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
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

https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas
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
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

<table>
<thead>
<tr>
<th>Unit</th>
<th>Well 1</th>
<th>Well 2</th>
<th>Angelis WTF</th>
<th>Well 1</th>
<th>Well 2</th>
<th>Angelis WTF</th>
<th>Well 3</th>
<th>Well 4</th>
<th>Well 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date</td>
<td>4/7/20</td>
<td>4/7/20</td>
<td>4/7/20</td>
<td>5/14/20</td>
<td>5/14/20</td>
<td>5/14/20</td>
<td>5/14/20</td>
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</tr>
<tr>
<td>PFAS, Total (6 proposed MA MCL, current ORSG = 20 ng/L)</td>
<td>ng/L</td>
<td>15.64</td>
<td>21.41</td>
<td>17.62</td>
<td>18.24</td>
<td>17.21</td>
<td>17.12</td>
<td>15.037</td>
<td>7.946</td>
</tr>
<tr>
<td>% of proposed MCL</td>
<td></td>
<td>78%</td>
<td>107%</td>
<td>88%</td>
<td>91%</td>
<td>86%</td>
<td>86%</td>
<td>75%</td>
<td>40%</td>
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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

<table>
<thead>
<tr>
<th>Supply and Demand</th>
<th>Actual Yield (MGD)</th>
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<tbody>
<tr>
<td>Total Supply</td>
<td>0.779</td>
</tr>
<tr>
<td>Average Daily Demand (2016-2018 avg)</td>
<td>0.64</td>
</tr>
<tr>
<td>Supply Deficit With Wells 1 &amp; 2 offline</td>
<td>-0.14</td>
</tr>
<tr>
<td>Projected 2025 Supply Deficit for future ADD of 0.8 (planned development)</td>
<td>-0.29</td>
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</tbody>
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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
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
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
2 Proposed PFAS Treatment Grant

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
  ✓ Unknows and construction costs well defined for planning
  ✓ Grant is streamlined, no match required
  ✓ Funding will help Millis comply with an expected new regulation
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