



## Per- and Polyfluoroalkyl Substances (PFAS) in Floor Stripping and Refinishing Wastewater at Four Schools in New Hampshire

**Background:** Per- and polyfluoroalkyl substances (PFAS) are a family of thousands of manufactured chemicals that are used in a variety of products, including commercial flooring and floor care products. In 2019, New Hampshire (NH) established health-based maximum contaminant levels (MCLs) and ambient groundwater quality standards (AGQS) for four PFAS. Since then, PFAS have been detected in the drinking water at several schools above state standards, raising questions as to the source of PFAS contamination in school drinking water supply wells. Nearly one-third of NH schools are stand-alone public water systems with their own onsite wells and septic system(s).

**Project Overview:** In 2022, the New Hampshire Department of Environmental Services (NHDES) launched a floor cleaning wastewater sampling program for PFAS at four schools whose drinking water wells had been impacted by PFAS. The goal of the sampling program was to determine the potential for wastewater generated from floor stripping, refinishing, and other floor cleaning activities at these schools to be a source of the known PFAS contamination in the onsite water supply wells.

### Findings:

- PFAS were found at high levels (up to 229,000 parts per trillion, ppt, or ng/L) in wastewater derived from floor stripping activities and moderate levels (up to 9,000 ppt) in wastewater derived from routine floor cleaning activities.
- Floor care products, especially floor strippers and floor finishes, contain high levels of PFAS (up to 39,000 ppt) and are a source of PFAS to floor cleaning wastewater. PFAS may also be coming from the 'stripping' (removal) of previous applications of floor coatings, which may include the original surface finish or other coatings applied during manufacture of the flooring.
- The disposal of wastewater generated from floor stripping and refinishing activities are likely to have contributed to the contamination of groundwater with PFAS and may have resulted in PFAS contamination of the drinking water at these schools.

### Recommendations:

- Floor stripping and refinishing: Schools across the state (particularly those that discharge to a septic system) are encouraged to sample their floor stripping wastewater for PFAS. If PFAS are detected in the floor stripping waste stream above state standards, NHDES advises schools to:
  - Modify its disposal of floor stripping wastewater if discharging to a septic system by a) containerizing wastewater and arranging for pickup by a licensed hauler, or b) contracting with a firm to install treatment in order to reduce PFAS concentrations in this waste stream below state standards prior to discharge to the school's septic system; and
  - Check for PFAS in their floor stripping/finishing products by a) requiring product suppliers provide PFAS testing results, or b) performing independent PFAS sampling on these products.
- Routine floor cleaning: When feasible, NHDES encourages schools to dry sweep to minimize floor cleaning wastewater and/or reduce the concentrations of cleaning products used.

NHDES continues to engage with schools, trade groups, product manufacturers, and other state agencies to raise awareness of PFAS associated with floor cleaning activities at schools and other facilities. Contact the Groundwater Discharge Program ([gwdischarge@des.nh.gov](mailto:gwdischarge@des.nh.gov)) with questions or for more information.