



PFAS

(PER- AND POLYFLUOROALKYL SUBSTANCES)

PFAS contamination at brownfield sites is a major concern due to past industrial activities, the use of firefighting aqueous film-forming foam (AFFF), and improper disposal of manufacturing waste. These synthetic chemicals were used for their resistance to heat, water, and grease. Often called "forever chemicals", PFAS do not break down easily in the environment and can accumulate in the human body over time, posing significant health risks. PFAS are regulated under federal and state laws that govern the reporting, testing, cleanup, and disposal of these materials.

REMEDIATION STRATEGIES

During the remediation process, PFAS-contaminated materials and water can be safely treated, removed, or contained to prevent further environmental and human exposure. The process is regulated by federal, state, and local standards and is conducted by trained and certified professionals using approved technologies and methods.

SIMPLIFIED BREAKDOWN OF THE REMEDIATION PROCESS:



SITE ASSESSMENT:

Identify and evaluate the extent of PFAS contamination through soil and groundwater testing.



RISK EVALUATION:

Assess potential health and environmental risks to determine the urgency and scope of remediation.



CONTAINMENT MEASURES:

Install physical barriers or "caps" to prevent human exposure and the spread of contamination, especially in groundwater.



TREATMENT TECHNOLOGIES:

Use methods like activated carbon filtration, ion exchange or thermal destruction to remove or destroy PFAS.



LONG-TERM MONITORING:

Evaluate contaminant levels to ensure remediation effectiveness and maintain safety



REGULATORY COMPLIANCE:

Identify and evaluate the nature and extent of PFAS contamination through soil and groundwater testing.



PFAS are considered "emerging contaminant" because of the growing evidence of their health and ecological risks, their widespread presence, and persistence in the environment. There are over 200 different compounds,

Examples of Materials That Contain PFAS:

Firefighting Foams (AFFF) – Used at airports, military bases, and industrial sites. Manufacturing Wastes – From industries producing nonstick coatings, water-resistant fabrics, electronics, and other products.

Landfill Leachate – Contaminated surface and groundwater from disposed consumer products. Wastewater Treatment Facilities – Effluent and biosolids can contain PFAS.

PFAS Federal Regulations:

EPA, TSCA, CERCLA, FDA

HEALTH RISKS

PFAS exposure has been linked to:

Cancer (kidney, testicular)
Liver Damage
Immune System Suppression,
Thyroid Disease
Reproductive and Developmental Issues

EPA BANS
ONGOING USES
OF PFAS