

Delivering integrated approaches with AECOM's Remediation specialists to solve complex problems



AECOM employs innovative solutions to meet our clients' site closure objectives. Our experts integrate scientific and engineering knowledge with responsive and cost-effective project management, strong communication skills, and an understanding of regulatory strategies and challenges. We understand that every project is different, and we have the depth and breadth of resources to address your contaminated site challenge.

- ▶ AECOM develops defensible, tailored and risk-based closure strategies for each site using a combination of conventional and innovative solutions.
- ▶ We take great pride in employing green and sustainable remedial strategies to help you meet your ESG objectives.
- ▶ AECOM has offices or practitioners in all 50 states and 6 Canadian provinces. Our projects teams are local to your sites, but we also boast the advantage of drawing on experts from across the world to meet your objectives.
- ▶ We develop defensible contaminated site closure strategies. We bring together the best resources in the marketplace to engage clients/stakeholders, characterize sites, eliminate threats to nearby receptors, recover the value tied up in impaired property, and generate goodwill in the community.
- ▶ AECOM offers full life-cycle solutions for projects from due diligence to restoration. Our subject matter experts are leaders in their fields who will support your projects till completion.



Investigation / Characterization

- Multi-media environmental site assessments
- Groundwater monitoring and modeling
- Underground storage tank management services
- Geophysical Investigations
- Natural attenuation evaluation and monitoring
- Advance site characterization technologies such as ESS and PRISM™
- Emerging Technologies investigation/characterization
- Human and ecological health risk assessment



Feasibility Studies, Remedial Design and Remedial Process Optimization

- Engineering feasibility studies and remedial design
- Bench & pilot scale testing in in-house treatability lab
- Forensics and liability management
- Innovative technologies to treat emerging contaminants (including 1,4-Dioxane, PFOS and PFAS)
- Decision tree modeling for property redevelopment alternatives evaluation
- Treatment system design
- Vapor intrusion modeling
- Fate and transport modeling
- NRD determinations
- Green and sustainable remedial technologies
- RCRA/CERCLA assessment
- Sediment assessment/remediation
- Vapor intrusion assessment
- Remedial strategy development/design



Remedial Implementation

- Permitting
- *In situ* and *ex situ* soil and sediment remediation
- Groundwater remediation systems
- VI mitigation
- Remedial system/process optimization
- Risk management approach/economic evaluation
- Remedial construction oversight
- Hazardous materials removal/abatement
- Isolation and thin layer sediment capping
- Public relations
- Demolition construction management & safety monitoring
- Decommissioning, decontamination, dismantling, demolition and asset recovery
- Post-closure monitoring and maintenance
- Site restoration/brownfields redevelopment

INNOVATION HIGHLIGHTS



DE-FLUORO™ PFAS Treatment Technology

AECOM's internal research and development team developed an on-site technology that destroys PFAS in water and waste streams. DE-FLUORO™ is currently undergoing full-scale pilot trials at facilities in Australia and the US.

In Situ Treatment of 1,4-Dioxane

AECOM implemented an innovative *in situ* biological approach for treating 1,4-dioxane.

DNAPL "Chemometrics"

AECOM is collaborating with an industrial partner to pilot a forensics/fingerprinting technique for DNAPL that uses compound-specific isotope analysis. The targeting of specific remedies based on this fingerprinting strategy reduces overall remediation costs substantially.

Sub-Aqueous Sediment Remediation

AECOM is pioneering the use of *in situ* technologies to address contaminated sediments. At a former manufactured gas plant, we recently completed the first full scale sub-aqueous *in situ* sediment stabilization project in the USA, demonstrating that this technology provides a viable and cost-effective alternative to traditional remedial dredging.

Harmful Algae Bloom Mitigation and Prevention

AECOM's harmful algae bloom (HAB) program is a scalable solution that physically removes algae and excess nutrients from water and, simply put, leaves clean water in its place. Our HAB technologies were recently recognized by the Environmental Business Journal with the prestigious Social Impact award.





Spill Response & Cleanup Management

AECOM rapidly deployed a team to lead the environmental response to a spill of approximately 800,000 gallons of heavy crude oil into Talmadge Creek and the Kalamazoo River. After the initial response, AECOM continued to support the cleanup of the project by performing a wide variety of soil and sediment assessment, design, and construction activities to support site restoration and closure.



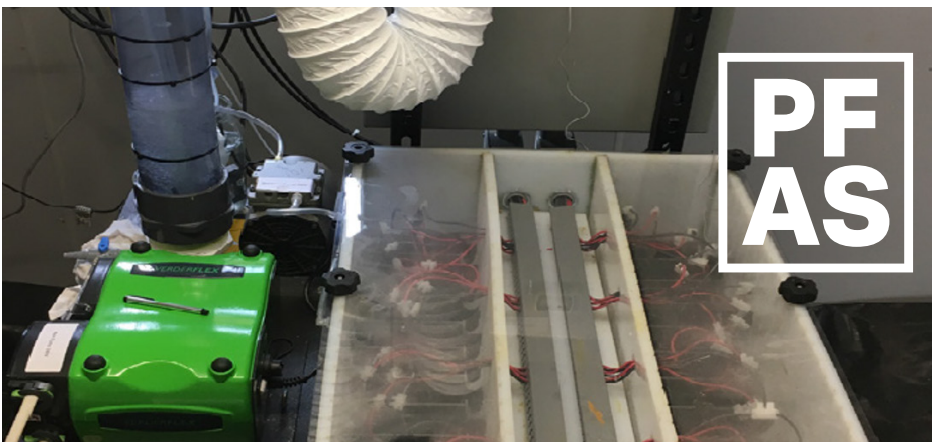
Contaminated Sediment Management

AECOM employed a risk-based closure strategy coupled with creative green engineering solutions, to complete a large-scale urban river sediment remediation project and create habitat for native species. Innovative contaminant management and dewatering pilot studies were used to support a dredging and capping design focused on exposure pathway elimination. State-of-the-art technologies deployed in the field included bubble curtains, acoustical stimuli, and high-frequency sonar imaging to confirm that endangered sturgeon within the construction area were protected during construction. Restoration activities provided ecological connectivity between the uplands and the river.



CCR Pond Closure

AECOM and our client partnered in an alternative delivery strategy to deliver engineering and construction services to meet key regulatory timelines for the closure of a Coal Combustion Residuals (CCR) Pond. The combination of the team's regulatory, engineering, and construction experience led to the design of a closure using best practices for coal ash closures per new federal regulations. AECOM's breadth of design and construction experience provided our client with a single point of contact through which the project could be planned and executed.



PFAS

AECOM led the investigation, regulatory negotiation, and remediation of a industrial wastewater treatment system with PFOS at concentrations of 4,000-6,000 ng/L. AECOM completed subsurface evaluations to characterize, delineate, and map the extent of PFAS impact, studied the potential fate and transport of PFAS off-site, and performed a forensic evaluation that identified on-site and off-site sources. AECOM successfully negotiated with regulators to develop a reasonable and cost-effective path forward. The team designed and installed an automated interim PFAS treatment system that effectively removes PFAS concentrations to non-detectable levels before being discharged to the sanitary sewer.

SPECIALTY SERVICES

Turnkey Remediation Services

AECOM's Turnkey Remediation Initiative integrates consulting, engineering, sustainability, and construction services, uniting practitioners who were traditionally siloed. Our practice improves organizational efficiency, allowing owners to procure a single-source consultant/contractor with a laser-like focus on implementing final sustainable remedial solutions. This allows positions owners to achieve environmental, social, and governance goals.

Emerging Contaminants

AECOM is a leader in the global emerging contaminant market, discriminating against competition through advocacy, technical excellence, and delivery.

System Optimization

Remedial process optimization reduces not only the operation and maintenance cost, but the total project cost by shortening the overall project lifecycle. AECOM draws upon the expertise of our senior remediation engineers to use standardized tools to evaluate active remedial processes and recommend steps to optimize performance and minimize the remaining active remediation lifecycle.



ZERO ACCIDENTS
ZERO ENVIRONMENTAL INCIDENTS
ZERO ETHICAL BREACHES
ZERO DEFECTS



KEY CONTACTS

REMEDIATION MANAGING DIRECTOR

Natalie Nottage - natalie.nottage@aecom.com

REMEDIATION TECHNICAL DIRECTOR/ SEDIMENTS

John Bleiler - john.bleiler@aecom.com

REMEDIATION SALES DIRECTOR

Brian Helmlinger - brian.helmlinger@aecom.com

REMEDIATION CONSTRUCTION

Rick Brannon - rick.brannon@aecom.com

PFAS

Rosa Gwinn - rosa.gwinn@aecom.com

COAL COMBUSTION RESIDUALS

Gabe Lang - gabe.lang@aecom.com