Technology Matrix and Evaluation Criteria Review

Wastewater Advisory Committee
Comprehensive Wastewater Management Plan

April 11, 2022
CWMP Status Update

- Draft Needs Assessment Completed
- Kicked off Alternatives Analysis
  - Evaluating Technologies best suited for Bourne
  - Drafted Evaluation Criteria
Phase I: Needs Assessment Recap

- Study organized by watershed boundaries
- Analyzes current and future wastewater management needs using
  - Current zoning
  - Build-out based on current zoning
- Identifies nitrogen loading reduction requirements for all watersheds
  - With and without Nitrogen TMDLs

<table>
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<tr>
<th>Embayment</th>
<th>Total Wastewater Load</th>
<th>Total Watershed Threshold</th>
<th>Total Load to Remove</th>
<th>Bourne’s % Responsibility for Removal</th>
<th>Bourne Total Removal</th>
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</thead>
<tbody>
<tr>
<td>Total</td>
<td>Wastewater, kg-N/year</td>
<td>Total Load</td>
<td>kg-N/year</td>
<td></td>
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<tr>
<td>Total</td>
<td>8,072</td>
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</table>

- Megansett-Squeteague Harbor 7,611 11,658 1,446 1,446 39% 564
- Phinneys Harbor 5,948 8,730 7,024 1,706 100% 1,706
- Buttermilk Bay 4,058 5,610 4,208 1,402* 100% 1,402
- Pocasset Harbor 7,958 12,479 9,359 3,120* 100% 3,120
- Pocasset River 3,762 5,157 3,868 1,289* 100% 1,289
- Buzzards Bay 16,830 4,208* TBD TBD
- Cape Cod Canal 164,028 41,007* TBD TBD

*25% Removal assumed; Subject to change after MassDEP review
Phase II: Alternatives Analysis – Identifying Technologies

• Onsite Systems
  • Conventional Title 5 Systems
  • Innovative Alternative (IA) Onsite Systems
  • Cluster Systems

• Traditional Wastewater Treatment and Sewer Collection Systems

• Stormwater Controls

• Innovative & Alternative
  • Permeable Reactive Barriers
  • Aquaculture
  • Urine Recycling

• Policies & Bylaws

Image Sources: EPA, City of Cambridge MA
The Challenge:

Customized Solutions for Bourne
Review Draft Technology Matrix

Handout
Our Alternatives Analysis Will Be:

**Community-Minded**
- Transparent
- Offer Opportunities for Learning
- Adaptable

**Innovative**
- Boost our Blue Economy
- Best Practices
- Resilient to Climate Change
- Restore Habitats

**Cost-Effective**
- Funded by Grants
- Affordable
- Equitable

...are we missing anything?
Review Draft Evaluation Criteria

Handout
Next Steps:

Spring 2022
- Public Presentation of Alternatives Evaluation Criteria

Summer 2022
- Presentation of Alternatives Analysis
- Town wide workshop

Fall 2022
- Draft Recommended Plan

Winter 2023
- Submit Final Recommended Plan
THANK YOU