PRINCETON PFAS UPDATE – FALL 2021

Private Well Monitoring and Phase II Project

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PFAS SAMPLING & RESULTS

- **Project Overview**

  - PFAS detected in Town Hall Supply Well – September 2019

  - Reported to MassDEP November 4, 2019, RTN 2-21072 assigned

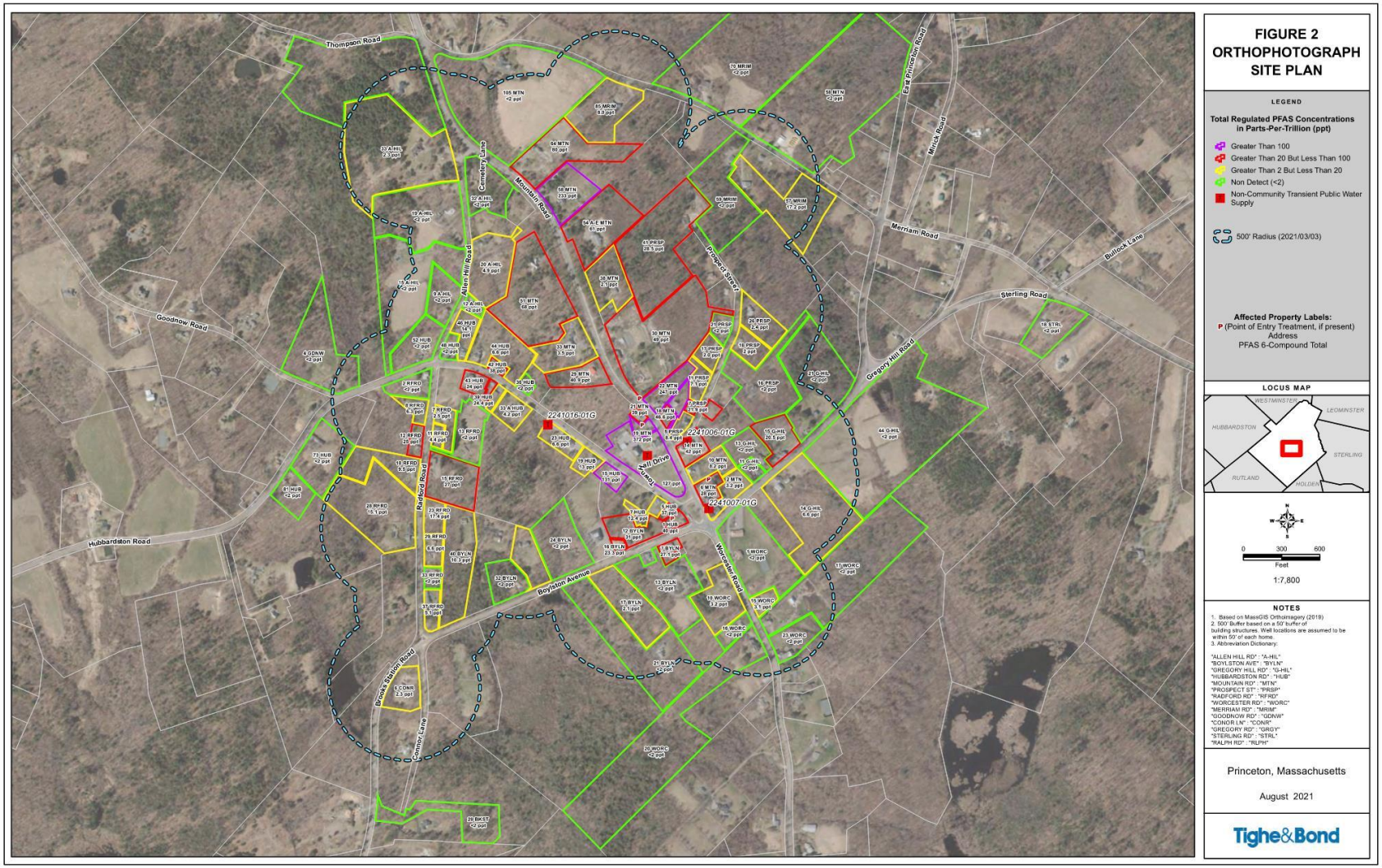
  - MassDEP drinking water standard based on sum of six PFAS compounds (PFAS6). These six compounds are:
  - Perfluorodecanoic acid (PFDA)
  - Perfluorononanoic acid (PFNA)
  - Perfluorooctansulfonic acid (PFOS)
  - Perfluorooctanoic acid (PFOA)
  - Perfluoroheptanoic acid (PFHpA)
  - Perfluorohexanesulfonic acid (PFHxS)

  - Eight other analytes are reported but are not currently regulated. Six of these eight have not been detected in any Princeton well samples and all detected compounds are removed by the POET systems

PFAS SAMPLING & RESULTS

- **Project Overview (cont.)**
  - Radius sampling substantially complete for now:
    - detections at 33 Allen Hill and 6 Connor Lane require sampling of two additional homes
    - Four homes have not been sampled due to lack of access or vacant
    - 26 Point-of-Entry-Treatment (POET) systems installed (PFAS6 >20 ppt)
    - 50 homes provided with bottled water (PFAS6 concentrations <20 ppt)
    - 20 total homes around edge of radii non-detect (ND) for PFAS
  - Breakthrough of primary GAC vessel has not been detected at any home

AUGUST 2021 RADIUS MAP



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IMMEDIATE RESPONSE ACTION (IRA)

- Potable well impacts constitute IRA, “immediate” action needed
  - Originally consisted of monthly sampling for POET homes
  - Quarterly sampling for homes where PFAS6 are <20 ppt
  - Monthly status reports, in addition to semi-annual IRA Status Reports
  - Other activities as requested by MassDEP

- August 2020 IRA Modification reduced POET monitoring from monthly to quarterly following three consecutive months of data showing ND results

- December 2020 IRA Modification:
  - eliminated monthly status reports; added semi-annual reports (essentially quarterly reporting)
  - Reduce private well sampling to semi-annual
  - Reduce POET sampling to:
    - Sample effluent within first month
    - After 1 year, sample midfluent and effluent semi-annually
    - After 2 years, sample midfluent and effluent quarterly until GAC is changed

- Will evaluate data and seek additional changes as data support them

MASSACHUSETTS CONTINGENCY PLAN (MCP)

- **The MCP Process** **Consists of five "phases," Phases I through V**
  - Phase I – (submitted November 9, 2020). Initial Site Assessment and Tier Classification (site is Tier I due to drinking water impacts)
  - Phase II – due November 2023. Define vertical and horizontal extent of PFAS in all media (soil, groundwater, surface water, air), risk characterization.
  - Phase III – due November 2024. Evaluation of remedial alternatives
  - Phase IV - due with Phase III. Plan to implement remedy selected in Phase III
  - Phase IV Completion/Phase V – due November 2025. Document remedy completion
  - Sites can be closed at any time during this process with permanent or temporary solution
  - IRA runs parallel to the "phase" process – no deadlines / IRA Status Reports

PHASE II COMPREHENSIVE SITE ASSESSMENT

- **Current Phase II investigation efforts include:**
  - Town Hall campus groundwater assessment:
    - Five monitoring wells at Town Hall property in place from prior 21E petroleum release, located near Fire Department building
    - Two monitoring wells installed into shallow bedrock downhill from Town Hall (MW-101, 35 ft) and behind library (MW-102, 15 ft).
    - MW-102 had highest concentrations (1,041 ppt)
    - Quarterly groundwater samples collected Sep 21 (data pending)
    - Cistern sampled, non-detect for PFAS
  - Initial Soil Sampling completed

PHASE II CSA (CONT.)

Soil Sampling

- Initial sampling of soil around 30 Mountain Road completed
  - Shallow soil, 0-6” deep as a first step, six samples
  - Five exceed RCS-1 Reportable Concentrations

- Sampling of soil around 22 Mountain Road completed
  - Same initial shallow approach, nine samples collected
  - All nine exceed RCS-1 values

- Sampling of soil around 54 Mountain Road completed
  - Same shallow approach, seven samples collected

- Sampling of soil on western slope of Town Hall Campus
  - Same shallow approach, four samples collected
  - Trace concentrations detected in three of four samples
  - No samples exceed RCS-1 values, one sample was ND

PHASE II CSA (CONT.)

Soil Sampling

- Additional soil sampling proposed for 22 and 30 Mountain Rd
  - Possibly 54 Mountain Road following evaluation of results
  - Deeper sampling to determine vertical extent of contamination and depth to bedrock
  - Additional locations to fill data gaps and define extent of contamination
- Evaluating potential additional properties for soil sampling

Surface Water Sampling

- Planned sampling of downhill surface water bodies Airport and Schoolhouse Ponds, and Gregory Hill Spring
- Second round of runoff samples collected, similar results near 30 Mountain Rd, 41 Prospect St still ND

PROJECT PLAN

- Definition of extent of impacted wells complete
- Ongoing well and POET monitoring (next sampling in October)
- Monitor POETs to develop prediction of breakthrough
- Continue Phase II Assessment activities (soil, groundwater and surface water assessments)

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