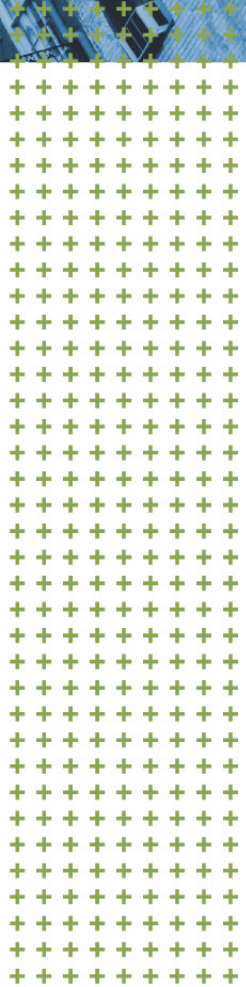




# Brownfields Land Use Controls



Land use controls (LUCs) are now routinely used as remedial approaches to implement Brownfield projects having residual groundwater and soil contaminants that exceed acceptable risk levels. LUCs can include institutional or engineering controls that must be managed to maintain the integrity of the corrective action and the reduction in risk of contaminant exposure. Ultimately, LUCs protect human health, the environment, and the success of a Brownfield project.

BHE provides a full-range of LUC management services. These services accomplish the long-term objectives of institutional and engineering controls for legal, technical and risk compliance.

Institutional controls can be legal or contractual restrictions on property use that remain effective after remediation is complete. Private or proprietary institutional controls may include land use restrictions recorded in deeds, covenants, and easements. Public institutional controls may include zoning ordinances and groundwater permitting programs.

Engineering controls are remedial actions directed toward containing or controlling migration of contaminants through the environment. These may include, but are not limited to, stormwater conveyance systems, slurry walls, liner systems, caps, leachate collection systems, pump and treat systems, and groundwater recovery systems.

The BHE staff has over 20 years of experience as environmental consultants providing evaluation, implementation, and ongoing monitoring of institutional and engineering controls.

## SERVICES INCLUDE:

- + Identifying and monitoring property easements, well drilling prohibitions, building permit restrictions, land use zoning restrictions
- + Linking institutional controls to future land use and voluntary risk-based cleanups
- + Risk mitigation planning and implementation for site construction or modification activities
- + Monitoring critical resource groundwater and urban setting ground water areas relative to a property
- + Preparation, implementation, and ongoing monitoring of operations and maintenance (O&M) plans
- + Routine inspection of ongoing monitoring well sampling and analysis
- + Monitoring passive remediation systems and natural attenuation
- + Verification of completion of remedial activities and determination of compliance with applicable standards
- + Use of internet based technology to track institutional and engineering controls

## DEFINING ENVIRONMENTAL SOLUTIONS