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An Analysis of Tiered Environmental Due Diligence: What Can be Missed?

The gold standard for environmental due diligence is performance of a Phase I ESA that adheres to ASTM E1527-13, which is the only standard that complies with the Environmental Protection Agencies (EPA's) All Appropriate Inquiry (AAI) rule and satisfies the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) requirement. Lesser scopes of environmental due diligence exist, such as the Transaction Screen Assessment (TSA, ASTM E1528-14), desktop reviews and database report reviews. If the Phase I ESA is the gold standard, the question then becomes whether other scopes of environmental due diligence miss critical information that could influence the decisions being made regarding the environmental risks posed by the property. This article focuses on multifamily property types because they are perceived to be a lower risk property type (e.g., as compared to industrial and retail properties) and are more likely to utilize a due diligence product less rigorous than a Phase I ESA.

Performance of reduced environmental due diligence exposes lenders and borrowers to measurably greater credit risk. A back-testing exercise performed by Partner Engineering and Science, Inc., a leading national environmental, engineering and energy firm, found that of 138 multifamily properties where environmental issues were identified, a minimum of 10% - and up to a maximum of 60% - of Recognized Environmental Conditions (RECs) would have been missed by performance of a Transaction Screen Assessment (TSA) rather than a standard Phase I Environmental Site Assessment (Phase I ESA). On average, such missed RECs can typically lead to cleanup costs of between \$350,000 and over \$1,000,000 per site. These estimates do not include third-party liability and legal costs that can be exponentially greater, sometimes reaching the \$10 to \$15 million range. As this study focused solely on multifamily properties, the costs for other property types, usually more environmentally problematic than multifamily, would likely be more extreme.

The first question is, what is included and excluded in the TSA? A review of building department records, fire department records or other agency file

reviews is not included. Additionally, the TSA only requires that one out of three historical sources (aerial photographs, Sanborn fire insurance maps and city directories) be reviewed. Partner focused on the TSA for the purpose of this study, but it is important to note that there are environmental due diligence products that provide even less information than a TSA, such as desktop reviews and database report reviews. This article discusses the rate at which RECs under the ASTM E1527-13 standard are missed by a TSA for multifamily properties specifically. If even more limited due diligence products than the TSA are used, however, even more RECs may remain unidentified and may exhibit significant liabilities to prospective purchasers, lenders, and related parties.

To quantify the number of TSA reports that may be missing RECs due to limited research, Partner reviewed and analyzed data from 138 separate Phase II ESAs that were completed on multifamily properties in which a REC was identified to evaluate issues potentially missed if a TSA was the only form of assessment performed.

The data revealed several significant findings, and told a very interesting story.

Background

For a TSA, there are three historical sources defined by ASTM (historical aerial photographs, city directories and historical Sanborn fire insurance maps) that can be utilized to satisfy the historical review requirements. If only one source is reviewed (which is the minimum requirement), it is likely that the other sources would not be reviewed because the additional review might be considered unnecessary. In that scenario, critical information provided by the other two sources can be missed, resulting in an inability to identify a REC.

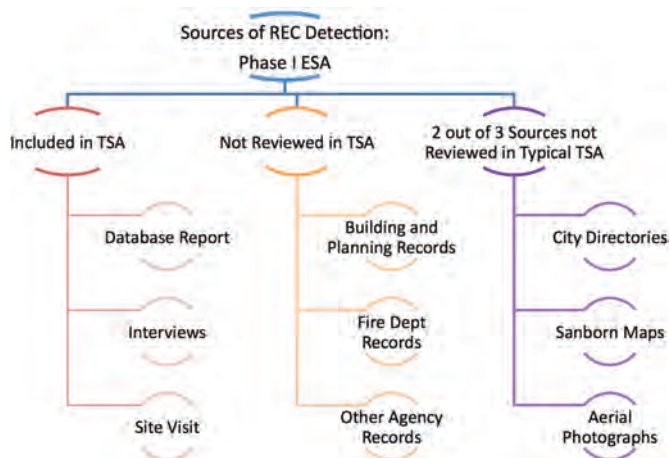
Further, the review required under the typical TSA would miss information from all of the following sources:

- Planning records
- Building Department records
- Fire Department records
- Other regulatory records
- Two out of three historical sources; including Historical Aerial Photographs, City Directories and Sanborn Fire Insurance Maps

The most common RECs identified by our research, which would be missed if the sources listed above were not reviewed, include but are certainly not limited to,

releases from underground storage tanks (USTs), contamination due to historical automobile repair operations, and historical drycleaner operations.

The following chart outlines what is and is not included in an TSA and Phase I ESA report as sources of REC detection.



Methods

Partner reviewed 138 Phase I ESAs to determine which RECs were identified, and which sources were used to identify them, to determine if a non-TSA source would have been critical in identifying the REC. Reports were then further examined to determine which source ultimately identified the REC. Review of the data resulted in the identification of three categories:

- RECs that would be missed by a TSA with the following sub-categories:
 - Sub Category A** – A REC that would have been missed in a TSA due to lack of a review of a building department record, fire department record, or other agency file review – sources which are not required to be reviewed in a TSA.
 - Sub Category B** – A REC that would have been missed in a TSA because only one out of three historical sources were reviewed.
- RECs that were not adequately analyzed by a TSA because the sources reviewed did not contain enough information to correctly categorize the risk.
- RECs that were in fact identified by the TSA.

Further, Partner assigned approximate remedial costs to each REC type based on an analysis of 145 Remedial Cost Estimates prepared by Partner on similar types of projects, as set forth in the table below.

Property/Feature	Average Remedial Cost Estimate (\$)*		
	20% confidence level	Average	80% confidence level
All Sites	350,000	590,000	1,050,000
USTs	400,000	485,000	910,000
Auto Dealerships	40,480	166,000	360,000
Dry Cleaners	255,750	380,000	1,000,000

*Remediation costs can jump significantly in some cases depending on site conditions and regulatory requirements-it is not uncommon to see cleanup cost 4 or 5 times the 80% confidence level. In addition, remedial cost estimates do not include cost such as loss of income from tenant vacancy, stigma and marketability costs or liability from migration of a release off site.

Findings

Fourteen out of 138 Phase I ESAs (10%) identified RECs that would have been missed by a TSA. One of these Phase I ESAs identified a REC that would have been missed by a TSA due to the TSA's lack of building record reviews and thirteen of the Phase I ESAs identified RECs that would have been missed by a TSA because only one out of three historical sources were reviewed. Additionally, over half of the environmental issues identified by a TSA (60%) were difficult to quantify without additional research that would only have been conducted in the full Phase I. For example, an environmental issue that was not missed by a TSA altogether but which could have been mischaracterized (i.e., not labeled a REC) because the sources reviewed did not contain sufficient information for categorizing the risk correctly.

Findings	
RECs that would be missed by a TSA	10%
Sub Category A	0.7%
Sub Category B	9.3%
RECs that weren't missed by a TSA but could have been because the sources reviewed did not contain enough information to categorize the risk correctly	60%
RECs that were not missed by a TSA	40%

REC from Non-TSA Source	Number of Phase Is*	Approximate Remedial Cost		
		Min	Expected	Max
UST	12	\$400,000	\$485,000	\$1,050,000
Auto repair	1	\$40,480	\$166,000	\$360,000
Drycleaners	4	\$255,750	\$380,000	\$1,000,000

*There were two reports that had more than one REC: 1. UST and Drycleaner 2. Auto repair and UST

Discussion

If we apply these findings to the volume of reports that are being completed for multifamily properties across the country, approximately 10% of all TSA reports may be missing a REC that could result in environmental liabilities amounting to over \$1 million in investigation, remediation, and regulatory oversight fees, essentially taking a real estate transaction from being profitable to not, or worse- a significant loss. However, we must also add the RECs that would not have been sufficiently identified, characterized and/or analyzed by the TSA because of a lack of sufficient information – and this lack of adequate identification, characterization and analysis occurred up to 60% of the time. Furthermore, it is important recall that our study focused solely on multifamily properties – which exhibit the lowest risk type of commercial real estate, as compared to commercial and industrial sites. Therefore, if a TSA or less rigorous environmental due diligence product was used for those higher risk property types, the resulting environmental liabilities would likely be far higher.

The remedial cost estimates discussed above consist of the cost to investigate and remediate the site, but they do not include other significant costs, damages and other expenses such as loss of revenue due to uninhabitability of the site, stigma damages, diminution in value, and potential liability associated with the contamination migrating beyond the boundaries of the site, implicating property damage claims from adjacent landowners and tenants.

Keith Walker, an environmental partner at Cox, Castle & Nicholson LLP, has seen numerous examples of a Phase I ESA identifying issues that would have been missed by a TSA, and observed the following:

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One example is a review of historical records that identified a rail spur. The existence of the spur had been missed by all parties to the transaction up until the point of the Phase I ESA. Ultimately, the costs of removing the spur, which amounted to over \$250,000, exclusive of the delays arising from the removal activities, were borne by the seller. In the absence of the Phase I ESA and counsel's review, they would have been borne by the buyer. That's the lower end of the range, however, because then we think of instances where contamination missed by a TSA was later found to be migrating off the subject property and impacting surrounding sites, leading to cleanups into the seven-figure range – and potential toxic tort liability due to soil vapor intrusion, where damages awards can reach well into seven and eight figures. Therefore, our advice is usually to spend a bit more on the front end – by completing a Phase I ESA – rather than using any lesser products. In addition, in order to satisfy All Appropriate Inquiries (AAI) Final Rule 40 CFR Part 312, for purposes of asserting the bona fide prospective purchaser defense to liability under the federal cleanup statute (CERCLA), a Phase I ESA is required.

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Also, when a non performing loan is contaminated, foreclosure is far more difficult as lenders or special servicers do not want to go on title and expose themselves to an unquantifiable liability. The cost to quantify that risk alone could be high (subsurface investigations, etc), which could force a note holder to sell the note at a far larger discount to avoid testing. Below is a case study discussing the repercussions of missing a historical source in a TSA.

Case Study: When a City Directory is the only source of a REC

A Phase I ESA was completed for a multifamily property that was constructed in the 1980s. Prior to the 1980s, the property was developed with a multi-tenant commercial building. The Phase I ESA included a review of city directories which revealed that a dry-cleaning plant occupied the property from as early as 1947

to 1975. Dry-cleaning plants handle large volumes of the chlorinated solvent known as tetrachloroethylene, (PERC, or “PCE”) that can easily be released to the subsurface through releases from dry-cleaning machines, disposal into sinks (where underground piping may be deficient), and spills in storage areas. This dry-cleaning plant was not identified in any other historical source. Sanborn maps only dated back to the 1980s and aerial photographs were useful in determining the structure on-site was commercial – but did not identify the tenants. Further, the environmental database report did not identify the dry-cleaning plant due to its operation prior to a time of active regulatory oversight. Therefore, the TSA report could not and would not have identified the risk.

Groundwater at the subject property was approximately 50 feet below ground surface and the soils were gravelly and poorly sorted sand. Therefore, the potential existence of a soil vapor intrusion condition for the multifamily building was likely, and PCE is a carcinogen. Multiple subsurface investigations were conducted on this property to identify the source area of the contamination and the extent of the plume, which was determined to be the multiple machines and associated piping that were previously located beneath the footprint of the current multifamily building. Soil vapor sampling was conducted in the first-floor units of the building and in the surrounding parking areas. Initial investigations concluded that soil vapor at the site contained extremely high concentrations of PCE which represented a significant threat to the occupants of the building. A Soil Vapor Extraction (SVE) system was installed to remediate the soil vapor plume and multiple costly SVE wells had to be installed to adequately address the large extent of the plume, which appeared to be migrating off-site to other nearby multifamily properties. It took 3 years to remediate the property at a cost exceeding \$850,000. Those costs, of course, do not include potential liabilities arising from the type of toxic tort liability discussed above, where damages in the \$10 million to \$15 million range, or higher, are not uncommon.

Conclusion

A TSA conducted on this property instead of a Phase I ESA could have reviewed only aerial photographs or Sanborn fire insurance maps, skipping City Directories entirely, which would not have identified the existence of the dry-cleaning plant. Therefore, for a cost savings of only \$1,000 to \$1,500 in lieu of ordering a Phase I ESA, over \$850,000 in hard losses and several million dollars in potential toxic tort liability was incurred. This illustration of the importance of reviewing all available historical sources included in a full Phase I ESA, shows the potential monetary and human health consequences of the limited number of historical sources included in a TSA.