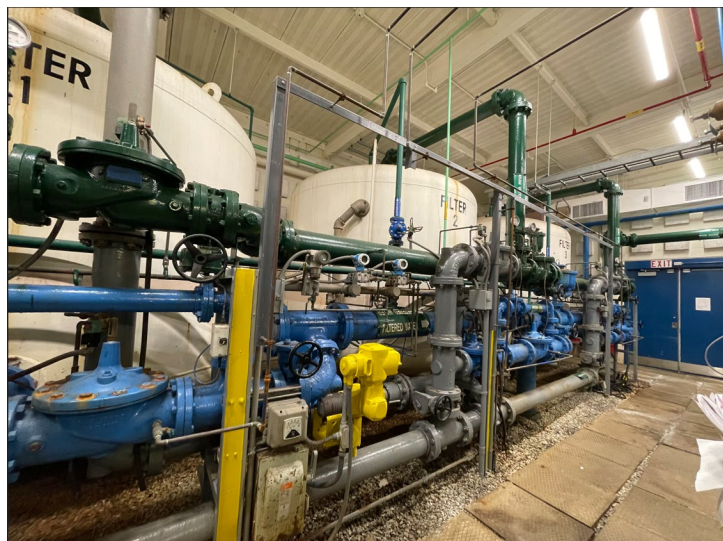
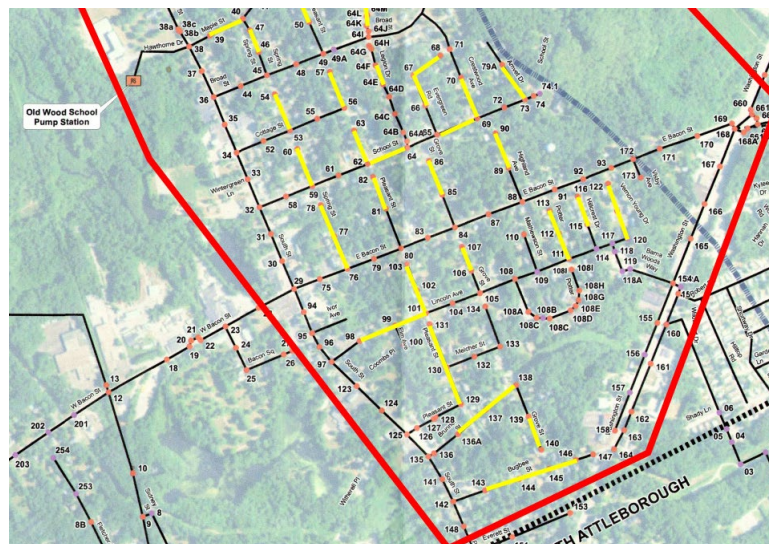


Town of Plainville Select Board Infrastructure Projects Updates



Water Treatment Plant Design



Infiltration/Inflow Investigation



Pavement Management Analysis



Water Treatment Plant Design

Issues From 6 Years Ago

- ✓ Rampant dirty water complaints (40/day on average)
- ✓ Lake Mirimichi drained/impact on wells
- ✓ Mirimichi well fouling/less production
- ✓ Issues at both Highway Wells (torn screens)
- ✓ No formal distribution flushing program

Issues From 6 Years Ago (*continued*)

- ✓ TTHM/HAA5 violations
- ✓ Only one booster feeding North Attleborough water into Plainville
- ✓ No prospective additional water supplies
- ✓ No updated Pavement Management Plan
- ✓ Highway and sewer departments were independent

Progress to Date

- ✓ Rampant dirty water complaints (40/day on average) – **Nearly eliminated (1/quarter – usually linked to flushing)**
- ✓ Lake Mirimichi drained/impact on wells – **Taken off-line**
- ✓ Mirimichi well fouling/less production – **In backup status**
- ✓ Issues at both Highway Wells (screen issues) – **Both wells replaced**
- ✓ No formal distribution flushing program – **Unidirectional Flushing created**
- ✓ TTHM/HAA5 violations – **Addressed chlorine usage and tank levels. New plant will eliminate the issue with organics reduction**

Progress to Date *(continued)*

- ✓ Only one booster feeding North Attleborough water into Plainville – **Kelley Blvd station on-line**
- ✓ No prospective additional water supplies – **Prospective source identified**
- ✓ Sewer – **I/I effort ongoing in the Hill Area**
- ✓ Pavement – **Working on analyzing pavement data/Inventory**
- ✓ Highway department – **Consolidated DPW**



Water Treatment Design Genesis

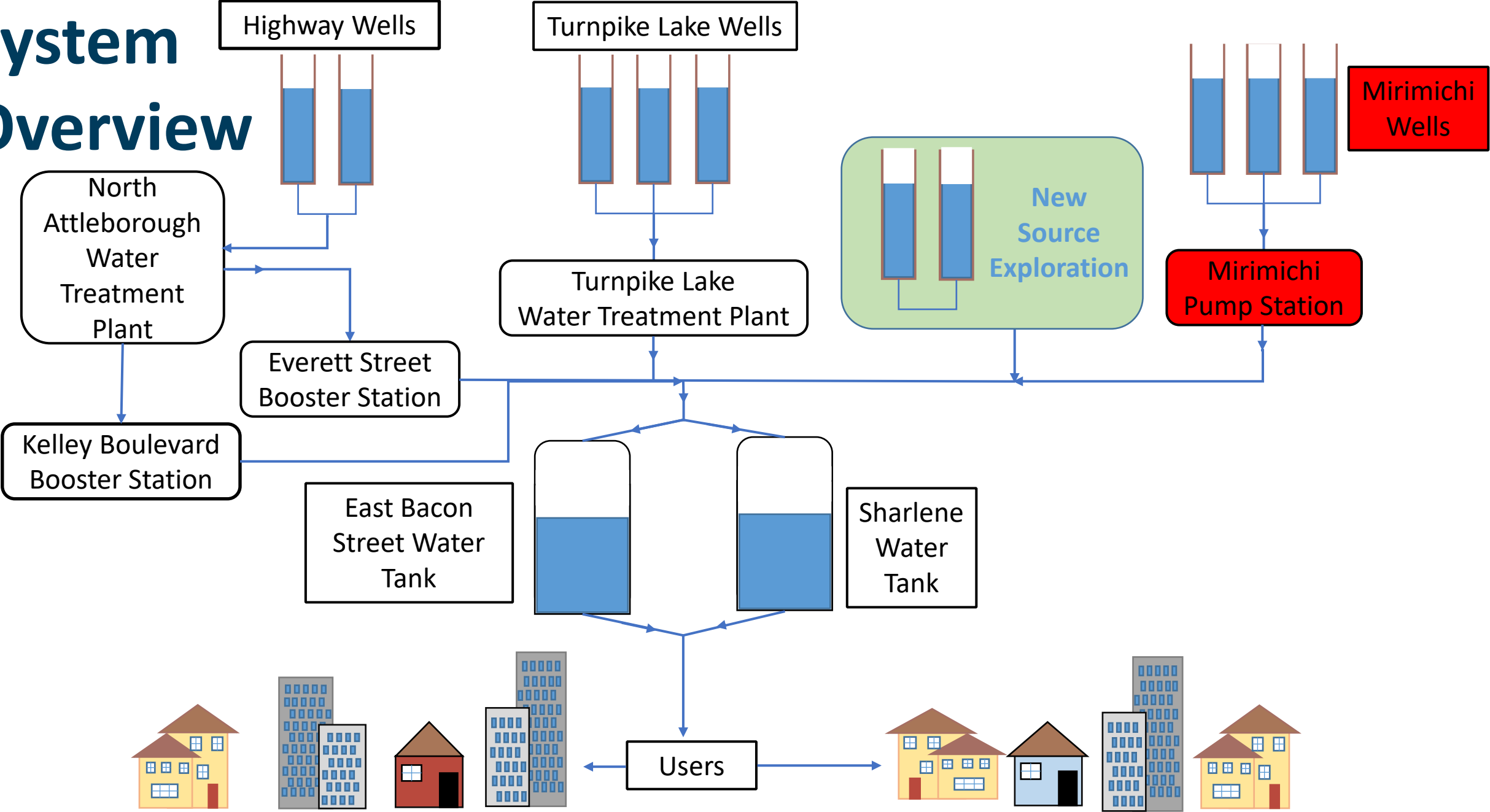
- ✓ Water quality complaints (manganese from Mirimichi)
- ✓ Attleboro drains Lake Mirimichi
- ✓ Mirimichi Wells taken off-line
- ✓ PFAS level reduced from 70 to 20 ppt in Massachusetts
- ✓ Source water exceeds 20 ppt in North Attleborough
- ✓ Prospective well location found in site adjacent to existing Water Treatment Plant



Water Treatment Design Genesis

- ✓ Existing WTP has virtually no reserve capacity for existing wells
- ✓ PFAS level further reduced from 20 to 4 ppt by EPA
- ✓ Plainville source water will violate the new 4 ppt level
- ✓ Existing plant has no PFAS reduction capability
- ✓ **New plant needed to treat PFAS as well as additional capacity for a future well(s)**

System Overview





Water Treatment Plant Design History

- ✓ Started design with PFAS MCL at 20 ppt
- ✓ Carbon was only DEP approved PFAS removal technology
- ✓ 2 Small Carbon Units designed with room for expansion
- ✓ Completed schematic design
- ✓ EPA announces PFAS MCL reducing from 20 to 4 ppt

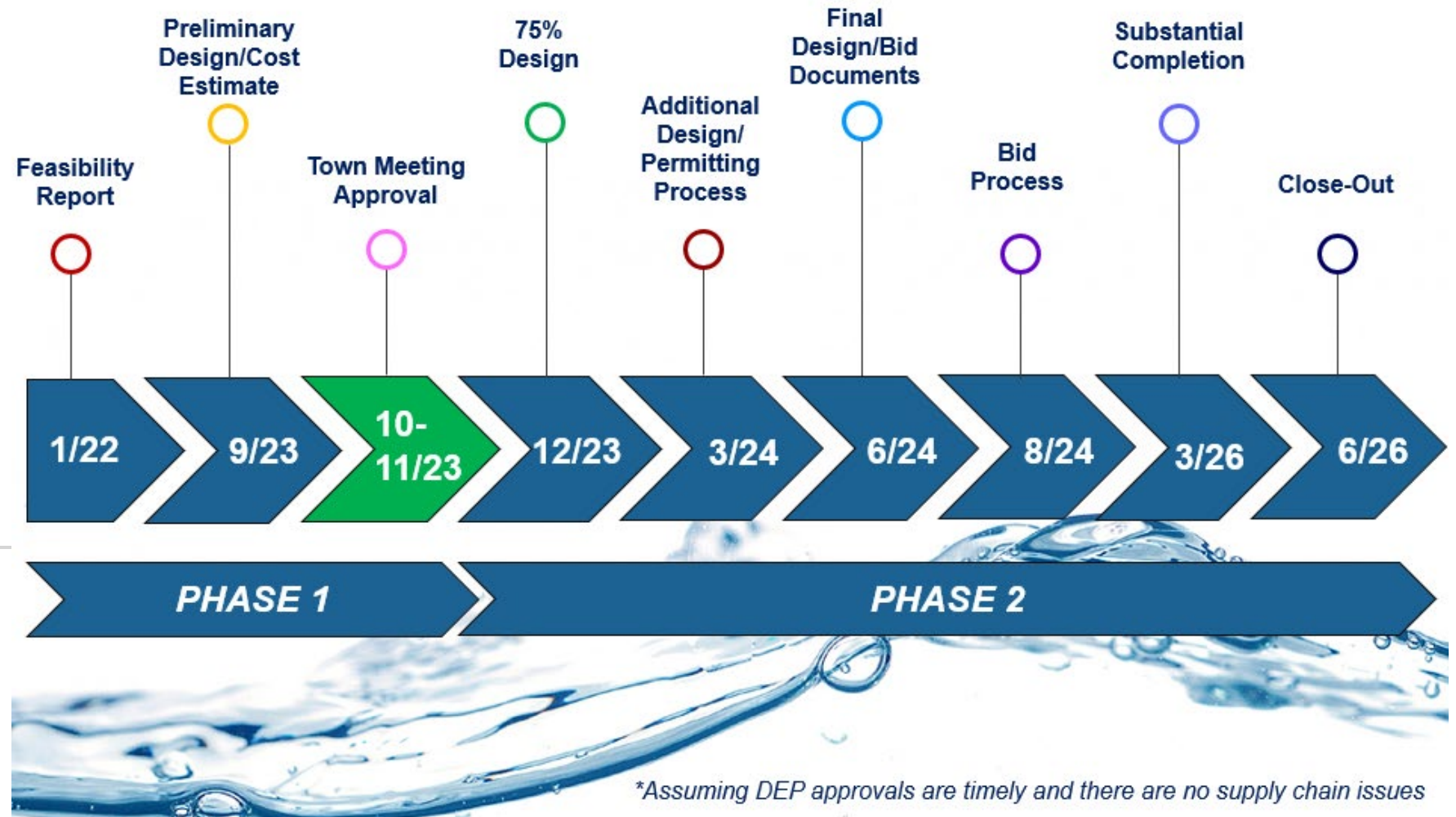


Water Treatment Plant Design History (*continued*)

- ✓ Carbon no longer default technology
- ✓ Designed paused and pilot testing required
- ✓ Pilot delayed project by a year (DEP approval and conducting pilot test, developing report for DEP)
- ✓ Carbon proven to work
- ✓ DEP Approves approach
- ✓ Design back underway

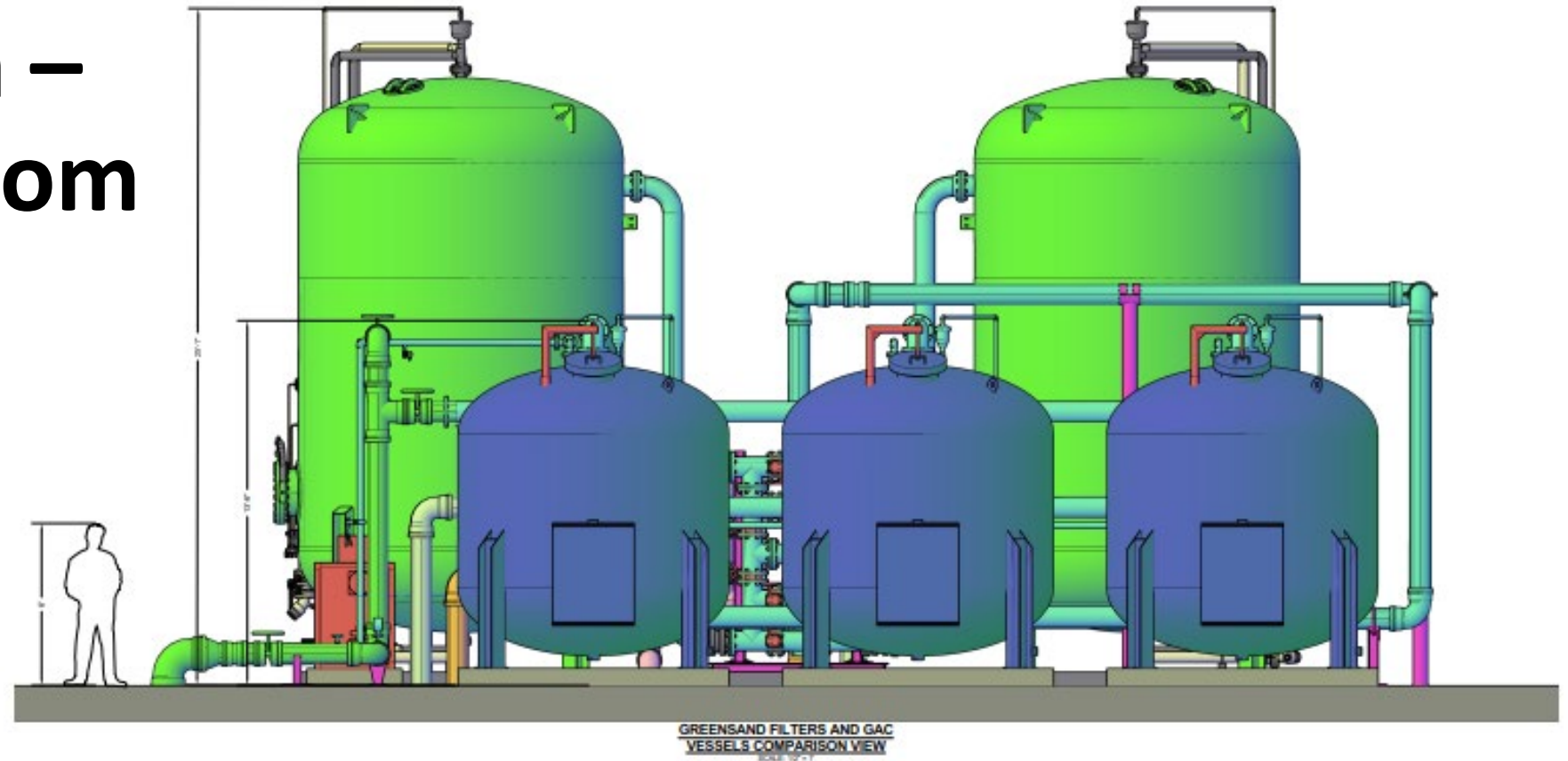
Turnpike Lake Water Treatment Plant Project Schedule*

Water Treatment Plant Design Schedule



Water Treatment Plant Design – Filtration Room

*Proposed
Greensand-GAC
Vessel System
Section View.*





Inflow/Infiltration Update

Infiltration/Inflow Effort Update

Current System	
Pipe Quantity	145,000 LF Gravity Sewer, 22,000 LF Force Main
Age	First Pipe Installed in 1973
Type of Pipe	Vitrified Clay, PVC, Reinforced Concrete, Ductile Iron
Size	6" to 24"
Manholes	450 Precast Concrete or Brick
Connections	1,744 (as of 2017)
Pump Stations	10 Private, 4 Public
Metering Stations	2

✓ Connections to North Attleborough: 2

- Moran Street Connection 730,000 gpd Average Day; 3.5 mgd Peak*
- Kelley Boulevard Connection 330,000 gpd Average Day; 1.21 mgd Peak*

* From 2018

Infiltration/ Inflow Effort Update (*continued*)

✓ **Previous Investigations:**

- 2009 TV Inspections of Man-Mar Drive and South Street Ext.
- 2014 I/I Investigation – Moran subsystem
- 2018 Flow Isolation/MH Insp – Kelley Boulevard Subsystem

✓ **Previous Rehabilitation Work:**

- 2017 MH Rehab (21 manholes) – from 2014 I/I Investigation
- 2018 Pipeline Rehab Project – 1,280 lf CIPP; Test & Seal Joints 600*

Infiltration/ Inflow Effort Update (*continued*)

- ✓ **Ongoing Investigation:**
 - The Hill I/I Investigation – Moran sub-system
 - ✓ Smoke 26,500 lf
 - ✓ Dye Testing 100
 - ✓ House Inspection 450
 - ✓ TV Service Connections 200

Infiltration/ Inflow Effort Update (*continued*)

- ✓ **Next Step:**
 - The Hill I/I Rehabilitation
 - ✓ Identify sewer services for lining
 - ✓ Identify sewers for lining

Pavement Management Analysis



- ✓ Raw data has been collected
- ✓ Refining street inventory
- ✓ Next steps:
 - Complete analysis of management plan
 - Coordinate recommendations with known Capital Projects
 - Develop a Draft Plan for Town review and approval

Questions?