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Vapor intrusion: New American Society of Testing Materials standard impacts RE transactions

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The release of vapors from contaminated soil or groundwater into an overlying structure can lead to health hazards for the occupants. The American Society of Testing Materials (ASTM) recently issued the "Standard Practice for Assessment of Vapor Intrusion into Structures on Property Involved in Real Estate Transactions" (ASTM E 2600, March 2008). Growing attention from state and federal regulators and developing awareness of liabilities associated with vapor intrusion (VI) promises to lead to a higher prioritization from both the regulatory and private sectors, and increased focus on VI issues during real estate transactions.

VI occurs when volatile organic compounds (VOCs) in spilled gasoline, industrial degreasers, dry cleaning solvents, and other petroleum products vaporize and migrate through the subsurface in a gaseous state. These vapors, if present beneath a building as a result of an underlying or in some cases off-site source of contamination, can move through cracks, seams, utility pathways, and other intentional or unintentional penetrations of a building's foundation and enter the building's air space.

In many respects, risks presented by VI are far greater than those associated with traditional soil and groundwater contamination. Commercially and industrially developed areas are typically connected to municipal water supplies, with no consumption of local groundwater, and impacted soils are commonly "capped" via structures, pavement, or clean soil; therefore, the likelihood of prolonged human exposure is low. However, people occupying buildings impacted by VI have no choice other than breathing the available air, and if impacted air quality is not addressed, the exposure to contamination via inhalation can occur for prolonged periods of time. On a national basis, a growing database of sites has established that contaminants can and do accumulate within indoor breathing space at concentrations causing significant health risks.

The new ASTM standard specifies procedures for evaluating potential vapor intrusion utilizing a four-tiered screening process:

1. Tier I consists of non-invasive screening of a site and surrounding vicinity (similar in nature to a Phase I ESA radius-type search) to determine if VOC have been used and possibly released at or proximal to the property. The purpose is to determine if a "possible vapor intrusion condition" (pVIC) exists.
2. Tier 2 consists of the collection and laboratory analysis of samples of potentially affected media (soil, soil vapor, or groundwater) and comparison of the results to applicable standards. The purpose is to determine if a risk to indoor air is likely (or not) and whether further evaluation of VI is warranted.
3. Tier 3 consists of a more thorough investigation through additional sub-slab vapor and/or building interior air testing to confirm whether an actual VI risk is present, and if mitigation (Tier 4) is warranted.

4. Tier 4 consists of the actual mitigation of the VI risk through various means including, but not limited to, soil or groundwater remediation, pathway elimination, engineering or institutional controls, and/or activity and use restrictions.

There are several scenarios where the application of the new ASTM standard could affect real estate management and/or property transfer, including "re-openers":

* Sale of an existing facility: In addition to the normal due diligence process, a buyer might apply the ASTM VI process to the site and surrounding area, potentially resulting in additional investigation to assess possible on-site or off-site VOC sources.
* Re-sale of a property for which the client retains environmental liability: Site is re-evaluated under ASTM standard during due diligence, potentially resulting in additional investigation of a "closed" site.
* Sale of a property adjoining a current or former facility: The sale of an adjacent or nearby parcel could trigger testing at the off-site property, based on the proximity to the client's site, potentially leading to third party claims.
* Future acquisitions: Buyers may wish to utilize the standard in their due diligence process when evaluating acquisitions.
* Environmental insurance purchase/renewal: An insurer may require the standard be applied to sites when environmental insurance products are utilized or being considered as part of a risk management approach.
* Corporate liabilities analysis (ala Sarbanes-Oxley): As the ASTM VI standard becomes more readily accepted, property valuations and corporate liability assessments may require application of the standard to more fully assess all potential environmental disclosures.

The good news is that in spite of the additional transactional complications that the new VI ASTM standard may cause at the time of real estate transfer, and despite the trend of increasing litigation related to VI impacts and damages, a variety of remedial approaches are available. In addition to alternative standards development, indoor air monitoring and risk assessment, there are physical abatement systems that can be constructed to remediate or prevent the migration of contaminant vapors into overlying buildings. These systems are most cost-effective for new construction, but can also be utilized to "retrofit" existing structures.

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