



The State of New Hampshire  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**



**Robert R. Scott, Commissioner**

EMAIL ONLY

April 25, 2023

Dr. Dean Shankle, Town Administrator  
Town of Amherst  
2 Main Street  
Amherst, NH 03031

Subject: Amherst – Amherst Fire Station Site, 177 Amherst Street  
DES Site #202203049, HAZWASTE Project #41623

*Focused Site Investigation Report*, prepared by Sanborn, Head & Associates, Inc. (SHA),  
dated February 16, 2023

Dear Dr. Dean Shankle:

The New Hampshire Department of Environmental Services (NHDES) has reviewed the above-referenced submittal for the Amherst Fire Station Site (site), located at 177 Amherst Street in Amherst, New Hampshire. The Focused Site Investigation (FSI) Report summarizes results of investigation activities conducted to evaluate the source of per- and polyfluoroalkyl substances (PFAS) in groundwater at the site and the Amherst Street/Cobbler Lane/Thatcher Drive area and was prepared in response to correspondence from NHDES dated June 8, 2022.

Based on information provided by the Town as part of the FSI, NHDES understands the following:

- Class B Firefighting Foam (AFFF) was historically used and stored inside the fire station between 1988 and 2000.
- Training with AFFF occurred approximately two times between 1988 and 2000 in rear paved and gravel areas located on the northeastern portion of the site. Training consisted of extinguishing burning pallets using AFFF.
- Decontamination of firefighting equipment occurred inside the building and outside in the training area. Equipment that contained AFFF was only cleaned outside. In 2004, a gear washer extractor was purchased that discharges to a below grade concrete holding tank and is pumped out by a contractor.
- An active floor drain currently discharges to the stormwater conveyance system in the southeast portion of the property. The stormwater collection system was installed after AFFF use ceased at the property.
- The building is serviced by a septic system and leach field located in the general area of the former fire training area in the northeast portion of the site.

As part of the FSI, SHA collected shallow soil samples to assess for potential PFAS impacts from overland flow from the former fire training and equipment cleaning areas (B-101 and B-102), assess the firefighting training area as a potential source of PFAS (B-103 and SH-3), and assess the floor drain/oil-water separator discharge point as a potential source of PFAS (SH-4A). One deep soil sample was also collected at SH-3 just above the presumed bedrock.

PFAS were detected in all the soil samples and a significant source of PFAS is present in shallow soil in the central portion of the fire training area. In the shallow sample collected at SH-3, the total PFAS concentration was 1,010 nanograms per gram (ng/g) and perfluorooctanesulfonic acid (PFOS) was detected at a 964 ng/g, exceeding direct contact risk-based (DCRB) screening level concentrations for both residential (S-1) and maintenance worker (S-2) scenarios. As noted by SHA, PFOS and perfluorohexane sulfonic acid (PFHxS) were the dominant PFAS compounds detected in all the soil samples collected at the site except at location SH-4A. Several fluorotelomer and perfluoroalkane sulfonamides were detected at SH-4A, which may indicate that a separate PFAS source is present at the oil-water separator discharge point.

Overburden groundwater was not encountered during drilling activities conducted as part of the FSI and therefore overburden groundwater samples were not collected at the site. According to SHA's review of regional and site topography, surface water features, and lineament and bedrock mapping, bedrock groundwater in the vicinity of the fire station is anticipated to flow south toward Cobbler Road and Thatcher Drive. SHA further noted that drinking water supply samples results collected south of the site showed similar detections of PFAS compounds (i.e., PFOS and PFHxS dominant) to the soil samples collected on-site. NHDES concurs that this relationship may indicate that on-site soil contamination is likely leaching to groundwater and contributing to PFAS contamination observed in bedrock water supply wells south of the site.

Based on the distribution of PFAS compounds and groundwater contamination observed at the fire department and presumed downgradient to the south, in areas to the north and east of the fire department, SHA has concluded that an alternative source(s) is contributing to PFAS contamination in these areas. NHDES agrees with SHA's conclusions regarding these specific areas and will not require further investigation or remedial measures north and east of the fire department unless new information indicating the need for such work becomes known to NHDES.

SHA has concluded that Supplemental Site Investigation (SSI) activities including groundwater and on-site shallow and deep soil sampling from the former fire training and equipment cleaning area are necessary to assess the horizontal and vertical extent of PFAS impacts, including evaluation of the extent of soil that exceeds the DCRB screening concentrations for PFOS. NHDES agrees with the following recommendations in the FSI Report:

- Further evaluation of the extent of groundwater impacts by sampling additional private water supply wells along Thornton Ferry Rd I if located outside the water line expansion area;
- Collect additional on-site shallow and deep soil samples from the former fire training and equipment cleaning area to assess:
  - horizontal and vertical extent of PFAS impacts, including the extent of soil that exceeds the DCRB screening level for PFOS; and
  - whether source removal would benefit groundwater quality.
- Advance additional soil borings completed as monitoring wells to assess whether overburden groundwater is present at the site seasonally and/or under various conditions;
- Evaluate the feasibility of excavating soil that exceeds the DCRB screening level for PFOS from the former fire training and equipment cleaning area to prevent direct contact with on-site workers; and

- Evaluate capping the former fire training and equipment cleaning area to prevent further infiltration and leaching from precipitation infiltration.

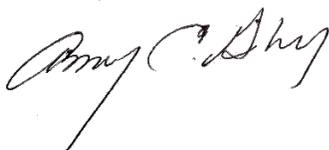
Please submit a schedule for the SSI activities described above within 60 days of receipt of this letter. Further, NHDES understands that the water line extension in the Cobbler Lane/Thatcher Drive area has been completed and requests inclusion of a table summarizing the properties connected to the water line and the status of the drinking water supply wells at each location in this submittal. The SSI report along with the FSI should be sufficient to support establishing a proposed Groundwater Management Zone (GMZ) in accordance with Env-Or 607.05. As part of the SSI report, NHDES anticipates the Town will provide a Groundwater Management Permit (GMP) application for the site and provide a discussion of a preliminary screening remedial alternatives consistent with Env-Or 606.08.

Please be advised that SITEEVALHW project #40542 has been closed. This project was initially opened while the source of PFAS and responsible party were initially being investigated by the Town. Information presented in the FSI suggests the former fire station is the primary source of PFAS contamination based on historical use of AFFF (e.g., equipment decontamination and training activities) at the site. HAZWASTE project #41623 has been opened to track and manage all future correspondence, monitoring and supplemental investigation reporting, and/or remedial action reporting regarding residual PFAS contamination. Historical site investigation information will remain under SITEEVALHW project #40542.

Please note, owners of properties contaminated with hazardous substances are responsible, under New Hampshire law, for the investigation and remediation of contamination. The owner of a facility is strictly liable for all costs incurred by the State in responding to a release of hazardous waste or material from a facility, including costs related to NHDES review of technical reports and oversight of work performed.

Should you have any questions, please do not hesitate to contact me directly at NHDES' Waste Management Division.

Sincerely,



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