Littleton Common Smart Sewer Public Information Session

April 24th, 2017
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BACKGROUND

- 2001: Water Department, Board of Health raise concerns to BOS
  - Aquifer & well water replenishment diminished
  - Nitrates: High concentration in the downtown area

- Assessors & Economic Development:
  - Sewer is a significant opportunity to help with Economic Development

- 2010: Littleton Common Sewer Feasibility committee established
  - Works with Charles River Watershed Assoc. on sewer feasibility study
  - Unanimously recommends ‘Smart sewer’ solution

- 2016: Littleton Special Town Meeting
  - Approves $252,000 for Littleton Common Sewer strategic plan

- 2017: Littleton’s 2030 Master Plan adopted
  - Littleton Common identified as strategic theme; wastewater disposal a top challenge to resolve
CURRENT STATE

- March, 2017: RFP for Littleton Common Smart Sewer Design
  - 19 applicants
  - 4 well qualified finalists, 3 interviewed
  - Weston and Sampson selected

- May 1, 2017 Special Town Meeting
  - Article 5 requests $200,000 for Littleton Common Sewer Strategic Plan
    - Financial Evaluation
    - Site selection options
    - Public participation
    - Technology Preferences
    - Preliminary design plans

- Tonight: BOS April 24\textsuperscript{th}, 2017
  - Public information session; Televised and will be on LCTV on demand
WHAT IS A SMART SEWER?

- **Energy efficient design**
  - Uses cutting edge environmental and energy technology
  - Reduces overall energy & energy generated can be sold/used to heat/cool surrounding buildings
  - Optimizes benefits to environment
  - Reclaimed water can be reused (lawn watering, businesses, facilities, etc.)

- **Wastewater is a resource**
  - Replenishes aquifer and provides groundwater protection
  - Treated wastewater returns to the watershed from which it was extracted

- **Smart Growth**
  - Focuses development in a designated district thereby reducing ‘sprawl’
  - Opt in model – no one is required to participate and only those that participate pay. Traditional sewers are paid for by all tax payers whether or not they are served by the system.
Priority Lands in Littleton

Cumulative ranking of priority lands based on locations of: rivers, lakes, aquifers, sand & gravel deposits, Zone II wellhead protection areas, interim wellhead protection areas, certified & potential vernal pools, priority habitat, core habitat, supporting natural landscapes, scenic landscapes, contiguous natural lands, and natural land riparian corridors.

Note: Data was obtained from MassGIS and NHESP.
WHAT IS A SMART SEWER?

Conventional Treatment Process

Conceptual Smart Sewer Process

- carbon
- water
- cost
- nutrients

- carbon
- water
- cost
- nutrients
- Potential income
- nutrients
BENEFITS

- Sustainability of a clean water supply
  - Aquifer & well water replenishment – water goes back to source
  - Water reuse
  - Increase Beaverbrook base flow by putting water back in the aquifers and having a permanent source of recharge upstream

- Environmental
  - Reduces Nitrate burden. Littleton’s downtown is at 4 – 6 PPM; at 10 PPM DEP requires sewer & at 20 PPM there are health risks.
  - Reduces methane gas in environment
  - Energy generation

- Economic
  - ~$2 - $2.5M new annual revenue from greater density and property value in Common and Industrial areas
  - Desired businesses able to locate in Common area
  - Future phases: subsidizing services from energy generation, anaerobic digestion of organic matter, reduced disposal fees for septage & food waste

- Enable Master Plan goal: Revitalize Littleton Common
FINANCING

Conventional vs Smart Sewer

Large carrying costs – higher risk or tax increase to subsidize user rate

Small carrying costs – reduced risk to tax base and user
FINANCING

- Grant eligible and reimbursable

- Who pays?
  - Users of system proportionally (larger customers pays more)
  - Revenue generate by the system can be used to make participating more cost friendly

- Approving article 5A at May 1\textsuperscript{st}, 2017 SPT will bring funds collected for design to $452,000 (Grant eligible and reimbursable)
  - Weston and Sampson to apply for a $150,000 grant from the Massachusetts Clean Energy Center in May
PARTICIPATION

- **Scope**: Business district from CVS to LPD and from Toyota to Lyttleton Inn
- “Opt in” – no one is required to participate. If there are not enough participants signed up then the project will not move forward.
- Community survey: Survey of Property Owners in VCD and VOD - 95% of respondents interested
FAQ’S

- Will the sewer change our towns character?
  - Harvard and Groton have sewered their downtowns and have retained their town character
  - Having a sewer does not change zoning which protects character

- Will the facility smell?
  - No, the design is self contained so no smell emerges.

- Where will the facility be located?
  - TBC: Site selection is part of the design process after many community workshops and working with interested participants
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Phases

Phase 1: Concept Design & Feasibility
Phase 2: Preliminary Design & Implementation Planning
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Phase 1 Concept Design & Feasibility

• Refine Service Area
• Confirm Flows & Loads
• Update the Groundwater Discharge (GWD) Site Screening
• Review & Confirm Smart Sewer Technology Preferences
  • Collection System
  • Community Water & Energy Resource Center (CWERC)
• Site Prioritization & Screening for CWERC
• Refinement of Site Selection for GWD & CWERC
  • Selection of Best Site for GWD
  • Hydrogeological Assessment of GWD Site
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Phase 1 Concept Design & Feasibility

• Develop Conceptual Plan
  • Concept Layout of Collection System, CWERC & GWD
  • Develop Budget Costs for Concept Plan
  • Concept Plan Summary Report
• Financial Plan & Affordability
  • Funding & Financing Options
  • Project Delivery Options
  • Financial Plan & Cost Proforma
  • Cost Allocation & Affordability
• Develop Key Project Partners in Service Area
• Project Meetings & Public Outreach
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Phase 2 Preliminary Design & Implementation Planning

• Detailed Hydrogeological Assessment of GWD Site
• Final Service Area & Preliminary Design of Collection System
• Detailed Evaluation & Cost-Effectiveness for CWERC – Treatment Process and Resource Recovery Technologies
• Preliminary Design of CWERC & GWD System
• Refine Project Costs
• Implementation & Project Delivery Plan
• Finalize Financial Plan
  • Funding
  • Cost Allocation
• Review Project Impacts (ENF Process)
• Continued Public Engagement
NEXT STEPS

- Apply for DER grant
- May Town Meeting article for 30% design
- Phase 1 & 2
- Future Town Meeting: full design/build funding
RESOURCES

- Littleton Common Sewer Feasibility Study Committee:  
  http://www.littletonma.org/content/19733/19771/20414/default.aspx  
  - Includes links to:  
    - 2012 public form materials  
    - RFQ applicant interviews and review  
    - Charles River Watershed Littleton Smart Sewer Strategy  
    - Smart Sewer Survey

- Littleton Master Plan:  
Thank You!