

Groundwater Investigations and Monitoring



Areas of Expertise

- Hydrogeologic siting assessment
- Groundwater monitoring programs
- Remedial investigations

Overview

The hydrogeologic features of a site often dictate the proposed landfill's layout and depth and the economics of the landfill development can be directly influenced by the site hydrogeology. Our expert hydrogeologists assess site geology and hydrogeology to develop a new landfill that is both cost-effective to build and monitor, and is environmentally protective.

Hydrogeologic Siting Assessment

takes the uncertainty out of subsurface conditions at your site, ensuring cost-effective landfill design and monitoring, and the ability to quickly and economically evaluate unforeseen conditions should they arise during the site investigation.

Site geology and hydrogeology is always site-specific, necessitating that the sequence, geometry, and properties of units underlying the site be accurately characterized if one is to understand foundation conditions, groundwater flow, and site monitoring. AECOM's staff has detailed experience with virtually every type of drilling and geophysical method, allowing us to select the most cost-effective methods to characterize your site. Our practice of evaluating site conditions as the field investigation progresses ensures that any unexpected conditions can be dealt with immediately and rationally, rather than later with costly additional work or rework. Our hydrogeologists have a comprehensive background in nearly every hydrogeologic testing procedure, enabling us to effectively and economically characterize your site. Our extensive experience in permitting landfills across the country greatly benefits you in complying with state agency requirements, and communicating with state agency staff.

Groundwater Monitoring Programs

AECOM has designed successful groundwater monitoring programs to obtain representative groundwater samples from key strata and at critical locations and time periods to provide groundwater quality and hydraulic data to make decisions on landfill siting, environmental assessment, or hydrogeologic assessment of a site.

We have worked with many clients throughout the country to develop customized groundwater monitoring programs to meet specific project technical needs and regulatory requirements. These monitoring programs support site characterization and provide detection monitoring which has been approved by the state agencies. Typically, we meet with the client to define the program objectives, review existing information on environmental conditions and features, and then develop a monitoring program. Frequently we meet with the client and state agency to review the proposed program to inform them of the client's objectives and to solicit the agency's input before finalizing the groundwater monitoring program. This proactive approach has saved our clients both time and money through prompt agency approval of the program and a streamlined, effective program that protects the environment and is cost-effective to implement.

Remedial Investigations

AECOM services at a project site may involve feasibility studies, remedial system design, oversight of remedial programs, design of treatment facilities, supervision of remedial systems startup, supervision of systems operation and maintenance, systems and hydrologic performance monitoring and reporting, air and water withdrawal permitting, and positive interaction with regulatory agencies and the community regarding any potential ground water impacts.

AECOM typically uses the following techniques to identify the limits of groundwater contamination:

- Historical information search and data review.
- Detailed work plans, health & safety plan, and quality assurance plan to meet state EPA requirements.
- Site Investigation and Characterization to determine if additional monitoring is required.
- Off-site investigation to verify that contaminants have not migrated beyond site boundaries.
- Groundwater natural attenuation assessment to quantify natural processes degrading the contaminants in the groundwater.
- Sampling and monitoring to maintain compliance with the facility's permits and site specific standards.
- Risk Assessments and Focused Feasibility studies to recommend potential pathway exposure and remedial alternatives.

