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Brownfields redevelopment - Management of contaminated soil at dry cleaning facilities

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For decades, dry cleaning facilities have used chemicals called chlorinated solvents in their cleaning process. These solvents persist in soil and dissolve readily in groundwater, resulting in numerous contaminated properties that require environmental remediation. Therefore, the development of sites involving soil impacted with these contaminants requires careful planning, evaluation, and execution to comply with applicable federal and state regulations.

Renovation or new development on dry cleaning sites can be complex, but not impossible. Soil containing high concentrations of dry cleaning related chlorinated solvents, including tetrachloroethylene (PCE), trichloroethylene (TCE), dichloroethylene (DCE), or vinyl chloride are generally categorized as listed hazardous waste by the federal EPA under the Resource Conservation and Recovery Act (RCRA). Disposal costs for these soils are at a current rate of approximately $300 per ton. Consequently, environmental professionals concentrate on developing approaches to reduce soil disposal volumes and manage these soils on site. However, even soils with low concentrations of chlorinated solvents may be considered listed hazardous waste. Developers that do not research the history of the site prior to soil disposal may get caught dealing with a difficult soil management crisis during construction. Recently, the EPA delegated the power to the applicable state environmental agency to determine if the soil is a listed hazardous waste or non-hazardous waste.

In Massachusetts, for example, the Department of Environmental Protection (MassDEP) has established specific criteria for sites under the Massachusetts Contingency Plan (MCP) for determining soil from dry cleaning sites as non-hazardous waste. In Massachusetts, the MCP requires a Licensed Site Professional (LSP) to make a "Contained-In Determination." If the LSP characterizes the soil as having low levels of contaminants, the developer can petition MassDEP for approval to classify the soil as non-hazardous waste. In the Contained-In Determination petition, the LSP must demonstrate that all five of the following criteria are met for the soil to be considered non-hazardous waste:

1. Soil is not a characteristic hazardous waste (e.g., soil did not fail a Toxicity Characteristics Leaching Procedure)
2. Hazardous constituents in soil are less than or equal to Method 1 S-1 cleanup standards (S-1/GW-1, S-1/GW-2 and S-1/GW-3), 310 CMR 40.0975(6)(a)
3. Soil is fully characterized by representative sampling
4. Concentrations are not achieved via dilution
5. Excavated soils are managed in accordance with the requirements of the MCP

If a state such as Massachusetts characterizes the soil as non-hazardous, and a developer plans on transporting soil to a landfill in another state for disposal, the developer will also have to obtain a

non-hazardous classification from the state receiving the soil. Soil should not be transported until the landfill operator and the state agree to the determination of soil as non-hazardous waste.

Because each state has its own regulations governing soil disposal, it is essential that developers engage an environmental professional in the early stages of a project to ensure that proper sampling and data collection are performed, and adequate time is allotted for state environmental review. Though it may seem daunting at first, dry cleaning sites, especially sites with low concentrations of contaminants, can be redeveloped in a manner that is both cost-efficient and environmentally sound.

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