well?

THANKS



Questions?

