nerej
CELEBRATING 55 YEARS

Graham answers the question: When is it environmentally acceptable to buy properties containing dry cleaners and gas stations?

June 23, 2011 - Retail

Dry cleaners (DCs) and gas stations (GSs) can pose significant environmental challenges for owners or would-be purchasers of properties. These challenges become most apparent during a pending sale or purchase, which may occur as a small part of a larger parcel or shopping center. However, despite large potential environmental and cost risks from such facilities, there exist strategies - technical, regulatory, financial, and legal - which can identify the level and specific nature of risk, and minimize the concerns or provide reasonable solutions to these challenges.

Concerning the paramount topic of liability, it is important to realize that under current environmental law in most states, the responsibility for any prior site contamination shifts to the buyer upon its sale. This can mean that no limits will exist for "inherited" liability on the part of the buyer, once the sale is final. It is noted that negligence in determining environmental impacts, or deliberate obfuscation or data suppression on the part of the seller, or even its agents, are typically grounds for damages, reversal of this liability, and other legal recourse.

Therefore, the prospective buyer needs to thoroughly understand the history and extent of any potential environmental impacts to a prospective property, to ascertain discoverable impacts. A key tool in identifying prior operations that could have released oils and hazardous materials (OHM), is the ASTM Phase I Environmental Site Assessment (ESA), defined as ASTM 1527-05 (2005). Key elements of an ESA are: 1) review of historical operations and ownership, with documentation in urban areas often available back to the 1890s, from Sanborn Fire Insurance maps, environmental agencies research, and title and ownership records; 2) a site visit; and 3) interview with current owners/operators.

For a dry cleaner, the main chemical of concern is usually perchloroethylene (also called "perc"), also known as tetrachloroeth(yl)ene, or PCE. PCE is highly volatile, fast-moving, and carcinogenic at low levels and can impact groundwater, soil, and indoor air quality. PCE also has a relatively low regulatory standard in groundwater, such as 5 parts per billion (ppb) in many states and a small amount of PCE can create large-scale contamination, especially in groundwater. In recent years, much new science, and therefore emphasis by regulators, has focused on the effect of PCE volatilizing into occupied building spaces. Employee complaints, or even just concerns, from such a chemical can be problematic at best, and potentially expensive to resolve if such fears are subsequently proven to have merit.

For a gasoline station, key chemicals of concern which result from its current or former operation can include: petroleum hydrocarbons (e.g. benzene) and fuel additives (e.g. MTBE, lead), several of which are highly volatile, fast-moving, carcinogenic compounds. Unlike PCE, free petroleum product floats on groundwater surfaces, a feature which actually makes it easier to remediate; and its

volatilization potential is significantly less of a concern, in many instances. The concentration for most of these compounds requiring cleanup are higher than PCE by at least an order of magnitude (except notably for benzene in drinking water, which is also 5 ppb in a number of states). Also, gasoline station spills and leaks are common, and may go unnoticed for a long time due to poor installation or measurement and maintenance of underground storage tanks (USTs) and ancillary piping. Lastly, many service stations may have had hydraulic lifts and other activities (solvent parts washing, waste oil storage) which need to be evaluated. Potential impacts occur to groundwater, soil, and indoor air quality, as for PCE. Note that modern gasoline stations have monitoring wells in place which are sampled usually annually, so sufficient data often exists upon which to form an opinion.

Key factors which need to be assessed for either PCE or petroleum compounds, are: 1) the concentration of constituents of concern, or COCs (chemicals, metals); the toxicity, age, distribution, and distance of COCs to sensitive receptors; and 2) the amount of clean, unsaturated soil above impacted soil or groundwater. For petroleum compounds, it has been found in the past two years by regulators, that six feet of clean unsaturated soil above a petroleum release, will reduce the potential for petroleum vapors to a level below regulatory standards for indoor air. In shopping centers with PCE releases to soil and groundwater which is older than 30-40 years, in porous (sandy) soils, we have seen this chemical diminish to below regulatory levels, from either natural biodegradation, or via diffusion and dispersion. Regulators have also observed, and we have experienced is our practice, that some indoor air quality studies have been conducted improperly or inadequately, which can produce alleged impacts that in fact can and should be challenged.

Besides the above approach of questioning the data, a variety of strategies - technical, regulatory, financial, and legal - exist to allow a purchase and sale to move forward. The presence of either a dry cleaner or a gasoline station need NOT stop the acquisition of a property; instead, a heightened level of due diligence and understanding where obtained, can make informed decision-making move forward to a "go" outcome.

Technical and regulatory strategies which exist to remediate PCE or petroleum compounds are now well-advanced, and their cost can be estimated accurately. The degree of remediation required in soil will depend on: 1) the COC's concentration; 2) physical and chemical nature (e.g. volatility); 3) persistence; and 4) recalcitrance (especially for PCE), or resistance to treatment. For example, in groundwater, COCs can lodge in fractured bedrock and serve as a source for recontamination for many years. Despite these obstacles, many standard methods now exist to bring a site to an acceptable level of use, such as:

Vapor barriers, and sub-slab depressurization systems (minor contamination can still remain), to prevent or eliminate volatilizing COCs -

* Excavation, soil vapor extraction, biological treatment, chemical oxidation, chemical enhancement, often for more major contamination situations;

* Risk assessment, which is becoming a major new force in better characterizing risk, and allowing its management. For example, fractionation of individual components of OHM - in particular of petroleum compounds, as in Massachusetts and, since January 2010, in Maine - allows minor to even moderate contamination, in combination with certain regulatory strategies (see last bullet, below), to now enable industrial/commercial uses; and

* Environmental regulatory mechanisms: Activity and Use Limitations, and Groundwater Environmental Restrictions, are legally defensible documents which increasingly allow

industrial/commercial uses to proceed. Hundreds of these documents are now in effect in New England states.

Financial and legal strategies which exist, and are now routinely utilized, include the following in situations where environmental cleanup is needed:

Having the seller establish an adequately funded escrow, or reduction in price, implemented by the buyer and his/her environmental consultants, who pinpoints risk and associated costs. This permits post-sale remediation to proceed quickly and without further negotiation or involvement of the seller.

The buyer and seller agree on a price for remediation, based on well-defined technical assumptions on the COCs -

* Proper assignment of responsibility and cost allocation; this approach shares the costs, instead of one side, or the other, conducting the entire remediation;

* Tight purchase and sale agreement language, which specifies under what exact conditions environmental responsibility is assigned;

* Environmental insurance, to reduce risk, and provide additional resources for cleanup; and

Environmental legal counsel review. In any transaction with a risk of significant presence of COCs, hiring an environmental attorney to review the pertinent legal language in a contract, and the nature and extent of any environmental impacts, will avoid unpleasant issues and unanticipated costs which could otherwise surface during construction activities or future real estate transfer of a property.

Stephen Graham, PE LSP is principal at ENVIRON Corp., Boston, Mass.