

Weir River Water System Discoloration Response

July 2, 2024



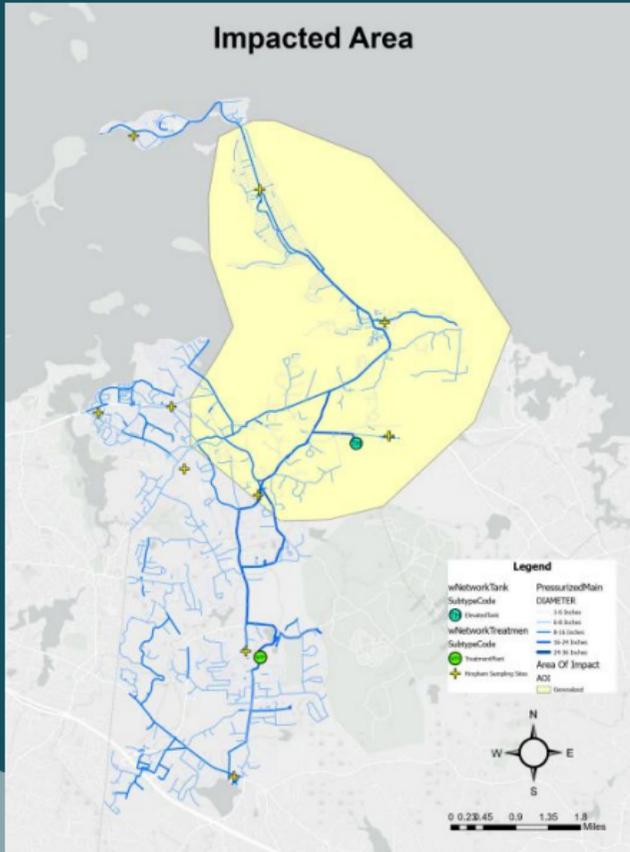
INTRODUCTIONS

- **John Oatley-Regional Vice President Southcoast Region**
- **Mike Leahy Regional Manager (based in Hingham)**
- **Darren Dearth Project Manager - Hingham**
- **Christopher Halleron - Communications Manager, Municipal Water Contract Operations | Northeast Region**

ACKNOWLEDGMENTS

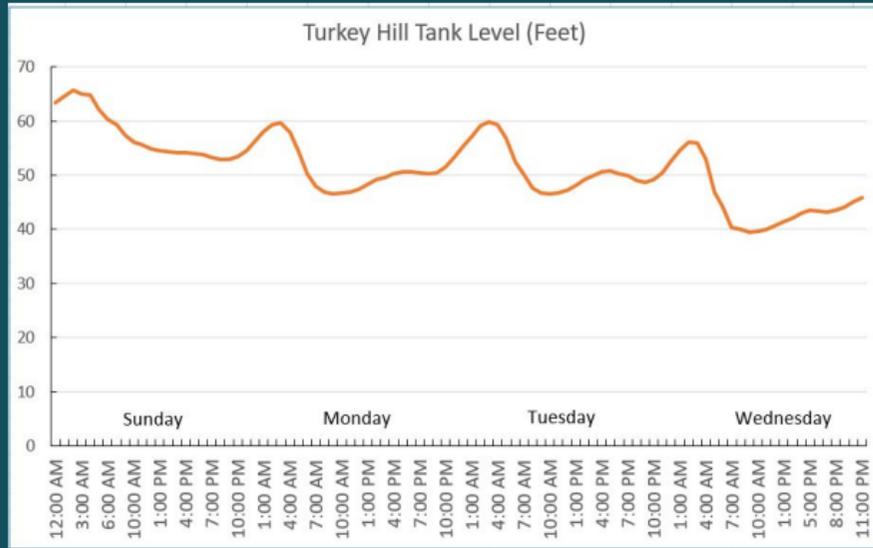
- **Russell Tierney - Managing Director/Superintendent | Weir River Water System**
- **WRWS Commissioners & Boards**
- **Engaged Members of the Public**
- **Veolia Crews Responding Throughout Event**





EVENT

ONSET



An incident occurred involving a hydraulic disturbance, which caused the dislodgement of sediment throughout the water distribution system. This was caused by significant usage and a drop in the Turkey Hill tank levels due to high demand. The drop was 4 feet greater during the same time period of the day before and day after and the slope of the drop was steeper than typical.

From 3:00 a.m. to 8:00 a.m., Turkey Hill's levels dropped from 57 to 39 feet, causing the Main Service Zone pressure to drop from 56 to 36 psi. The water treatment plant (WTP) increased flows gradually from 2,500 gpm to 3,300 gpm to refill the system.





CONTRIBUTING FACTORS

- Extreme heat = increased demand
- Holiday usage is generally higher
- Localized main breaks
- Additional system maintenance
- A key water service line on George's island under investigation
- Ongoing investigation - aim to finalize by July 25





COMMUNICATIONS

- WRWS Website
- Notify System (User Opt-In)
- Civic Stakeholders/OEM

IMPROVEMENTS

- Updating Stakeholder contacts
- Contacting local media outlets
- Collaborating with CAB & community organizations
- Social media





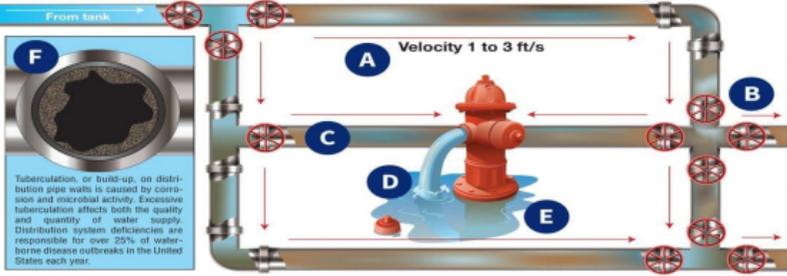
IMMEDIATE ACTIONS TAKEN

- Adjust tank monitoring alarm setpoints
- Adjusted timing and range of tank recharge
- Updating Emergency Response Plan
- Staff at heightened readiness over holiday
- Requested water restrictions through July 4
- Collaboration on community outreach
- T+P developed Unidirectional Flushing Plan
- Continue to explore and implement effective infrastructure improvements



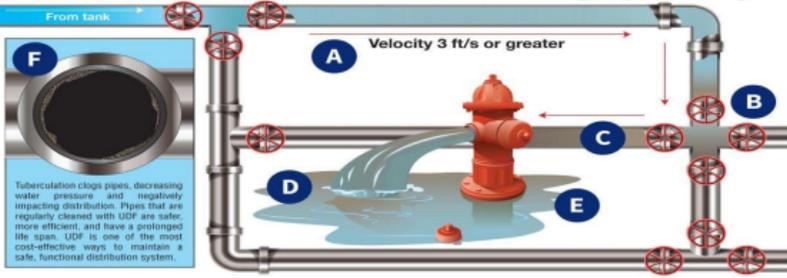
The Benefits of Unidirectional Flushing

Conventional Flushing



- A** Velocity of water is significantly higher in UDF than in traditional flushing, providing far better pipe scouring.
- B** Valves are opened and closed during UDF, enabling water systems to locate broken or closed valves and to learn critical information about the system. Exercising hydrants and valves in this way also prolongs their useful life.
- C** During conventional flushing, dirty water is decelerated throughout the system, whereas UDF forces water in one direction, from a clean source through a dirty pipe, providing for superior pipe wall cleaning.
- D** Sediment, corrosion, and biofilm are forcefully flushed out during UDF, whereas they remain circulating in the system in conventional flushing.
- E** UDF actually uses up to 40% less water than conventional flushing.
- F** Conventional flushing does not produce a high enough velocity to adequately scour pipe walls, whereas the increased velocity in UDF removes a significant amount of tuberculation from pipe walls. Regularly scheduled UDF is an invaluable part of a system's asset management program.

Unidirectional Flushing (UDF)



ENHANCED FLUSHING PROGRAM

The unidirectional flushing plan has been completed and is being integrated into the GIS software. In order to effectively perform the enhanced flushing, a comprehensive valve exercising program must be executed to verify the operability of the valves within the system. Veolia is working with the WRWS to first verify the valves within Hull Village before moving onto the rest of the system in anticipation of the Fall flushing program.





ADDITIONAL ACTIONS TAKEN

- Updating customer care database and notification system
- Reached out to all three towns to revise our stakeholder contact list
- In discussions local media outlets
- Engage in Test Messaging to encourage participation and evaluate response



Customer Service

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Thank you.

