

# onesky **SUCCESS** story

## **Soil and Groundwater Remediation Lancaster County, Pennsylvania**

The City of Lancaster, Pennsylvania, planned to build a new police headquarters on an urban brownfields site atop the complex Conestoga Limestone formation. The client, an independent oil company and gasoline retailer, retained Onesky Engineering, Inc. to provide turnkey environmental services, including investigation, permitting, design, construction, and operation of the remediation system. Our firm worked closely with multiple stakeholders in the project, including the Pennsylvania Department of Environmental Protection (PADEP), the Underground Storage Tank Indemnification Fund (USTIF), the City of Lancaster, our client, and others.

### **Extensive investigation**

A retail gasoline service station once operated on the site in downtown Lancaster. An underground storage tank system had leaked, contaminating the groundwater.

Our groundwater investigation revealed the presence of separate-phase petroleum hydrocarbons at multiple locations. We conducted additional site characterization, including a subsurface soil investigation, a geophysical survey, aquifer testing, pilot testing, and a sensitive receptor survey. Ultimately, we custom-designed a vacuum-enhanced groundwater extraction system specifically for this site.

### **Rapid remediation**

Within ten months of the initial site activities, we issued the Remedial Action Plan (RAP), and we completed the permitting and construction process in less than six months.

The remediation system was comprised of multiple groundwater extraction pumps, a shallow tray air stripping unit, multiple regenerative blower soil vapor extraction (SVE) units, and a thermal/catalytic oxidizer.



## **PROJECT HIGHLIGHTS**

### ***Turnkey soil and groundwater remediation services for a high profile brownfields site***

- **Comprehensive site characterization program:**
  - groundwater investigation**
  - subsurface soil investigation**
  - geophysical survey**
  - aquifer testing**
  - pilot testing**
  - receptor survey**
- **Development of Remedial Action Plan (RAP)**
- **Application for and acquisition of applicable permits**
- **Design, construction, and implementation of vacuum-enhanced groundwater extraction and treatment system**
- **Demobilization of remediation system and construction of secondary groundwater extraction header**
- **Development of revised RAP to demonstrate attainment of statewide health standards and site-specific standards**

Ultimately, the remediation system both eliminated the separate-phase petroleum product and remediated the on-site dissolved phase plume concentrations to below the non-used aquifer medium-specific concentrations (MSCs) in less than nine months.

**Fast, flexible—and effective**

To allow for the fast track construction of the police station, Onesky Engineering, Inc. staff demobilized the remediation system and constructed a secondary subsurface groundwater extraction

header to address the potential for hydrocarbon rebound. We completed the work in concert with the excavation and foundation construction for the new building.

There was no observable rebound in on-site concentrations. This made it possible to select a risk-based corrective action (RBCA) approach to closure. Onesky Engineering, Inc. developed a revised RAP to demonstrate the attainment of a combination of statewide health standards and site-specific standards for groundwater at the site.



(above and at left) Customized solutions to complex site challenges



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ENGINEERING, INC.

Custom-Crafted Environmental Solutions