



## SITE REMEDIATION & DEVELOPMENT

### WHY ATWELL?

- Local expertise, national reach
- Industry knowledge
- Dedicated experts and teams
- Full-service resources
- Aggressive, passionate professionals
- Nimble, flexible structure

### CAPABILITIES

- Risk-based No Further Remediation (NFR) Determinations
- Underground Storage Tanks (UST) Removal & Closure
- Hydrogeological Studies
- Soil Management Plans
- Soil & Groundwater Remediation Services
- Geophysical Investigations
- Remedial Investigation/ Feasibility Studies
- Remedial System Design & Construction
- Remedial System Operation & Maintenance
- Risk Assessments
- Vadose Zone & Groundwater Modeling
- Brownfield & Infill Redevelopment
- Financial Incentives Assessment

### RISK MANAGEMENT OF REDEVELOPMENT

Environmental modeling and analysis are necessary to help clients understand remediation risk and cost for new developments, as well as how to avoid and manage contamination risk during construction or operation. Atwell's geologists and specialists provide complete remediation solutions, as well as financial and technical models for infill and redevelopment opportunities.

### SOLUTIONS THAT SURPASS

#### Progressive Property Remediation

An ongoing tetrachlorethylene leak was identified at an industrial property in the midwestern United States. As a responsible corporate citizen, this client of Atwell desired to proactively remediate the site.

Atwell conducted contamination measurements and mapping activities, which identified an underground lagoon and storage bins as the pollution source. Atwell implemented state-of-the-art technology, including a zero-valence iron and a KMnO<sub>4</sub> permeable reactive barrier, to contain the contamination plume from impacting a nearby river. Instead of installing well pumps or other traditional remediation mechanisms that are visible and require long-term maintenance, Atwell installed a 300-foot-long subsurface Permeable Reactive Barrier (PRB). Filled with a mix of zero-valence iron and sand, the 25-foot-deep trench naturally stabilizes the polluted groundwater before reaching the river.

#### Former Fueling Facility Remediation Support

A major municipal aviation department set out to remediate a former airport fueling facility. Atwell's designers and staff oversaw the design, operation and performance of the full-scale soil and groundwater remedial system. Used to remediate a Jet A release of approximately 750,000 gallons under an approved Revised Corrective Action Plan, the system development includes groundwater, soil and vapor sampling and analysis; subsurface methane monitoring; regulatory compliance; remediation system monitoring; and operation and maintenance of three biosparge, three vapor extraction and three catalytic oxidation systems. The project also includes more than 100 remediation, air sparge, soil vapor extraction and air injection wells.