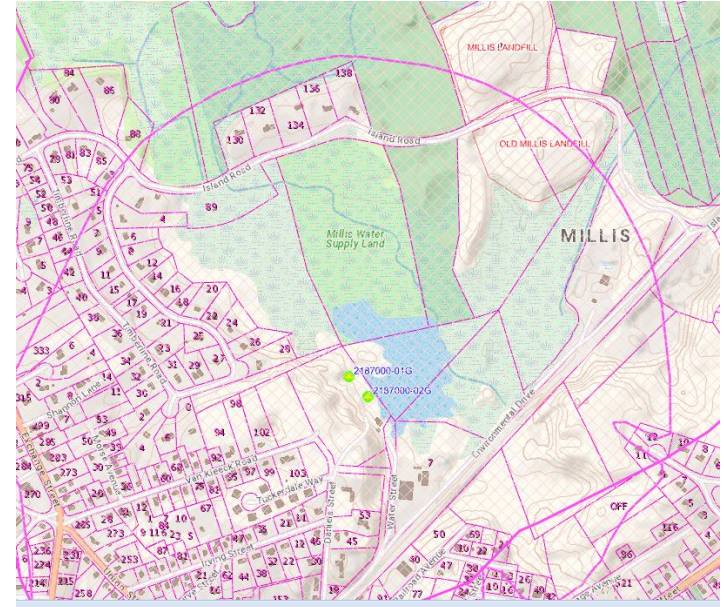


PFAS Treatment Design Grant Application

Town of Millis
Select Board
June 23, 2020



Agenda

1. PFAS Update

- What are PFAS?
- Landfill monitoring and watershed investigation
- Results from Millis' Drinking Water Well Testing

2. PFAS Treatment Grant Program

- Overview of Problem
- Grant proposal
- Benefits / Risks

3. Next steps

1 PFAS Update

What are PFAS (per- and poly-fluoroalkyl substances)?

- A class of thousands of human-made compounds
- Used in manufacturing of many industrial and consumer products
- Very long-lived; can build up in the environment and human body
- Linked to developmental and other health effects



food
packaging



non-stick
cookware



fire-fighting
foam



personal care
products



waterproof
clothing

Toxic chemicals threaten water supply in seven municipalities

By David Abel Globe Staff, March 6, 2019, 11:16 a.m.



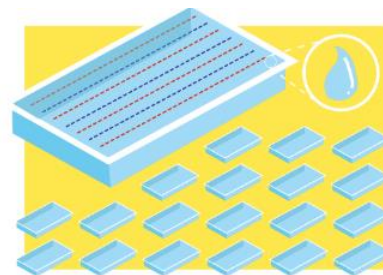
Boston Globe, March 6, 2019

1 PFAS Update

What are PFAS regulations / guidelines in Massachusetts?

- Jan. 2020: MassDEP set a health guideline of 20 parts per trillion (ppt) for the sum of 6 PFAS compounds
- Bureau of Site cleanup standard 20 ppt
- MassDEP has proposed a statutory Maximum Contaminant Limit (MCL) of 20 ppt (for the sum of the 6)
- MassDEP expects to finalize the 20 ppt MCL during 2020

1 part per trillion (ppt)
is equivalent to a
single drop of water in
20 Olympic-sized
swimming pools

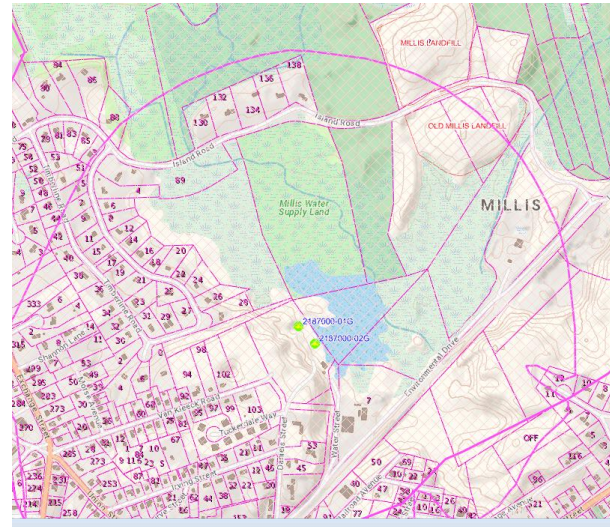


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PFAS Update

Millis Landfill Monitoring & Watershed Investigation

- Millis and MassDEP coordination is ongoing
- Resolved a regulatory reporting approach going forward
- MassDEP is investigating potential commercial / industrial sites for potential PFAS sources



1 PFAS Update

Drinking Water Well Testing Results

- Well 2 result would violate proposed standard
- Angelis WTF Wells 1 & 2 Blend is 88% of proposed standard
- Well 3 is 75% of the proposed standard

	Unit	Well 1	Well 2	Angelis WTF	Well 1	Well 2	Angelis WTF	Well 3	Well 4	Well 5
		Raw	Raw	Finished	Raw	Raw	Finished	Finished	Finished	Finished
Date		4/7/20	4/7/20	4/7/20	5/14/20	5/14/20	5/14/20	5/14/20	5/14/20	5/14/20
PFAS, Total (6 proposed MA MCL, current ORSG = 20 ng/L)	ng/L	15.64	21.41	17.62	18.24	17.21	17.12	15.037	7.946	5.355
% of proposed MCL		78%	107%	88%	91%	86%	86%	75%	40%	27%

Overview of Problem

- 3 of Millis' 6 supply wells are close to proposed PFAS limit of 20 ppt
- Source is unknown, possibly multiple
- Potential supply deficit with Wells 1 & 2 offline

Supply and Demand	Actual Yield (MGD)
Total Supply	0.779
Average Daily Demand (2016-2018 avg)	0.64
Supply Deficit With Wells 1 & 2 offline	-0.14
Projected 2025 Supply Deficit for future ADD of 0.8 (planned development)	-0.29

Overview of Problem

- Without treatment to remove PFAS, beginning in 2021 Millis must:
 - Test Wells 1, 2, 3 monthly (cost ~\$22,000 annually)
 - Take wells offline immediately if levels exceed 20 ppt
 - Mail public notices of violation and continue to do so quarterly
- New treatment system could cost several \$M per facility

2 Proposed PFAS Treatment Design Grant

PFAS Grant Program

- New state grant program (due **July 10, 2020**)
- Awards announced August 2020
- Provides funding (up to \$200,000 per applicant) for planning and engineering design of PFAS treatment
 - No match required
 - No funding authorization vote required
 - Submit costs for reimbursement

2 Proposed PFAS Treatment Design Grant

PFAS Treatment Proposed Project

- Angelis WTF (Wells 1 & 2) Treatment Evaluation / Conceptual Design:
 - Evaluate existing facilities
 - Facility conditions & water quality
 - Evaluate site constraints (soils, topography)
 - Future water quality / regulations
 - Conceptual Design of Treatment Upgrades
 - Equipment sizing, building addition layout, access
 - Backwash tank size, location,
 - Pilot test design
 - Develop Capital & O+M Cost & Schedule

Risks / Benefits

× Risk of No action:

- × Remain in reactive mode
- × Risk of supply availability
- × Costs of monthly testing
- × Risk of missing funding opportunity

✓ Benefits of Moving Ahead:

- ✓ Remain proactive with water stewardship and public health
- ✓ Unknowns and construction costs well defined for planning
- ✓ Grant is streamlined, no match required
- ✓ Funding will help Millis comply with an expected new regulation

3 Next Steps / Questions

Next Steps:

- Decision tonight
- Application Due July 10, 2020 (Draft in progress)
- July 31, 2020: Grant Award Notifications
- August 15, 2020: Contract start
- Grant scope complete by Spring 2021 (no later than 6/30)

Subsequent phases (*not obligated by grant to implement*):

- Final design, construction