

Restoration Advisory Board Meeting

October 14, 2020



ERDC

BUILDING STRONG®

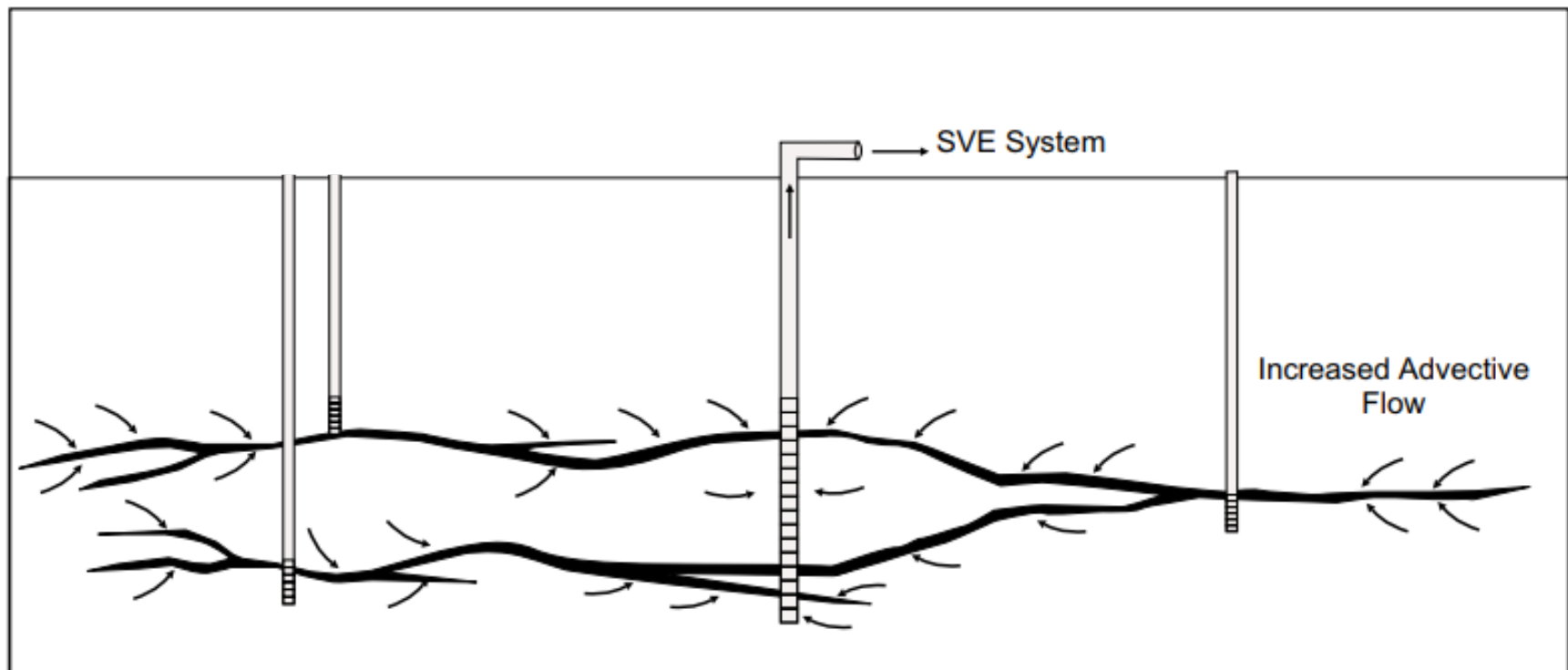
Innovative solutions for a safer, better world

RAB Agenda

- January 29th, 2020 Meeting Minutes
- Subject Matter
 - ▶ Soil Vapor Extraction Pilot Test
 - ▶ Supplemental Remedial Investigation Report
 - ▶ Feasibility Study Update
 - ▶ PFAS Site Investigation Report
 - ▶ Richmond Middle School Sampling
- Question and Answer
- Adjourn



Enhanced Permeability Pilot Concept



Modified After USAF Final Guidance on Soil Vapor Extraction Optimization, June 2001



ERDC

BUILDING STRONG®

Innovative solutions for a safer, better world

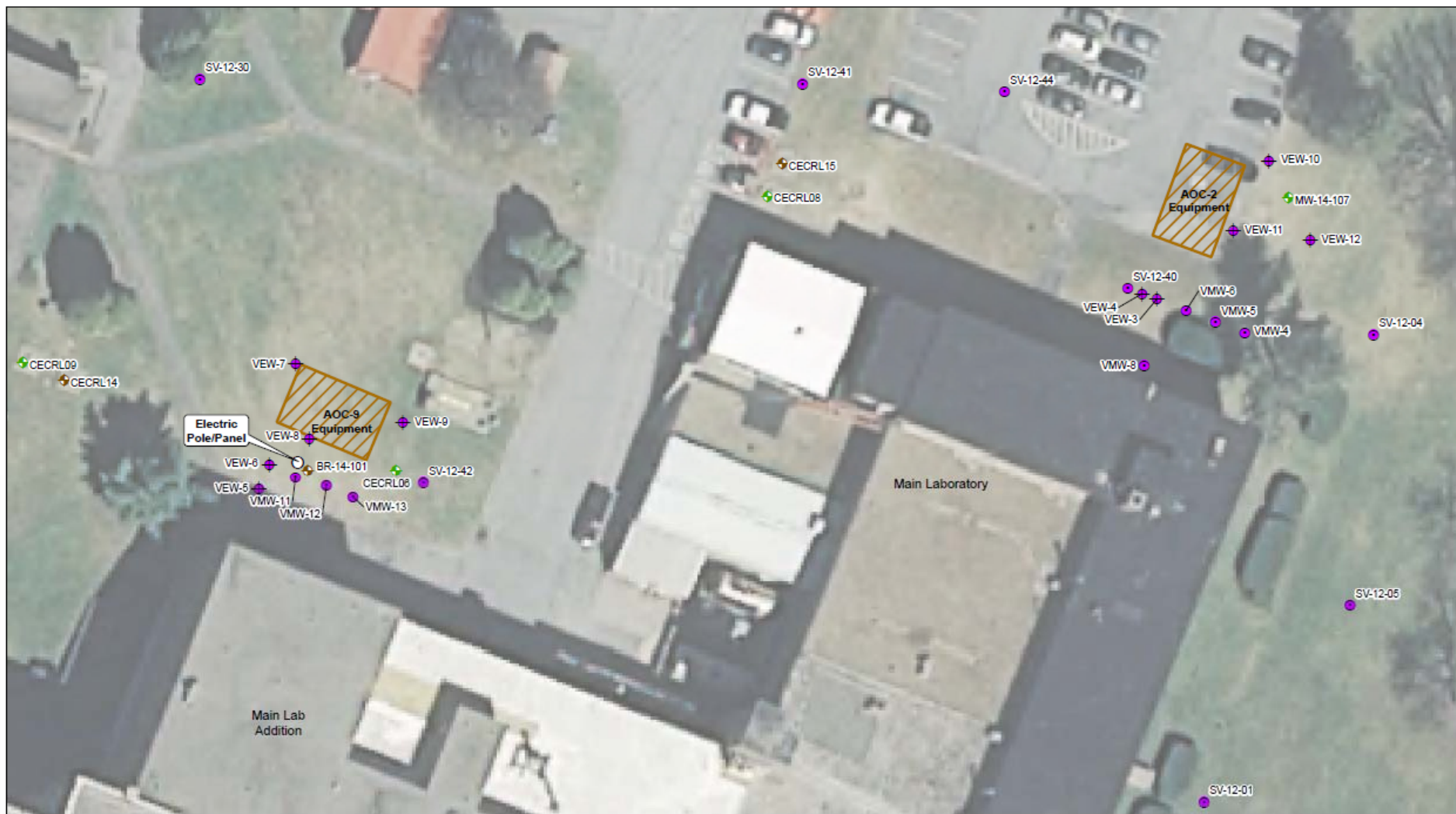


Figure 1
2020 SVE Pilot Study

wood.

Prepared/Date: BRP 07-01-20 | Checked/Date: JB 07-01-20



BUILDING STRONG®

Cold Regions Research and Engineering Laboratory
Hanover, New Hampshire

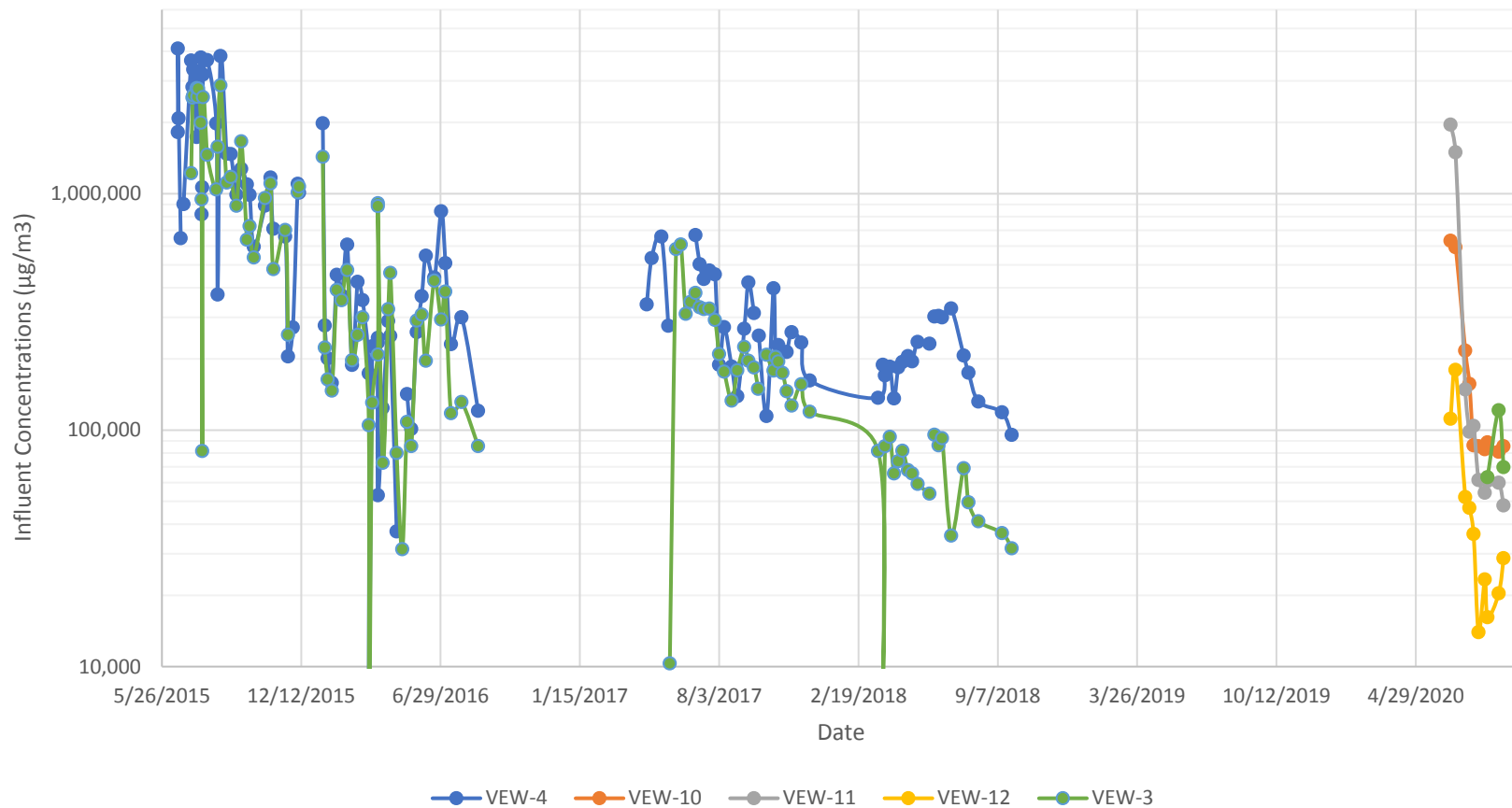
Innovative solutions for a safer, better world

Enhanced Permeability Pilot Status

- Baseline soil gas sampling late May 2020
- Enhanced Extraction wells up and running on June 25th, Deep zone wells up and running August 10th
- Currently conducting monthly soil gas sampling to monitor effectiveness
- Since June, approximately 62kg of TCE has been removed from AOC 2 and 20kg of TCE from AOC 9. Or about 14.8 gallons total TCE.



AOC 2 SVE Influent Concentrations

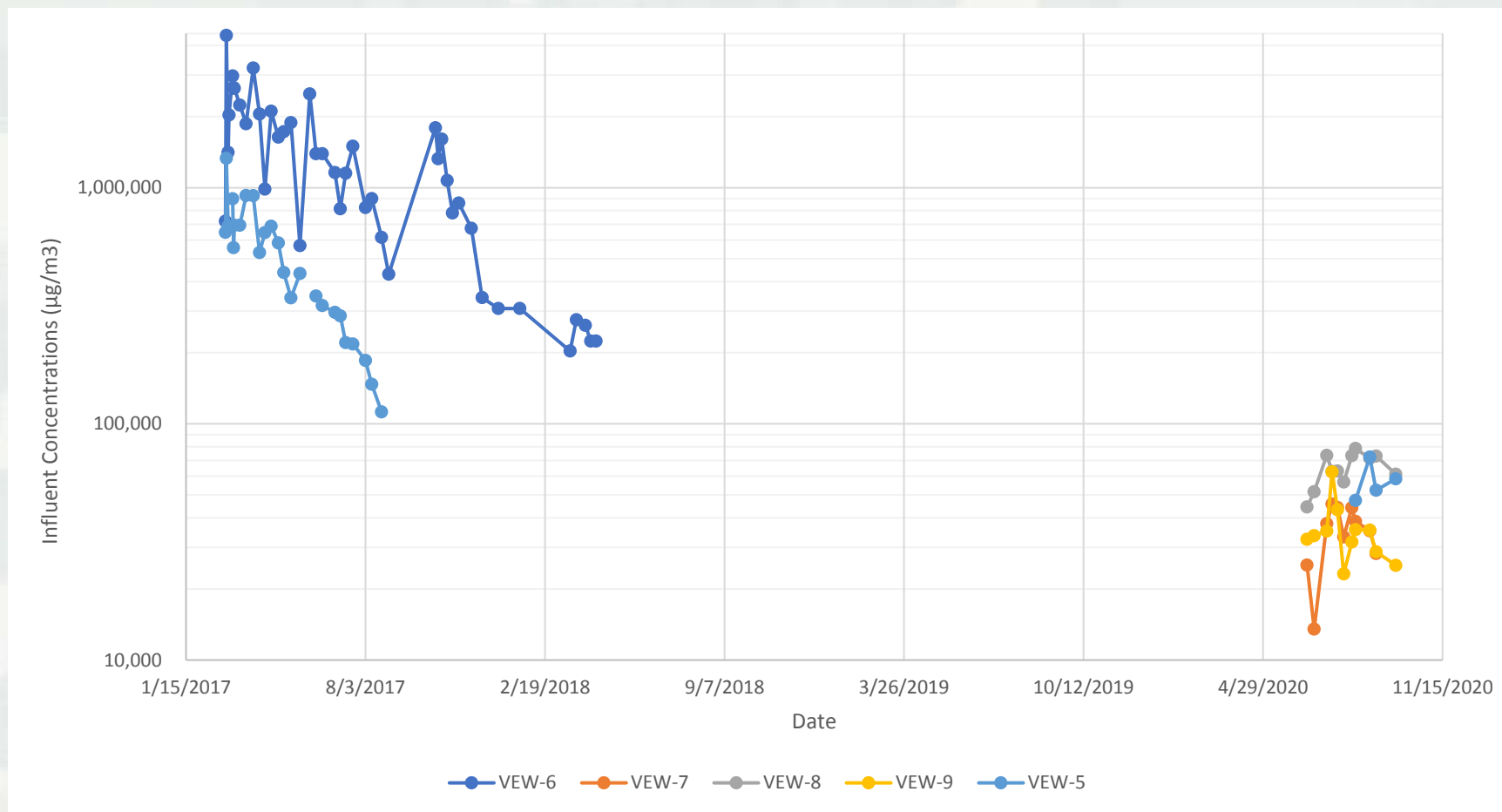


ERDC

BUILDING STRONG®

Innovative solutions for a safer, better world

AOC 9 Influent Concentrations



BUILDING STRONG®

Innovative solutions for a safer, better world

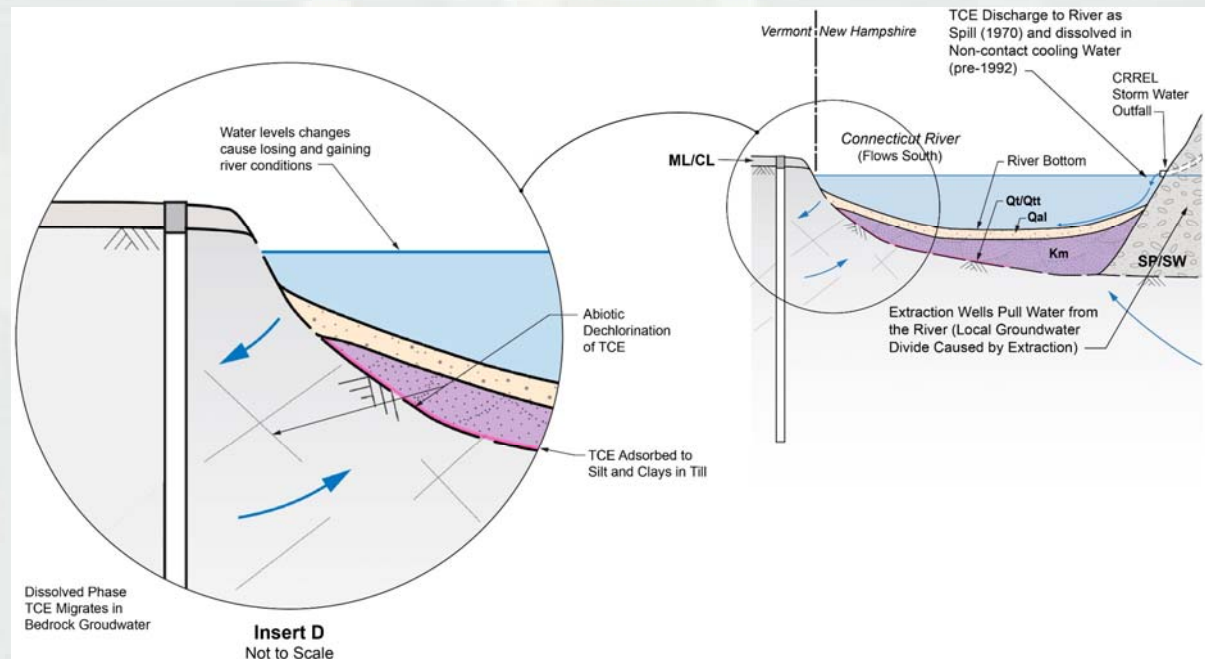
Feasibility Study Update

- Addressed NHDES comments last month.
- Minor changes since RAB review of report.
 - ▶ More robust risk assessment summary.
 - ▶ Supplemental Rivercrest human health assessment, concluded drop in soil gas concentrations and corresponding drop in future risk. TCE only risk driver.
 - ▶ Addressed NHDES comments regarding Applicable or Relevant and Appropriate Requirements (ARARs). Recognize State and federal effluent air and State leaching to soil standards.
- Army looking to finalize report in November.



Supplemental RI Report

- Draft Status
- Preliminary results for surface water and sediment show no significant risk to ecological or human receptors.
- Draft Final Report to Vermont DEC, NHDES, and RAB scheduled for January 2021.
- A Supplemental Feasibility Study is not anticipated
- Supports a Groundwater Reclassification to non-potable use in a portion of Norwich, VT.



BUILDING STRONG®

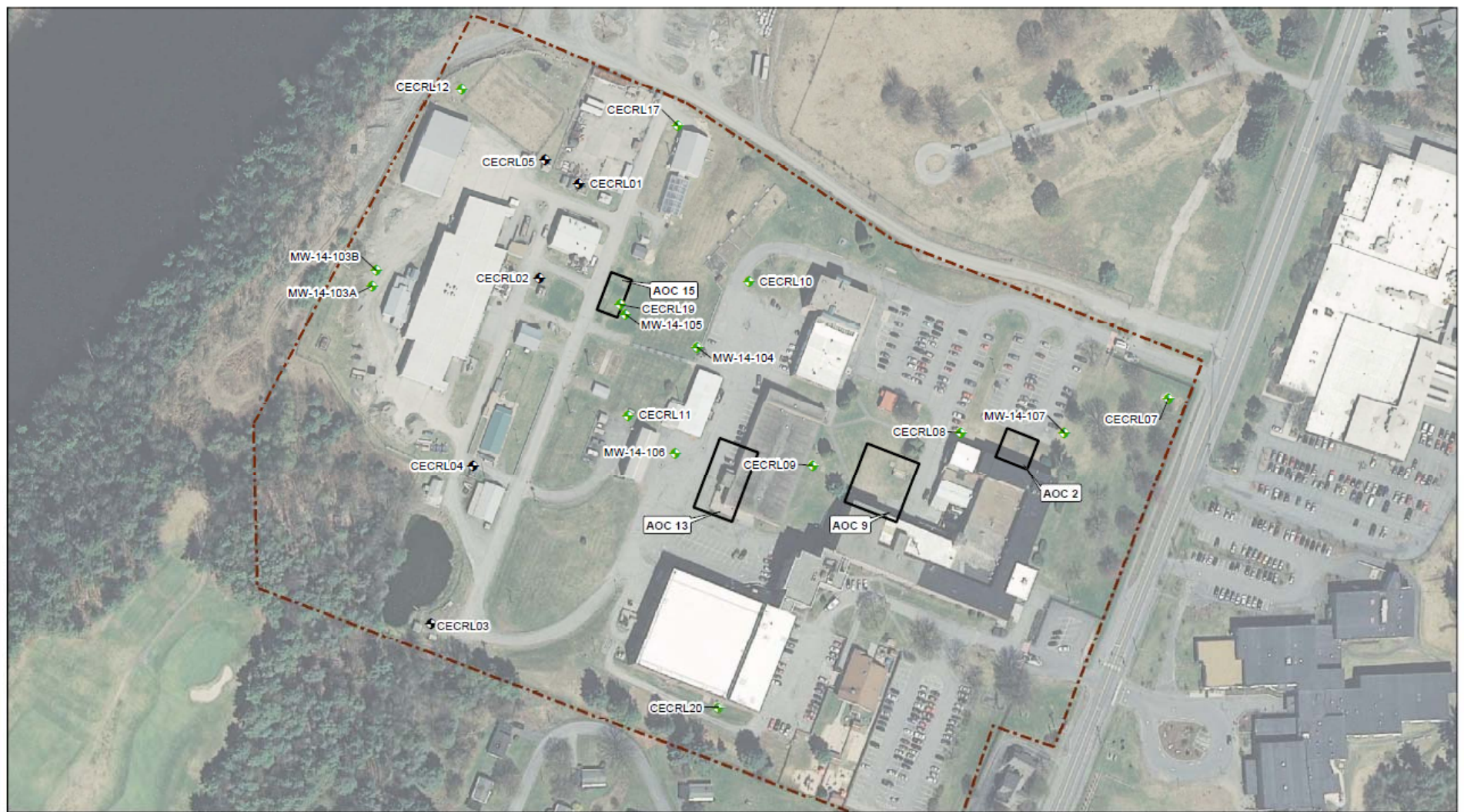
ERDC

Innovative solutions for a safer, better world

Perfluorooctane Sulfonate and Perfluorooctanoic Acid Groundwater Sampling

- Conducted Phase I groundwater sampling for PFAS in October 2017 as per NHDES request.
- No known use of PFAS at CRREL.
- Two documented fires at CRREL in 1961-62? and 1970, fires mostly predate use of PFAS in fire suppression foams. It is not known if AFFF used in 1970 above ground storage tank deflagration.





- Legend
- Overburden Well
 - Production Well
 - AOC Boundary
 - CRREL Property Boundary

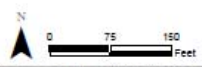
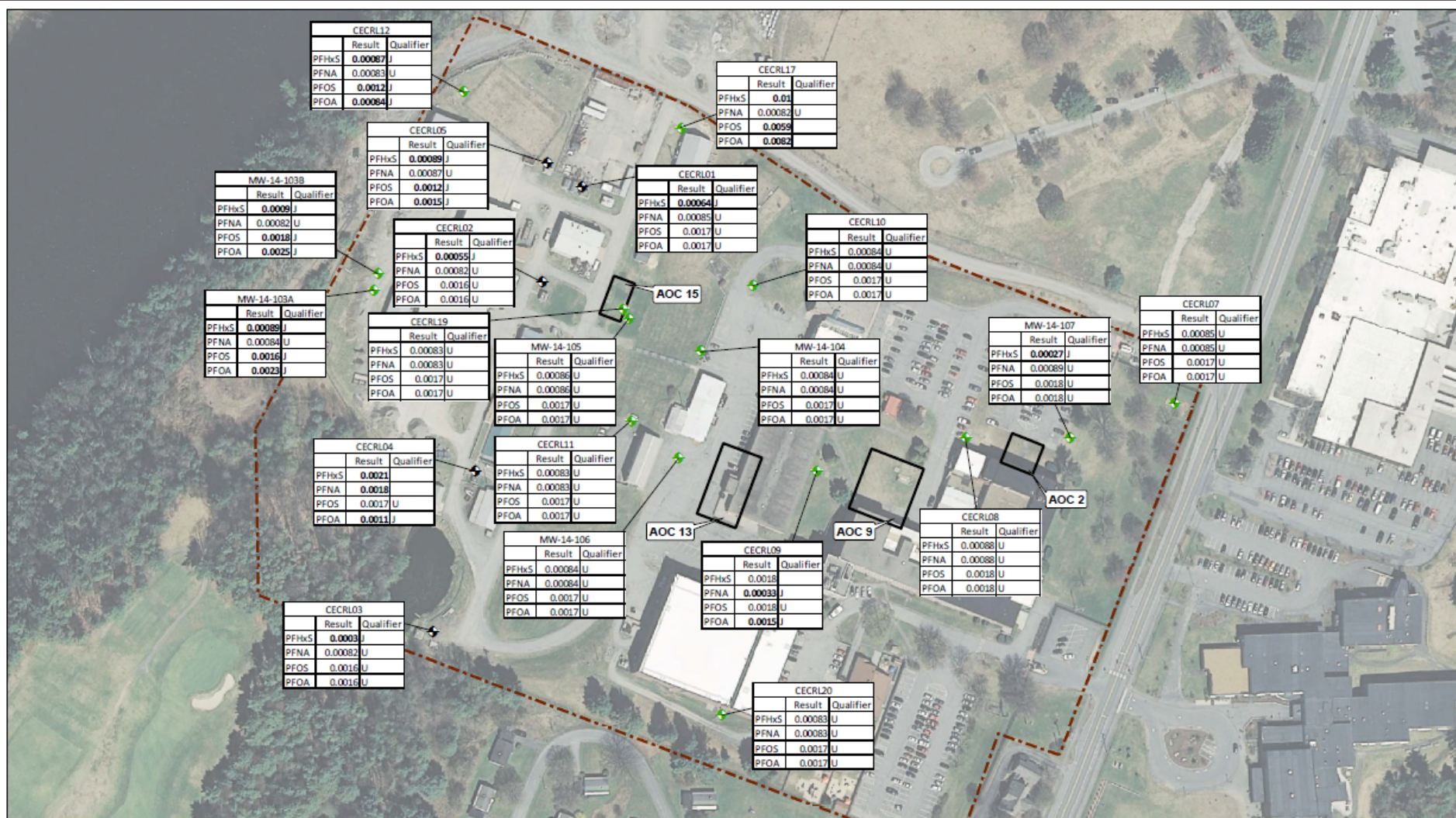


Figure 3
Overburden Monitoring Well Locations

Cold Regions Research and Engineering Laboratory
Hanover, New Hampshire

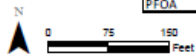
wood.

Prepared/Date: BRP 08-31-20 Checked/Date: WDC 08-31-20



wood.

Prepared/Date: BRP 09-01-20 Checked/Date: WDC 09-01-20



	EPA Health Advisory	NHDES GW-1
PFHxS		0.018
PFNA		0.011
PFOS	0.07	0.015
PFOA	0.07	0.012

- Legend**
- Overburden Well
 - Production Well
 - AOC Boundary
 - CRREL Property Boundary

Notes:
 Results presented in micrograms per Liter (ug/L)
 Bold indicates detection
 J - Value is Estimated
 U - Non-Detect
 PFHxS - Perfluorohexanesulfonic acid
 PFNA - Perfluorononanoic acid
 PFOS - Perfluorooctanesulfonic acid
 PFOA - Perfluorooctanoic acid

Figure 4
PFAS Results

Cold Regions Research and Engineering Laboratory
Hanover, New Hampshire

Upcoming Work

- Continued monitoring of the Main Lab, FERF, and LMO
- Routine sampling of sub slab depressurization systems and enhanced permeability pilot test
- Issue the Final Feasibility Study
- Finish the Draft Supplemental Remedial Investigation for the CT River
- Anticipate Proposed Plan late 2021
- Synoptic soil gas sampling in 2021



BUILDING STRONG®

ERDC

Innovative solutions for a safer, better world