



# UNDER CONTROL

Sophisticated developers know how to  
assess and manage vapor-intrusion risk.

by Tom Munteer



In the decade since the risk of vapor intrusion has become a prominent commercial real estate environmental concern, sophisticated developers have learned to assess and manage the risk and unlock the value of the affected properties. Since urban infill projects are among the most attractive commercial real estate investments, getting this risk under control is critical.

The risk of vapor intrusion arises where hazardous substances released into the soil or groundwater emit gases that infiltrate occupied buildings or structures. These vapors can rise into the structure through cracks or gaps in basement floors, walls, or foundations, as well as utility conduits or other openings.

### Common Polluters

Industrial solvent use, dry cleaners, and gas stations are common sources of vapor-intrusion risk. Since dry cleaners often are located in downtowns, suburban retail centers, and hotels and resorts, they may present the biggest risk. Dry cleaning solvents often got into groundwater from the disposal of the solvents down the drain or by leaks from sewer lines.

The risk exists even for properties that have completed government-supervised cleanups. In the past, such cleanups might not have sufficiently addressed the vapor-intrusion risk.

As a result, acquirers must carefully assess the sites where the government agency deemed the cleanup to be complete. If it was not explicitly ruled out, the risk of vapor intrusion may persist.

If the concern arises, a developer will want to involve an experienced consultant to complete the environmental assessment. Several guideposts enable developers to assess the risk. An industry consensus standard on how to assess the risk of vapor intrusion has existed since 2008. In 2015, the U.S. Environmental Protection Agency issued guidance specifically for hazardous waste sites.

The EPA's guidance calls for a multiple lines of evidence approach. The agency advises considering whether a likely source of hazardous substances exists underground, if a pathway is known for those substances to migrate into buildings, and if entry routes can be discovered into the building, such as drains, sump pumps, or cracks in the foundation.

### Mitigating Environmental Risks

If the potential for risk is found, developers have become experienced in mitigating the risk. Typically, mitigation falls into two general categories: engineered and institutional controls.

Engineered controls prevent vapor entry into structures. Institutional controls, such as deed restrictions, prohibit construction or occupation of a building in a manner that could facilitate exposure.

For new construction, it's easier to install engineered controls. Laying a vapor barrier beneath the foundation slab and installing passive or active venting systems during construction generally will be less costly. For existing buildings, it may be possible to install ventilation beneath an existing slab.

Several years ago, a lender considered providing a mortgage to a Mountain State office building. The business opportunity happened because another lender was spooked by the potential risk of vapor intrusion into the office building from a dry cleaner.

When the first lender walked away from the financing, the second lender took it over. In the years since that loan, the entire commercial real estate community has become more optimistic and savvy about vapor-intrusion risks.

### Common Scenarios

For example, a buyer recently acquired a multifamily rental development built on the site of a former oil and gas production site. While sophisticated, the buyer tends to be conservative and would not have considered this property just a few years earlier. With proper attention to detail, however, the buyer was able to determine that the investment is environmentally sound.

The apartment complex is built with engineered vents throughout the structure to vent any vapors that collect beneath the foundations into the air above the residences. Throughout the complex, vent lines run from beneath the foundations to above the roofs. Each vent line has sampling ports for monitoring.

The buyer was reassured the buildings were constructed according to plans approved by environmental regulators, and that ongoing monitoring is occurring on the property.

Even more recently, a buyer purchased a portion of a former semiconductor manufacturing site to build residential townhomes. The semiconductor manufacturer had stored chlorinated solvents used for cleaning and degreasing in more than 20 underground storage tanks, which had leaked into the ground over the years.

Under the supervision of government regulators, the seller had addressed the site's environmental condition. Regulators had approved the site's reuse for residential purposes, subject to several environmental land-use restrictions.

One restriction was the relocation and continued operation and maintenance of groundwater extraction and treatment wells. As a condition of residential redevelopment, the developer had to continue to treat site groundwater to prevent the risk of vapor intrusion.

Through careful review and reporting on voluminous environmental reports, the buyer was persuaded of the safe occupancy for the residences because of the groundwater treatment.

With time and through newer technology, vapor intrusion has become another environmental liability risk, such as asbestos and lead paint, that commercial real estate developers have had to understand and accommodate. Sophisticated developers have learned to assess and manage the risk, so that they can proceed with investments that otherwise provide an appropriate yield.

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