Celebrating 25 years of advancing the profession of environmental risk management in the financial services industry.
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Once again, it’s my pleasure to welcome you to our Journal. It’s a place where we come together when we’re not together, to share thoughts and insights on what’s going on in our industry. And once again, Elizabeth Krol and her gang of volunteers have crafted something special for the rest of us. It’s still amazing to me to see the depth and breadth of the experience and knowledge within the EBA.

It’s also still amazing to me to see the incredible volunteer effort put forth to produce such a fine Journal as we have. Yes, I know we’re a trade organization full of folks with like interests who love to talk shop, and that’s easy at a lovely conference in New Orleans, but to collaborate, write, edit and produce just one article for this Journal is to me, an outstanding effort.

Outstanding effort yes, surprised at the effort no. This trade organization has been talking shop for 25 years now. We’ve grown in our efforts to be sure, and we collaboratively produce monthly calls, white papers, tip sheets, webinars, website content, conferences and this Journal, to name a few things. And all of it by volunteers.

For 25 years we’ve created content of various forms. We’ve shared that content with our membership. We’ve even co-published some things outside of the EBA to reach a larger audience. We’ve partnered with some of our own members to take advantage of outreach opportunities. ASTM is now a member of the EBA.

It’s paying benefits. Recognition of the EBA as an industry resource is increasing. Within the last few years the EBA has been contacted by differing governmental agencies seeking our input. We are often asked by other organizations for representatives to speak as industry experts at events outside of the EBA.

None of this could happen without the continual infusion of new and relevant topical material provided in various forms by our own membership. And all of this is provided with volunteer effort at no cost! Wow, what a place. As President, I must admit you guys are making my job pretty easy.

I hope you enjoy this Journal, and please feel free to share it with those outside of the EBA.

Thank you,
Bill Sloan
Editor’s Corner - Elizabeth Krol

Happy 25th Anniversary, EBA! As we celebrate this milestone anniversary in the grand, historic city of New Orleans, we have so many accomplishments of which to be proud, most importantly providing a national, technical forum for the development and advancement of the environmental due diligence practice for the financial services industry. It is also a wonderful time to look ahead to the future of our esteemed organization, as we plan for upcoming conferences, support the continuous improvement of our members expertise, develop tools for members to succeed in their important risk management roles, and advocate for quality due diligence in our industry.

Thank you to our highly invested members who give so much of their time, talent and treasure to ensure the success of the Environmental Bankers Association. Best wishes on the silver anniversary and cheers to the next 25 years!

Sincerely,
Elizabeth Krol
Partner Engineering and Science, Inc.
Minneapolis, City By Nature, was the perfect place to host the 2018 Environmental Bankers Association (EBA) Summer Conference. The EBA Gives Back event gave attendees a chance to glimpse Lake Harriet, part of the Minneapolis Chain of Lakes, while they planted plants at hummingbird and butterfly gardens. It was a fantastic introduction to the Twin Cities and the conference ahead.

Monday morning set the stage with both SBA and USEPA panels. Perspectives on the proposed revisions to SBA SOP 50 10 5 J were presented by the District Counsel of the San Francisco SBA Office and an open forum was held on the Superfund Task Force Recommendation 27 feedback, with an attorney present from the EPA’s Office of Site Remediation Enforcement. Bankers and affiliates were able to get valuable insight which carried over into Tuesday’s split sessions, where SBA and EPA representatives answered in-depth questions on the topics. Each session gave SBA and EPA a chance to understand consultant and lender needs during an open conversation. This provided an opportunity to obtain industry feedback and will hopefully allow for improved outreach in the future.

We saw non-ASTM issues popping back up and lenders discussed the material risk and how to approach the issues. The PFAS discussion continued, this time with an exploration of regulatory responses and a look at third-party lawsuits.

Interesting case studies focused regionally with a look at the Great Lakes Legacy Act Sediment Remediation Program and the Solhaus Site. The first presentation looked at urban revitalization and redevelopment projects and cost-sharing program created to encourage and accelerate remediation of contaminated sediment sites. The later was an in-depth study of the development of a former paint-mixing facility and petroleum storage/distribution to the current apartment building. The site included numerous investigation phases under the Superfund program and partnered public funding sources, developers, and local consultant firm Vieau Associates, LLC.

The conference wrapped up with a workshop for new environmental risk managers and explained the basics of getting from a Phase I to the Risk Management Decision. The session is always great for first time attendees and those who are looking for a crash course refresher. ■
1) Headwinds could outpace tailwinds for the first time in this recovery. The single most marked characteristic of 2018 is that the headwinds began to give the tailwinds a bit of competition. On the positive side of the ledger, commercial real estate lending and investment benefited from continued healthy property fundamentals and strong corporate profits. This record-long expansion also continued to deliver job growth with a streak that extended to nearly 100 months. Federal tax cuts and fiscal spending increases added fire to an already-vibrant economy. Rounding out the wind in the market’s sails was ample investment capital—ahead of capital and plentiful equity—both of which are at record highs, hindered only by the dearth of available properties.

In the later quarters of 2018, headwinds began to gain steam. Forecasters, for instance, began airing concerns that the near-term gains of government spending and tax cuts would fade away just as the next cyclical downturn took root. One of the biggest headwinds facing the commercial real estate market in 2019 is the combination of rising interest rates and slowing appreciation. This means borrowers face a higher cost of capital at the same time that assets may not necessarily be showing higher yields to accommodate those higher costs. Rigorous due diligence is critical at this late stage to ensure that investors aren’t overreaching at exactly the wrong time.

2) Smaller metros will drive the strongest opportunities. Amid strong market fundamentals, the U.S. commercial real estate deal-making climate had a healthy run in 2018, and was expected to demonstrate moderate growth at year-end over 2017 volume (see graph; final year-end data had not yet been released at press time). Notably, 2018 reversed the trend of quarterly declines in transaction volume to one of consecutive quarterly growth for the first time in three years. Yet the growth is no longer uniform. Back in at the recovery’s high point in 2015, we saw more uniformity in the patterns of deal growth across property types and metro. Today, investors are being more selective. Their quest for yield is funneling interest toward smaller metros across the U.S. and opening up opportunities in areas that still have room to run.

Given that environmental due diligence is conducted prior to most commercial property deals, a look at where demand for site investigations is heating up provides an early indicator of where commercial investors are focusing. Phase I ESA volume in the U.S. was relatively flat for the year, with the highest growth in the South Atlantic (5%) and in California (4%). Yet the ten fastest-growing Phase I ESA markets averaged a much more robust 14 percent growth, with San Francisco, Orlando and San Diego in the top three. The EDR ScoreKeeper metro ranking reflects a market environment in which investors are looking beyond metros like Chicago, LA and New York where foreign investors are aggressive to smaller metros where they are shaking the trees for adaptive reuse or infill investment that may present...
Partner Engineering and Science, Inc. (Partner) performed a Phase I Environmental Site Assessment (ESA) for one of New Orleans oldest 501(c)(3) non-profit organizations, the Deutsches Haus. Originally located at 200 S. Galvez, the Deutsches Haus was severely damaged by Hurricane Katrina and had to be restored by volunteers. Shortly after they were able to reopen their doors, it was taken over by the State of Louisiana in order to build a medical complex.

In 2017, the Deutsches Haus purchased 5.72 acres on the east side of Moss Street, approximately 650 feet north of the intersection of Esplanade Avenue and Moss Street within a mixed-use area of Orleans Parish. To help secure financing, Partner provided an ESA to help identify environmental conditions as they existed at the subject property.

At the time of the assessment the property was developed with an 8,700 SF warehouse under roof so they could still host their annual Oktoberfest; and piles were being driven for the new event hall. According to available historical sources, the subject property was developed as the Soldier’s Home/Confederate Veterans Home with multiple structures (1908-1946); Louisiana National Guard complex (1949-1975); City of New Orleans Third District Police Offices and intermittent occupancy by the State Delgado College Art Studio (1981-2005); and was vacant following Hurricane Katrina (2005) and the buildings were demolished in 2009. Deutsches Haus acquired the property in 2012 for their new cultural center.

Partner did not identify any recognized environmental conditions nor controlled recognized environmental conditions during the course of the assessment; however a historical recognized environmental condition (HREC) was identified. The HREC was associated with two underground storage tanks (USTs) which were removed and LDEQ granted UST closure with No Further Action to the State of Louisiana Military Department in 1998. Based on the removal of the tanks, analytical results, and regulatory closure to the satisfaction of the State, the former fuel USTs were considered a HREC and no further action was considered necessary.

The new Deutsches Haus Community Center completed construction on schedule and opened their doors in November 2018, in time to celebrate the organization’s 90th anniversary.

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3) Banks will be pressured into preparing for next downturn. 2018 essentially continued many of the lending trends of 2017. With so much capital available or property loans, and a shortage of strong options, it is an increasingly competitive environment. There will be more of an urgency in the market in 2019. The time pressure on lenders and investors will intensify this year amid pressure to close deals before the market turns—likely in early 2020. No one wants to overpay at this stage of the recovery, or pay more for borrowed capital than they need to as rates rise. Likewise, due diligence will need to reflect how an asset will perform in a weaker economic environment. The numbers need to work, and can no longer be dependent on assumptions about rising values. Some lenders are already conducting exercises to explore how well, or how poorly, loans would perform under scenarios of falling property values and rising interest expenses.

At last fall’s RMA conference, I had the pleasure of shaking hands with Joseph Otting, Comptroller of the Currency after his keynote to thank him for shedding light on the importance of strong risk management at this stage of the cycle. Asked what risk professionals today should be focused on, Otting replied without hesitation: “Your people. Make sure you have the talent to go through a market cycle. When things get good, you probably lost the workout people. So think about whether you have the talent you’ll need to manage through the next downturn.”

There’s a lot of uncertainty out there (especially on the political front as the federal shutdown marches on), but what we do know is: The next year will not be a simple repeat of 2018. It’s time to shift to risk-averse strategies and monitor the market carefully. The general consensus on the timing of the next cyclical downturn is 2020 so the loans being made today are the ones that will be impacted. While there are still many positive headlines, the danger is that they will mask the risk to real estate investors and fool them into paying higher prices than they should at this point in the cycle. Happy 2019!

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NOLA Project
by Katie Morgan, Project Manager
Partner Engineering and Science, Inc.
As you underwrite loans, you are probably already evaluating the risks posed by development on coastal land due to the effects of climate change, such as increased storm surge on infrastructure and key building systems. But, are you also considering how these same effects will impact site contamination and site closure? If not, now is the time to begin.

On November 23, 2018, the U.S. Global Change Research Program reminded us of the potentially serious impacts of climate change on the United States when it issued the “Fourth National Climate Assessment, Volume II: Impacts, Risks, and Adaptation in the United States.” This report details the impacts of climate change that are already being experienced and are anticipated across the nation, along with a discussion of mitigation and adaptation measures being implemented. The overall message of the report is that climate change will have serious impacts across the nation with the potential to cause substantial damage to the economy, environment, and human health; and more needs to be done to prepare.

The anticipated effects of climate change vary across the country. For example, in the northeastern states, effects include more frequent and more intense storm surges, less snowfall, and increased intensity of precipitation. In the northwestern states, warmer winters will reduce snowpack resulting in increased the risk of wildfire and drought. Many states and local governments are conducting vulnerability assessments to identify the risks to buildings, roadways and water systems resulting from these changes. For example, see the resources collected by the Connecticut Department of Energy & Environmental Protection on its website on Climate Change Vulnerability Assessments.

What does this have to do with contaminated sites? The Massachusetts Department of Environmental Protection (MassDEP) and the Washington Department of Ecology (Ecology) have been working to identify how contaminated sites may be affected by climate change. They have identified potential vulnerabilities of contaminated sites to the impacts of climate change. Some of these are summarized below:

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<th>Where you anticipate ...</th>
<th>Identified potential impacts are ...</th>
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<tbody>
<tr>
<td>Increased precipitation</td>
<td>Flooding and increased run-off:</td>
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<td>• mobilization of contaminants; and</td>
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<td>• damage engineered barrier or cap.</td>
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<tr>
<td>Increased drought</td>
<td>Increased wildfire risk:</td>
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<td>• damage engineered barrier or cap;</td>
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<td>• failure of groundwater or leachate</td>
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<td>collection system.</td>
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<td>Sea level rise</td>
<td>Site inundation and/or erosion:</td>
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<td></td>
<td>• erosion of contaminated material; and</td>
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<td>• movement of soil and sediment,</td>
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<td>changing distribution of contaminants.</td>
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<td>Increased storms and extreme weather</td>
<td>High intensity flooding</td>
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<td>• damage to site integrity; and</td>
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<td>• movement or dilution of contaminants.</td>
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Does Your Due Diligence Consider Impacts of Climate Change?
Authored by: Jeanine Grachuk, Esq., Beveridge & Diamond, PC

MassDEP and Ecology have moved from identifying potential impacts to considering how their approach to site cleanup should change as a result. In addition, responding to recent events such as Hurricane Sandy, the New Jersey Department of Environmental Protection has developed guidance specifically related to catastrophic events.

**Massachusetts.** The anticipated effects of climate change in Massachusetts include increased precipitation leading to increased runoff and flooding; sea level rise and related erosion and flooding; and increased number and intensity of storms such as hurricanes, as described in the “Massachusetts State Hazard Mitigation and Climate Adaptation Plan,” at 5, 8-9, September 17, 2018. The MassDEP has announced that it is developing guidance on best practices for contaminated sites that may be affected by these changes. See MassDEP, “State Hazard Mitigation Plan and Efforts Related to MassDEP Programs” (full citation above).

**Washington.** In November 2017, Ecology issued “Adaptation Strategies for Resilient Cleanup Remedies” (full citation above). This guidance discusses potential effects of climate change, including: sea level rise, flooding, landslides, and wildfires, and provides step-by-step guidance on identifying site-specific vulnerabilities due to the impacts of climate change and strategies to improve resilience at contaminated sites.

**New Jersey** has also taken steps in this direction. In the wake of Hurricane Sandy in 2012, the New Jersey Department of Environmental Protection (NJDEP) developed guidance that focuses on catastrophic events, including: hurricanes and other storms that many predict will occur with more frequency as a result of climate change. In June 2016, NJDEP issued “Technical Guidance: Planning for and Response to Catastrophic Events at Contaminated Sites.” This guidance encourages anyone managing a contaminated site undergoing assessment or remediation or that has been closed with engineering or institutional controls to consider likely impacts, identify mitigation measures, and implement appropriate mitigation measures when a severe storm event is predicted.

After a catastrophic event, NJDEP encourages inspection of the site when safe to do so and implementation of additional measures as needed.

These documents show that we can not only predict effects of climate change, but we are beginning to understand how these effects pose risks to contaminated sites and develop strategies to mitigate these risks. As these tools become available, you should consider whether your due diligence team should be applying these tools. Next time you are considering underwriting the acquisition of a contaminated property, consider asking your due diligence team some additional questions, such as:

- If the site has reached closure, were the potential vulnerabilities to the effects of climate change evaluated by the consultant as part of identifying and implementing the remedy, or subsequently? In 2019, it is likely that the answer will be: “No”; in most locations as the agencies supervising this work are not yet or are only now beginning to incorporate this into their guidance and procedures. If so, consider whether the site’s location, known contaminant profile, and remedy raise any red flags in light of the likely effects of climate change.
- If the site has not reached closure, have the potential vulnerabilities to the effects of climate change been evaluated by the consultant as part of the work that has been completed? If not, is the site located in a place where flooding or fire or similar potentially catastrophic events are likely to occur over the foreseeable future? If so, how could this impact the remediation strategy and possibility of long-term closure?
- If the site is in the early stages of assessment, it may be too early to conduct a robust evaluation of vulnerabilities. In that case, ask whether the site’s location and known contaminant profile raise any red flags in light of the likely effects of climate change in that area.

Now that environmental agencies are evaluating likely future trends due to climate change in different areas of the country, and how these can impact contaminated sites, we can use this information as one more tool in the toolbox to identify the risk posed by a particular redevelopment project or acquisition.
Sound business considerations, coupled with growing regulatory requirements, are driving prospective buyers of commercial real estate to include an assessment of building energy performance in the property condition assessment (PCA) that precedes a typical commercial real estate transaction. If the building is under-performing against its peers, this can reduce its competitive position in the marketplace, and negatively impact its valuation. As such, it becomes more and more likely that a PCA consultant will be asked to include an assessment of the building’s energy performance.

The ASTM “Green PCA” Task Group is developing a standard that specifically addresses the building energy performance issue. The goal is to identify if a building is under-performing compared to peers, and if so, identify possible measures that might improve performance and their cost, with the objective to attain parity with peers.

The ASTM “Green PCA” Task Group recently met in Washington, DC on October 23, 2018 at ASTM’s Fall National Meeting to discuss the technical details of the standard’s scope of work. General consensus was reached on the following key points:

1. The standard includes a two-step process: the first being a pre-acquisition screening step (presumably conducted in conjunction with an ASTM E2018 PCA) and a second more comprehensive assessment step (presumably conducted post-closing for the new building owner). The more comprehensive assessment (such as an ASHRAE Level 2 energy audit) will provide greater certainty around the selected energy conservation measures and projected energy savings and costs provided in the screening process. It is envisioned that the screening step, assuming energy savings results are sufficiently attractive, would provide justification and support to proceed with the more comprehensive, post-acquisition assessment. Notwithstanding, the standard is designed to incorporate enough flexibility to enable the user to determine which step best aligns with their due diligence needs.

2. Under the proposed standard, a building’s normalized energy use intensity (EUI in kBtu/SF) will be compared to the median (50th percentile) of peer buildings in the same geographic area/climate zone. It will include a 10% buffer on the under-performance determination to account for uncertainty.

3. Building normalized EUI will be determined using EPA ENERGY STAR Portfolio Manager and require actual building energy consumption data collected over a specific period of time.

4. The 50th percentile of peer building will be determined using DOE’s Building Performance Database which includes data from more than 25 source data sets (more than one half million commercial buildings), including EPA (Portfolio Manager), HUD, DOE (CBECS), state and local governments, energy efficiency programs and large portfolio owners. DOE’s database is regularly updated and able to provide the median EUI as a function of a building’s use and location. [EPA’s ENERGY STAR Portfolio Manager specifies only the national median EUI for the building use (regardless of the building’s location) and relies on the 2012 CBECS results. The data would not change until the next CBECS [survey] is completed and results analyzed.]

5. For multifamily buildings, the standard will also address water consumption and rely on water-use benchmarking using EPA ENERGY STAR.

6. Minimum qualifications for providers will be established both for the pre-acquisition screening step and for the
more comprehensive post-acquisition assessment step. At this time, it will be assumed the screening step should be able to be performed by the consultant conducting the PCA, while the more comprehensive assessment would require that it be performed by a credentialed energy professional. The specific criteria are still in discussion.

7. The screening step in the standard would not be applicable if at least 12 months of actual energy consumption data is not available to establish a representative baseline for the building’s use. It also would not be applicable to industrial buildings where manufacturing takes place as these operations typically have their own unique energy requirements and would better be served by a more comprehensive energy audit. Finally, buildings with a recognized energy performance certificate, e.g., ENERGY STAR label, LEED or Green Globes certification, etc., would be excluded from the under-performance determination made in the screening step.

The results from the October 23rd Task Group meeting will be incorporated into a strawman standard targeted to go out in the first quarter of 2019 for Task Group feedback and will be discussed at the next Task Group meeting scheduled for April 2, 2019 in Denver, CO.

If you would like to participate on this ASTM Task Group and assist in the development of this important commercial real estate due diligence standard, please contact Tony Buonicore at ajb@PACEworx.com.
Musings of a Former EBA Board Member
By Derek Ezovski, President, ORMS, LLC

Earlier this year, I completed my three-plus year term as an Affiliate Member of the Board of Governors of the Environmental Bankers Association (EBA). I am honored to have been chosen as one of two founding Affiliate Members, a Board position created in 2014 to ensure EBA members in the consulting and vendor community had a voice in crafting the future direction of the Association.

I first joined the EBA in 2001, during my former life as a bank environmental risk officer. After a few years away, I rejoined in 2005 as an independent risk management consultant. Since rejoining I haven’t missed a bi-annual conference in nearly 14 years! I’m proud of the Board’s accomplishments during my term. We crafted a new mission statement for the organization geared toward a broader, more comprehensive approach, based on best practices across a wide range of institutions as well as feedback from affiliates. We have also established a stronger financial footing for the Association, doubling our reserves over that period. Most importantly, we have set a solid, forward-thinking direction for the future of the organization, and the financial services risk management industry.

The EBA is unique among the scores of non-profit banking industry trade groups. It was formed in 1994 in response to the industry’s rising concerns and scrutiny of environmental risk issues and their growing impact on the regulatory landscape, risk management practices, and policy development. The EBA’s membership includes lending institutions, insurance companies, attorneys, and environmental consulting and appraisal firms.

The EBA states its mission as: “To promote best
practices that protect and preserve net income and assets of banks, other financial institutions, and allied industries from environmental risk and liability resulting from lending and asset management activities.” My view from the inside confirms that the EBA is committed to this mission.

The Association holds two major conferences each year, featuring outstanding speakers, breakout sessions, and networking sessions. These events serve as crucibles for deep discussion of best practices in property due diligence and risk management. For me, the best part is the opportunity to interact with a diverse set of practitioners from across the industry—from the biggest banks like JP Morgan Chase, US Bank, and Wells Fargo, to community banks and credit unions. And for risk management professionals from smaller institutions, often burdened with minimal resources and pre-judged by a “cost center” mindset, the opportunity to learn from their experienced colleagues at larger institutions is invaluable. These conversations often continue after-hours, over a few cocktails, where long-term relationships and close friendships are made!

The presence of independent risk management consultants and vendors at the conference is also vital to its success. As dedicated professionals with exposure to many types and sizes of institutions, we are often able to bridge the gaps in knowledge and experience among these diverse lenders. We understand the challenges of the small lenders and proactively share that perspective with the EBA’s leadership.

Just as critically, membership in the EBA has helped ORMS grow, learn, and become a better organization. Over the years I have learned many leading-edge techniques from large bank risk management departments, which ORMS has re-engineered and deployed to meet the needs of smaller institutions as their outsourced risk management arm.

As a member of EBA, and now a past Board member, I am proud to be an unabashed evangelist for the Association. If you are a risk management professional, particularly at a community financial institution, I encourage you to attend. Happy 25th Anniversary, EBA!
Status of ASTM Standards Prepared for EBA
Authored by: Jeri Massengill, E50.02 Subcommittee Chair
Updated Oct 30, 2018

KEY:
Standard ID (Name of Task Group Chair or Co-Chairs) Standard Name – summary of current status

# = Standards are new or are currently under active review/revision.
* = Task group chair(s) seeking feedback on future revisions

### Existing Standards Under Subcommittee E50.02

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<thead>
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<th>Task Group Chair(s)</th>
<th>Standard Name</th>
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<tr>
<td>* D5746-16</td>
<td>John Tabella</td>
<td>Standard Classification of Environmental Condition of Property Area Types for Defense Base Closure and Realignment Facilities – Standard is current but updates needed to definitions are needed.</td>
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<tr>
<td>* D6008-14</td>
<td>John Tabella</td>
<td>Standard Practice for Conducting Environmental Baseline Surveys – Standard is current but updates needed to definitions are needed.</td>
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<tr>
<td># E1527-13</td>
<td>Julie Kilgore</td>
<td>Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process – Multiple Focus Groups working on revisions; first ballot for feedback on revisions is planned for early 2019; current standard valid until end of 2021 unless revisions approved by ASTM process and EPA before that.</td>
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<tr>
<td># E1903-11</td>
<td>Chris McCormack</td>
<td>Standard Practice for Environmental Site Assessments: Phase II Environmental Site Assessment Process - Second ballot expected in late 2018 or early 2019; must be revised/approved by end of 2019.</td>
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<tr>
<td>E2247-16</td>
<td>Gene Watson</td>
<td>Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process for Forestland or Rural Property - Chair plans to ballot a revised E2247 that mirrors upcoming changes to E1527 so ASTM can submit both Phase I Standards to EPA for approval at the same time in early 2021.</td>
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**Proposed New Standards under E50.02 Subcommittee**

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<td><strong># WK50995</strong></td>
<td>(Dawn Anderson) Proposed Title: Accessibility Facility Assessments of Private Non-transient Housing – Periodic Task Group calls ongoing.</td>
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**Seismic Standards Under Subcommittee D06, update provided by Damian Wach, D06 Subcommittee Chair**

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<td><strong>E2026</strong></td>
<td>16a (Joshua Marrow) Standard Guide for Seismic Risk Assessment of Buildings - Standard is current; minor updates are anticipated within the next year, as needed.</td>
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<tr>
<td><strong>E2557</strong></td>
<td>16a (Joshua Marrow) Standard Practice for Probable Maximum Loss (PML) Evaluations for Earthquake Due Diligence Assessments - Standard is current; minor updates are anticipated within the next year, as needed.</td>
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INTRODUCTION

Indoor air sampling for volatile organic compounds (VOCs) is generally conducted using passivated canisters or passive samplers over a time interval or hours to days. The output from these sampling methods is one concentration value averaged over the collection period. Further, only a few contaminant concentration measurements are made in a structure, often times with a second round of measurements obtained during a subsequent season or at a later time. This paucity of data also limits the opportunity to identify and rectify the potential vapor intrusion pathway in a time-efficient and cost-efficient manner.

Continuous monitoring enables the collection of a large volume of contaminant concentration data over time (~150 analyses per day) and enables instant recognition of indoor air concentration variations. Using this system, it has been documented that temporal variations in rooms and structures are commonplace over time periods as short as a few hours. Simultaneous monitoring of additional parameters such as sub-foundation pressure, wind speed and barometric pressure enables the opportunity to determine the cause of the pattern. Once the cause is determined, then remedies can be attempted, and the effect of the remedy monitored by the system. Data from the system are uploaded in real-time to a server with an interactive dashboard allowing the practitioner to monitor the data from their desk.

APPLICATIONS TO PROPERTY TRANSACTIONS

Determining Indoor vs Subsurface Source

Figure 1 is a plot of PCE in indoor air, barometric pressure and outdoor wind speed in a commercial building. The large increase in PCE observed on the first day occurs at the same time as a drop in barometric pressure and increase in wind speed. Such a pattern with barometric pressure is generally indicative of a subsurface source. When barometric pressure drops sharply, the sub-slab is over-pressurized versus the first floor and advective flow can occur from the subsurface into the structure.

Figure 2 shows indoor air TCE concentrations in an active manufacturing facility over a period of 2.5 days. The high concentrations all occurred during the work day, and at night, the TCE concentrations dropped to below detection. The conclusion: the TCE must be from an indoor source. Indeed, another audit of the products used in the plant discovered the TCE source in a can of silicone spray lubricant.

We have been differentiating between indoor and subsurface sources at many sites in a few days. This can not be done with canisters or passive collectors.
Expediting Remedies

Monitoring data enable the effect of remedies to be determined in real-time. Figure 3 shows TCE indoor air concentrations at four locations in an industrial facility over 5 days. A sub-slab depressurization system was turned on and an immediate drop in TCE concentrations to below detection is evident in all four locations. The concentrations remained below non-detect for two days following system start-up giving confidence that the mitigation system was providing an effective remedy at all four locations. Further sampling was not required.

Figure 4 is a plot of indoor air TCE concentrations in a small, single-family residence. Prior to implementing a remedy, TCE concentrations ranged from 5 ug/m3 to 15 ug/m3. Two industrial grade air filtration units were installed and an immediate drop in TCE was observed. However, the values fluctuated around 5 ug/m3, which exceeded the short-term TCE screening level of 2 ug/m3. The filters were then turned off and values rose immediately. Within a few days, it was determined that air filtration units were not a suitable remedy and alternative remedies had to be implemented.

SUMMARY

Continuous monitoring data enable a concentration pattern to be recognized. These patterns cannot be recognized by time-integrated canister or passive samplers. Once the pattern is recognized, the practitioner has the opportunity to figure out the source of the compound (indoor vs subsurface), what is causing the pattern, and take immediate corrective action, as necessary. This can all be accomplished within a few days putting the vapor intrusion pathway to rest, in turn giving confidence to buyers and lenders and expediting real-estate transactions.
Vapor intrusion poses a risk to properties across the nation, and managing this issue can be a long, complicated, and expensive process. However, through collaboration with your environmental consultant, you can create solutions that address your concerns in innovative ways. In one such case, EBI Consulting worked with a client on four former dry cleaning facilities in Southern California.

**PCE Presence and Mitigation Planning**

As the properties were known to be former dry cleaning facilities, the client hired EBI to conduct a Phase II Environmental Site Assessment. Over the course of this assessment, EBI conducted sub-slab soil vapor testing to determine if contaminants were present. When the findings indicated the presence of perchloroethylene (PCE)—a common dry cleaning solvent—in concentrations that could pose a vapor intrusion threat, EBI recommended and was hired to commission sub-slab depressurization systems (SSDS) at each of the four sites.

**SSDS v. SVE**

These sub-slab depressurization systems create a negative pressure below a building’s slab to prevent vapor from entering by installing shallow wells into the base immediately below the concrete slab. Small-scale blowers or fans then create a vacuum, preventing any vapor escape and removing contaminated vapor at low rates that maintain the vacuum without requiring permitting from the local Air Quality Management District (AQMD). SSDS is often a more cost-efficient alternative to soil vapor extraction (SVE), a more aggressive and costly approach typically recommended for serious concerns of high-concentration contamination.

SVE involves digging deeper, five to fifteen foot wells, introducing a treatment compound, and using a ten horse-power blower and carbon filtration system. Not only can SVE be up to eight times the expense of SSDS, it also requires AQMD permitting and oversight by the county or state Voluntary Remediation Program (VRP). SVE directly attacks a plume to reduce contaminant concentrations, but SSDS is frequently a better alternative for properties where groundwater has not been impacted.

**Results and Rebound**

From the time these systems were in place, the four properties saw volatile organic compound (VOC) concentrations fall, and EBI recommended shutting down the systems to reevaluate the necessity for continued operation. To do so, EBI conducted rebound testing. This process evaluates contaminant concentrations after an SSDS has been shut down for a reasonable period of time. If there is a significant increase (or “rebound”) in contaminant concentrations, this may indicate a need to restart the system.

**Innovative Solutions for Ideal Outcomes**

When the rebound testing results came back, they indicated the recurrence of PCE in concentrations above acceptable screening levels. However, EBI noted that the general standards provided by the California Department of Toxic Substances Control (DTSC) used to calculate the vapor concentrations did not necessarily reflect building-specific conditions. The DTSC provides a recommended attenuation factor—the ratio between indoor air concentrations and soil vapor concentrations of gases like radon and other VOCs. This figure is used if the attenuation factor for a building is unknown or cannot be determined. As such, EBI believed that the DTSC attenuation factor was possibly too conservative for these properties and recommended
a radon tracer study to determine each property’s specific attenuation factor.

The radon tracer study is used to determine attenuation factors by measuring the presence of naturally-occurring radon in both indoor air and soil vapor concurrently. To conduct the radon tracer study, a sixty-second shut-in test was conducted at each site, and then sub-slab and ambient air samples were collected and sent to a lab for testing. EBI then used the results to determine the specific attenuation factor of each property and recalculate the rebound testing results. For most of the sites, the attenuation factor was generally around 0.001, far less than the DTSC’s recommended attenuation factor of 0.05.

With the new calculations, EBI concluded that none of the detected concentrations or laboratory reporting limits exceeded the applicable regulatory screening values. For the client, this meant the PCE present in sub-slab vapor was determined not to pose an unacceptable threat to indoor air at the respective properties, and the SSDS could be decommissioned. This also meant that the client would not be forced to deal with costly remediation for these properties.

Lessons Learned

By working with an environmental consultant with deep knowledge of applicable federal, state, and local regulations and an ability to develop innovative solutions, clients may avoid many costly remediation concerns. When conducting environmental due diligence, ensure you hire a truly collaborative firm able to guide you through your regulatory options to the most positive outcome possible.
Business Challenge
When it comes to asbestos regulations, clients must often weigh regulatory environment risks against business costs, and choose a standard of care that suits their goals and risk tolerance. Regulations and enforcement vary considerably from state to state, town to town, and often shift over time. As such, it can be challenging to choose a standard of care that suits your business needs for each deal in each locality.

Changes in enforcement can also occur when least expected, whether due to political or other outside forces. For instance, due to increased enforcement, a number of New York City asbestos investigators were indicted in early 2018 for falsifying inspection reports. These false reports not only caused bigger headaches for clients, but also added to their overall costs, something which might have been avoided with more rigorous investigation. The best environmental consultants monitor and stay current on local regulatory environments, making them better able to advise clients on avoiding these project disruptions, regulatory citations, et cetera, and helping them anticipate and prepare for changes.

This case study exemplifies best practices for asbestos investigation and remediation, especially as this particular developer understood it was in their best interest to thoroughly investigate their property for asbestos, other hazardous materials, and any other potential issues prior to the start of major renovations. This was especially important as the project was located in a residential area near a large hospital. Working with a reputable environmental consulting firm to coordinate all parties, including contractors, architects, and other professionals, the developer remained in full compliance throughout the course of the project.

Step I: Concept Phase
Two years prior to the renovation, during the Concept Phase, the environmental team conducted a broad investigation of the property, looking for asbestos, lead, and other hazardous materials whose presence might trigger high-cost remediation. They also worked closely with the architect, allowing them to narrow the inspection’s focus to areas with planned renovations, trimming investigatory costs.

Step 2: Renovation Design Phase
Two years after the initial inspection, and with renovation plans over 50% complete, the environmental team returned to conduct a more intensive investigation based on updated renovation plans. This inspection was more invasive than the first, involving thorough examination of building cavities and structural elements for hidden hazardous materials that might be exposed or disturbed by the planned renovation. They compiled a detailed inventory of all identified hazardous materials for Step 3 and provided budgetary estimates.
for abatement, abatement oversight, and other hazardous materials cost contingencies.

**Step 3: Abatement Design and Bidding**
The next step for the environmental team was creating a series of design documents. These documents included diagrams depicting the locations of all identified hazardous materials, a narrative list of identified hazardous materials, and step-by-step procedures for abatement. The team distributed these documents to contractors bidding on the project and conducted walkthroughs of the buildings, explaining the hazardous materials applications and scope of abatement, receiving and addressing questions, and issuing addenda as needed. This allowed the contractors to provide more accurate bids and, in similar projects, can often minimize costs from stop work or change orders.

**Step 4: Abatement Oversight and Construction Administration**
For the first part of Step 4, Abatement Oversight, the environmental firm’s Abatement Manager conducted regular review and oversight of the abatement contractor’s work practices to ensure compliance with regulatory and project-specific requirements. Air samples were collected inside and outside the work areas to confirm compliance and provide the owner with a permanent record showing no hazardous materials escaped the work area. Although daily abatement monitoring may not always be required, there are many advantages, including anticipating and preventing stop-work conditions, managing contractors, and finding time-saving and cost-cutting procedures.

In the final portion of Step 4, Construction Administration, the environmental team acted as the hazardous materials arm of the architect/owner team and assisted with reviewing and responding to a variety of standard construction correspondence. These included subcontractor submittals, RFIs, Contract Change Directives, Change Order Requests, and subcontractor invoices. The team also inspected and reviewed unforeseen conditions and provided direction to the architect, owner, general contractor, and subcontractors as authorized. At the project’s conclusion, they collected hazardous materials abatement contract closeout documentation for the owner’s permanent records. This provided a lifetime record of work for the owners of the property, which can be provided in the future to potential buyers, lessors, or others looking to understand the preexisting work done to the building.

**Final Recommendations**
Hiring a single environmental consultant from initial project concept to final closeout is a step few consider, but that may save clients money. With no need to review previous consultants’ records for accuracy, the confusion and duplication of work that often occurs when multiple consultants are hired over the course of a project is mitigated. Project requirements, budgets, and costs can vary greatly, and for some clients, more cost-conscious options may be the best business decision. However, experience indicates this can lead to unexpected costs, delays, and even regulatory issues. In many cases, spending more up front can save costs down the line.

Spending the extra time and money to hire a reliable, honest, and professional asbestos regulatory expert is key to a smooth construction and renovation process. Hire a team with the deep knowledge and experience it takes to customize solutions to fit your changing needs. Ask how closely they work with the architects and contractors involved in projects, ensuring their solutions are not only efficient, but cost efficient and suited to your business needs. A firm with preferred contractor relationships and a reputation for quality testing is another positive indicator. Best practices in the industry are not a guarantee; knowing what standards should be met and the right questions to ask will guide you in choosing a reputable environmental firm.

**Editor’s Note:** In June of 2018, the EPA proposed a significant new use rule (SNUR) for asbestos affecting the manufacturing (including importing) or processing of asbestos for certain uses identified by the EPA as “no longer ongoing.” There is much contention over the implications of this proposed new rule, as some argue the language could be deregulatory and allow for increased uses of asbestos. While still in the proposal phase, the outcomes could have repercussions in the CRE industry.
Massachusetts’ Prompt Pay Act\(^3\), sometimes referred to jokingly among the local Construction Bar as “The Construction Lawyers’ Annuity Act”, became effective on November 8, 2010 and over the course of the last eight years, has had a profound impact on the way that pay requisitions and change orders are managed on projects that fall within the Act’s orbit.

Many contract and payment administration practices that were once commonplace and even expected on large private construction projects are now forbidden by law. At the very least, the Act requires more communication up and down the project’s chain of command, especially for those owners/developers who rely upon commercial lenders for funding. Part one of this column will explore how the Act may alter the traditional lending paradigm for the invoicing and change order processes.

### How the Act has Changed the Current Landscape

A threshold question involves the Act’s applicability as it doesn’t affect all private construction projects, only those whose primary value is $3 million or more. Further the Act’s jurisdiction does not embrace residential projects with less than 5 units.

The Act is intended to promote fairness. To achieve that goal, the Act affects five important tenets, two of which are discussed here:

- **Payment:** The Act sets specific time limits for the preparation, submission, approval and rejection of applications for payment among all project participants. Most important to the lender, an owner’s failure to properly reject all or any part of the contractor’s pay application within the Act’s time standards will deem the application approved as a matter of law. In addition to the need to be timely, the reasons for the owner’s decision must be in writing and include a good faith certification reciting the specific factual circumstances and legal rationale supporting such decision.

- **Changes:** The Act also imposes among all project participants, specific time frames and protocols for processing, approving and rejecting proposed change orders. Similar to the remedy for rejecting an invoice, an owner’s failure to comply with the Act’s protocols will deem a proposed change order approved as a matter of law. Lenders who are involved in a project’s change order process are best advised to ensure that their borrowers have adopted the protocols necessary to comply with the Act’s time standards and substantive requirements. Equally important is the Act’s requirement for a good faith certification. Lenders should also recognize that an owner/borrower’s independent failure to comply with its own obligations under the loan agreement will most likely not satisfy the owner’s good faith obligations to the contractor, thus resulting in the potential for a rejected change order being nevertheless approved as a matter of law.

### The Act’s Impact on Current Practice

Based upon the Act’s new protocols for processing a contractor’s application for payments and proposed change order, lenders will now need to (1) streamline the timing of their own invoice approval/review processes, (2) retain construction counsel to examine their borrower’s construction contracts to ensure that they have the appropriate procedures in place to properly manage project submittals, and (3) carefully weigh the consequences of a borrower’s failure to comply with its own independent obligations under the loan agreement.

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\(^1\) This Note is the first in a two part series on how the new requirements of the Massachusetts’ Prompt Pay Act have impacted the construction lending industry.

\(^2\) Mr. Barra is a degreed civil engineer and a construction partner in the Boston office of Robinson + Cole, LLP. He is a graduate of the Virginia Military Institute and Touro College, Jacob D. Fuchsberg Law Center. He would like to acknowledge the efforts of his colleague, Jonathan Hausner, Esq., for his contributions in preparing this article.

\(^3\) Massachusetts General Law c.149§29E.
Different parties have different objectives in accessing EDD report that were originally prepared for another party. Below is a brief discussion on some of the issues to be considered when accessing third-party EDD information.

Reliance: The right to rely on a third-party report has important implications for the new potential authorized user. Environmental report reliance serves to establish the authorized user status for a new user and provides contractual access to the Environmental Professional’s (“EP”) liability insurance. This contractual access is an important feature of the Reliance Letter and should be examined prior to acceptance. EPs will often limit their liability in the underlying contract with the original client/user, for errors and omissions that result in damages to the user. Any such limitation is then transferred to the third-party user through the Reliance Letter, which often directly references the original proposal or contract. For Lenders with insurance requirements built into their policies and procedures, these limitations can run afoul of their internal requirements. For non-financial institution users, for whom the all appropriate inquiries standard is paramount to supporting federal liability protections, the implications of a faulty report without appropriate recourse against an EP go beyond the liability associated with the property itself. No matter who the prospective party is that seeks to rely on a third-party report, examination of the limitations in scope and liability in the underlying contract/proposal is critical prior to reliance.

Re-address: When we speak about re-addressing a third-party report to include a new user, as if the report were prepared directly for that user, an examination of the underlying contract is critical. Limitations in scope and liability can affect the rights of the new user to whom the report has been re-addressed, if damages arise.

Release: When engaging a new Phase I or other Environmental Due Diligence investigation, it is helpful to both the client and the EP to review prior investigations. A prior report can provide direction to the new investigation and a healthy baseline from which to start from. Gaining access to a prior report requires authorization from the original client to release the report. Generally, there is no material reason not to allow the release of a prior report, as a new investigation should uncover anything negative in a property’s history with or without a prior report.
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