

# Geo-Seal® Selected Over Alternative Gas Membrane Systems to Effectively Mitigate Vapor Risk at Urban Chicago Recreation Facility

## Project Highlights

- Geo-Seal® selected over other vapor barrier options due to its superior chemical resistance, ease of constructibility and cost-effectiveness
- Approximately 16,000 ft<sup>2</sup> of Geo-Seal successfully installed
- Vapor-Vent™ HD trenchless passive ventilation system utilized to alleviate buildup of vapors beneath the structure
- Site achieves LEED “Silver” Certification for green construction technology on historic site

## Project Summary

A new fieldhouse utilizing the latest in green technology was constructed by the Public Building Commission in the city of Chicago, IL. The development incorporated various sustainable design elements and materials to achieve the Commission’s goal of LEED “Silver” Certification. Past use of an adjacent property resulted in chlorinated solvent contamination which presented a vapor intrusion risk on-site.

Geo-Seal, a triple-layer, composite vapor intrusion barrier was installed to protect the users of the fieldhouse from potential exposure to chlorinated solvent vapors. The Geo-Seal technology was chosen based on an evaluation of various gas membrane technologies, including a simple spray-applied asphalt latex membrane and HDPE sheeting, by PBC’s consultants, Parson Corporation and Carnow Cornibear & Associates. The Geo-Seal system was designed and inspected by Terracon Consultants.

## Technology Description

**Geo-Seal** is a gas vapor management technology designed to eliminate vapor intrusion on Brownfields or any type of environmentally-impaired site. Geo-Seal is a chemically-resistant material placed between the foundation of the building and the soil pad to eliminate vapor intrusion pathways and stop contaminant vapors from permeating through the slab. By installing Geo-Seal, developers can ensure a healthy indoor environment while reducing the cost of site remediation and expediting site construction.

**Vapor-Vent** is a low profile vent system that can be used in lieu of slotted PVC pipe. The speed of installation and the proximity of the vent to the barrier provide cost savings and performance benefits compared to other technologies.

Vapor-Vent can be installed to passively or actively vent vapors from under the building. The movement toward energy efficient buildings and the cost to maintain active venting systems make passive systems an attractive alternative. In addition, a passive system can be converted to active if needed.



## Site Details

**Site Type:** Urban Recreation Facility

**Contaminant of Concern:** Chlorinated solvents

**Vapor Intrusion Solution:** Vapor intrusion barrier

**Treatment Area:** 16,000 ft<sup>2</sup>

**Technology Used:**

