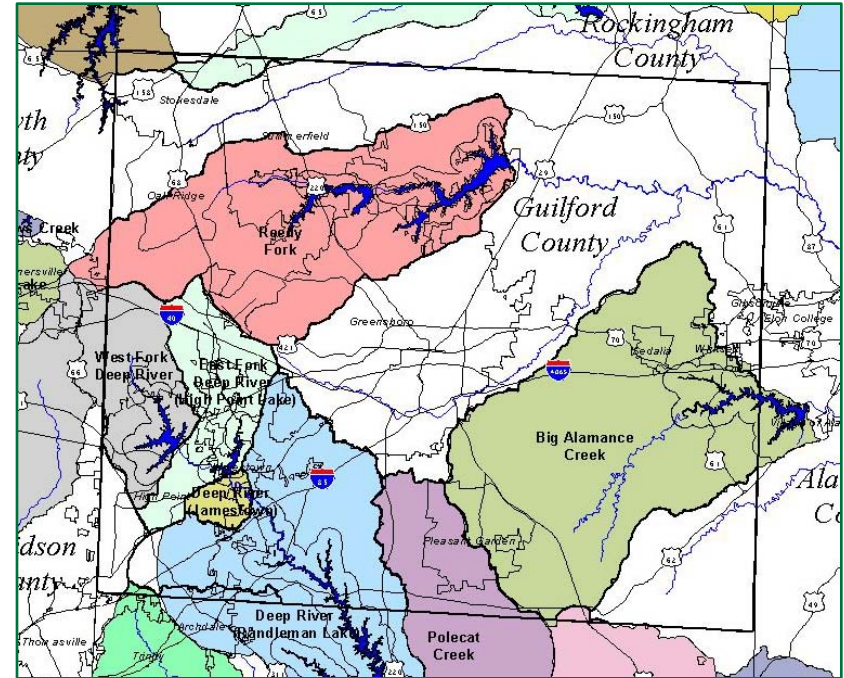
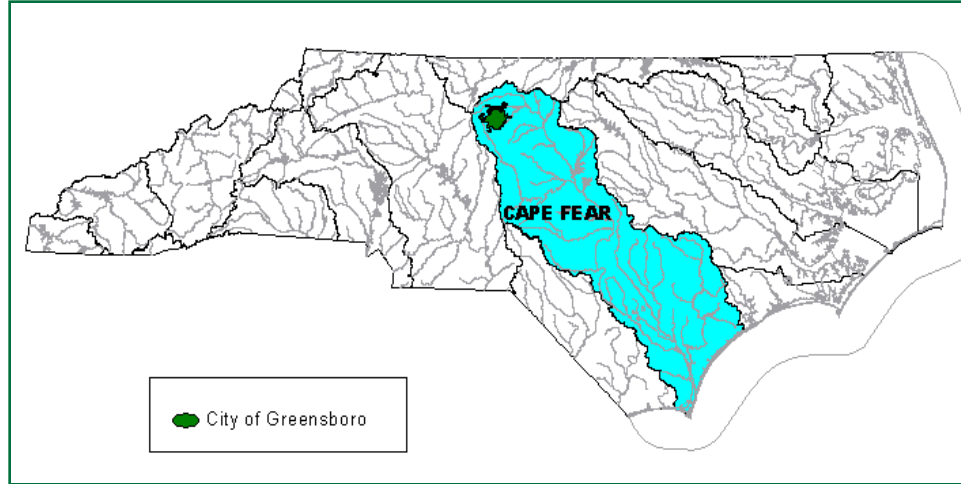


Greensboro's PFAS Response



Michael Borchers, Assistant Director
Water Resources

Greensboro's Watershed



Water Treatment



**Lake Townsend Water
Treatment Plant**

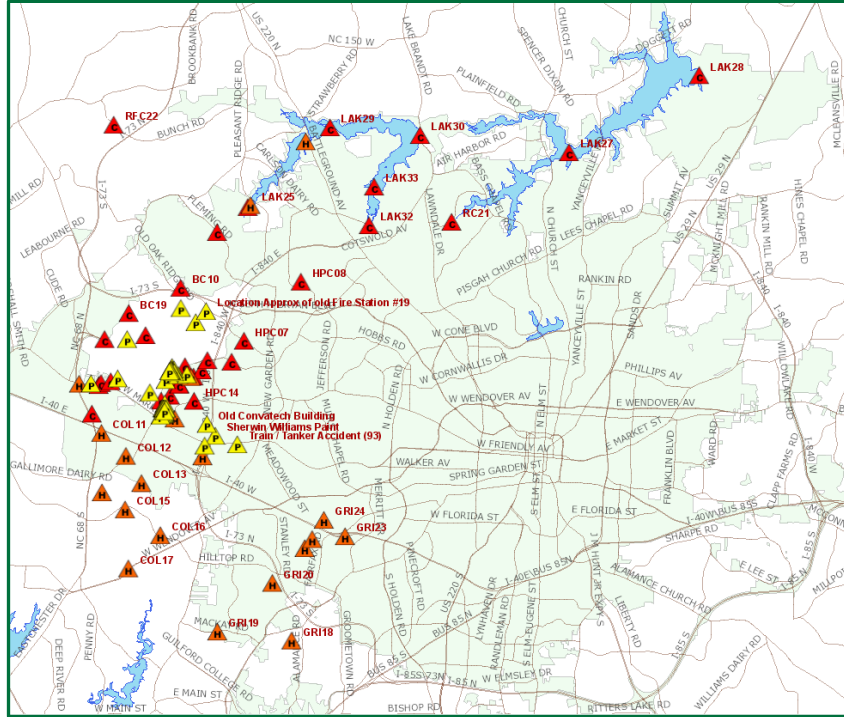


**Mitchell Water
Treatment Plant**

PFAS Detection and Response

- Detected in 2014 as part of UCMR 3 study
 - Three out of four quarterly samples above the reporting detection limit of 40 ng/l or ppt
 - Ten distribution samples with PFOS concentration > 40 ng/L
- Council approved investigation – December 2015
 - Field investigation started mid 2016
 - Subsequent testing in watershed revealed PFOS concentration's > 1,000 ng/L
 - Primary Source – Legacy manufacturing and training sites surrounding and including PTIA

Field Investigation



HDR Engineers, Inc.

- Background Data Analysis and Source Assessment
- Field investigation and Sampling Plan
- Treatability Analysis - Bench and Pilot Testing
- Stakeholder Coordination / Engagement

NC State University

- Laboratory Analysis

Water Supply & Stormwater Divisions

- Field investigation and Sampling
- Stakeholder Engagement
- Interim Treatment



Notification and Communications

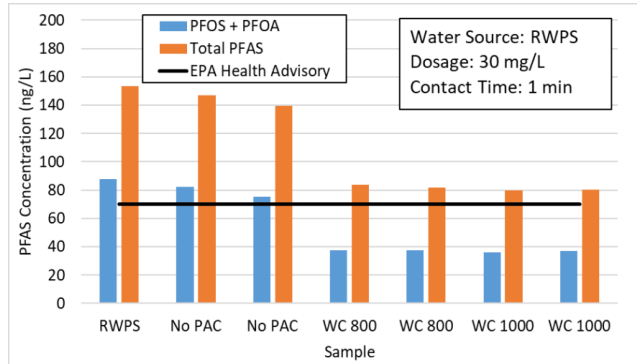
HAL Exceedance

- July combined PFOS / PFOA sample results for Mitchell WTP POE - 80 ppt
 - First exceedance of an HAL since monitoring began in 2014
- State PWS contacted
 - Encouraged public notification and transparency
- Press Release and Memo to CMO / City Council
 - Background / History
 - Investigation
 - Stakeholder Engagement
 - Immediate and Long Term Proactive Measures

Proactive Measures

Immediate Response

- Granular Activated Carbon Pilot Testing
- Operational Response Protocol Developed
- PAC feed system Purchase
- Increased sampling
 - July 2018 – Weekly sampling and posting online



Proactive Measures Cont.

- Stakeholder Voluntary Measures
 - Chemical inventory and alternative product search for training needs
 - City support in emergency response releases
- Lake Brandt Predictive Fate and Transport Model
 - Time of travel – inflows / outflows, concentration, and temperature
- State / County Private Well Testing
 - Guilford County Health Department (GCHD) and NCDEQ Division of Waste Management
 - Community Meeting - 12/4/18
 - First Round Sampling - 42 wells on 12/18 and 12/19
 - All samples < HAL and 3 samples above LOQ
 - Second Round – 10 wells on June 2019 (prev. detects plus one)
 - All Samples < HAL



Journey – Next Steps

Uphold Consumer Confidence & Trust

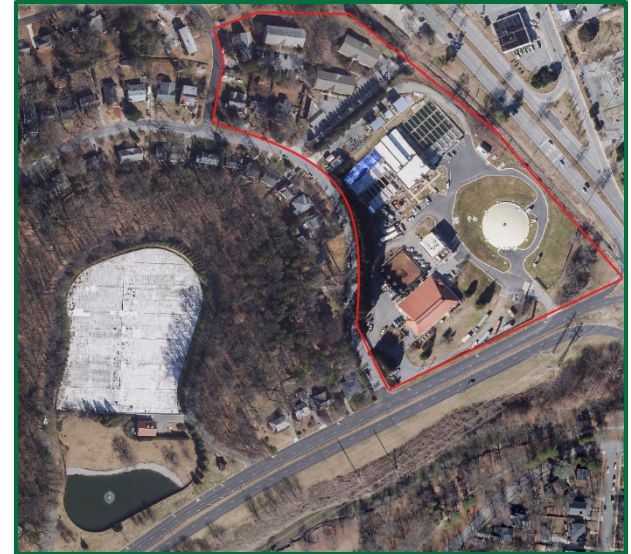
- Carry Out Final Report Recommendations
- Transparency and Proactive Follow Through
 - Ongoing stakeholder engagement
 - Staff availability – questions and concerns

PFAS Treatment

- Short-Term PAC System
- Long Term CIP Plan - GAC Feed System Design

UCMR 4 Findings

- Evaluate results and determine appropriate and proactive response



Questions for discussion

1. How do you communicate and educate others on the message safe water \neq zero risk water?
2. How do you equitably share the burden and responsibility for addressing contaminants of emerging concern with all impacted communities?
3. In this age of “easy everything” how do you convince manufacturers, consumers, legislators, and regulators of the need to fully evaluate the cost of the conveniences we continue to embrace?