Comparison of All Appropriate Inquiries Regulation, the ASTM E1527-13 Phase I Environmental Site Assessment Process, and

ASTM E1527-21 Phase I Environmental Site Assessment Process

INTRODUCTION

On November 1, 2005, EPA issued a Final Rule establishing standards and practices for conducting all appropriate inquiries (AAI) as required under sections 101(35)(B)(ii) and (iii) of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended. Section 312.11 of the Final Rule stated that ASTM Standard E1527-05, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" may be used to comply with the AAI requirements. In December 2013, EPA amended the AAI regulation to add a reference in Section 312.11 to the updated ASTM E1527-13 standard. The 2013 amendment established that EPA found the ASTM E1527-13 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" to be compliant with the AAI regulation.

ASTM International recently revised the ASTM E1527-13 standard. ASTM E1527-21 "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" was published in November 2021 and provides new instructions and clarifications concerning key terms and the site research and reconnaissance required, as well as addresses emerging contaminants of potential future concern.

This document presents a comparison of the AAI regulatory requirements, the requirements of the new ASTM E1527-21 standard, and the prior ASTM E1527-13 standard.

Exhibit 1 presents a summary of the regulatory sections in the AAI regulation and the relevant or corresponding sections of both the ASTM E1527-21 standard and the ASTM E1527-13 standard. The first column in Exhibit 1 provides a list of the major activities required by the AAI final rule. The second column provides citations to the applicable sections of the regulation where the requirements are discussed. The third column in Exhibit 1 presents the corresponding sections of the ASTM E1527-21 standard. The fourth column presents the corresponding sections of the ASTM E1527-13 standard. The fifth column provides a brief narrative of notable differences between the AAI regulation and the ASTM E1527-21 standard. As shown throughout the exhibit, the differences between the AAI regulatory requirements and the newly revised ASTM E1527-21 standard are minor in nature. ASTM generally provides clarifications, more instructions, and additional appendices in the newly revised E1527-21 standard.

SUMMARY OF DIFFERENCES BETWEEN ASTM E1527-13 AND ASTM E1527-21

ASTM E1527-21 differs from ASTM E1527-13 in a few key areas, while staying consistent with the AAI regulation.

There are several changes in the wording of the language, mostly related to the definitions and discussion of three key terms: Recognized Environmental Conditions, Historical Recognized Environmental Condition, and Controlled Recognized Environmental Condition. While the definitions of all three terms have been revised, the concepts and ramifications of the definitions have not.

ASTM E1527-21 also incorporates some new definitions and additional instructions and clarifications regarding other key terms or concepts, including "review of land title records," "property use limitations," "likely," "significant data gaps," "presumed viability," and the "level of inquiry" depending on the future intended uses of the subject property.

ASTM E1527-21 Section 8.3, *Historical Research*, was significantly revised in the E1527-21 standard, which requires compiling and analyzing historical property information. In addition to revising the section layout, ASTM E1527-21 now clarifies:

- Properties may be different in use, size, configuration, or address than in the past and the environmental professional should consider these factors when conducting their research;
- The eight standard historical resources, which now includes interviews, as well as other sources;
- If the general type of use is retail, industrial, or manufacturing, then standard historical resources shall be reviewed if they are likely to identify a more specific use and are reasonable ascertainable;
- Aerial photographs, fire insurance maps, local street directories, and historical topographic maps must be reviewed if they are reasonably ascertainable, likely to be useful, and applicable to the subject property; and
- If these four historical sources were researched for the subject property, provide coverage of one or more adjoining properties, and are likely to be useful in satisfying the historical research section object, then these sources should also be reviewed for the adjoining properties.

ASTM E1527-21 generally revised Section 9, *Site Reconnaissance*, and clarified that the Phase I report should describe which of the specific features, activities, uses, and conditions both were and were not present at the subject property.

ASTM E1527-21 also added a few notable additions to the Phase I report:

- A site plan and photographs, as defined in Section 12.3, Contents of the Report;
- The identification of significant data gaps in the Findings of the report per Section 12.5.1, *Significant Data Gaps*; and

• All recognized environmental conditions, controlled recognized environmental conditions, and significant data gaps listed in the Conclusions of the report per Section 12.7, *Conclusions*.

ASTM Section 12.8, *Additional Investigation*, and Note 6 of the E1527-21 standard clarifies that an opinion should be provided in the report that additional investigations may be appropriate. This requirement is different than a recommendation that provides a specific course of action, which is not required and falls outside the scope of the Phase I Environmental Site Assessment standard.

Another significant difference of this new updated standard is the discussion around emerging contaminants. ASTM E1527-21 notes in Sections 13.1.5.15 and X6.10 that substances not defined as hazardous substance under CERCLA, including some substances generally referred to as emerging contaminants because human understanding is evolving (e.g., per- and polyfluoroalkyl substances, or PFAS), are not included in the scope of a Phase I report. However, emerging contaminants may want to be assessed in connection with commercial real estate, because once these contaminants are defined as a hazardous substance under CERCLA, then these substances must be evaluated within the scope of E1527-21.

Lastly, ASTM E1527-21 significantly revised the Appendices, including providing an updated legal background on CERCLA and the application of AAI (X1), an additional examination of the recognized environmental condition definition and logic (X4), expanded suggestions for the Phase I Environmental Site Assessment report format (X5), and discussions of emerging contaminant and petroleum product non-scope issues (X6).

CONCLUSION

Based on the analysis provided above and Exhibit 1 below, ASTM E1527-21, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" is compliant with the AAI regulation. It is EPA's determination that parties who want to claim protection from liability under CERCLA may follow the regulatory requirements of the All Appropriate Inquiries Rule at 40 CFR 312 or use the ASTM E1527-21 "Standard Practice for Phase I Environmental Site Assessments" to comply with the all appropriate inquiries provision of CERCLA.

Ехнівіт 1

Definitions and Requirements	Final AAI Regulation	ASTM E1527-21	ASTM E1527-13	Description of Notable Differences
Section 312.1 H	Purpose, applic	ability, scope, an	d disclosure obli	gations
Purpose	312.1(a)	1.1, 7.1	1.1, 7.1	The AAI regulation provides a standard specifically related to the requirements of CERCLA §§ 101(35)(B)(i)(I) and 101(35)(B)(ii) and (iii). ASTM E1527-21 provides a standard for conducting a <i>Phase I Environmental Site Assessment</i> intended to reflect good commercial and customary standards and practices.
Applicability	312.1(b)	1.1, 4.1, 4.2, 4.5.3	1.1, 4.1, 4.2, 4.5.3	The AAI regulation applies if the future owner wants to qualify for CERCLA liability protections or to those conducting site characterization and assessments with the use of a grant awarded under CERCLA § 104(k)(2)(B), without limit to a particular land use. ASTM E1527-21 states that the practice has utility for a wide range of uses outside of potential CERCLA liability.
Scope	312.1(c)	1, 4.1, 4.2.1, 4.2.2	1, 4.1, 4.2.1, 4.2.2	In addition to CERCLA-defined hazardous substances, AAI includes petroleum products and controlled substances within its scope for persons conducting AAI with grants awarded under the authorities of CERCLA § 104(k)(2)(B). ASTM E1527-21 includes petroleum products in its scope because they may be of concern in, on, or at the subject property, not because of any potential CERCLA applicability to petroleum. Controlled substances are specifically defined as "not within the scope of" ASTM E1527-21, but E1527-21 notes that controlled substances must be included if the assessment is conducted under an EPA Brownfields Assessment and Characterization Grant to the extent directed by the terms and conditions of the grant.
Disclosure Obligations	312.1(d)	Appendix X6.9.1	Appendix X5.9.1	ASTM E1527-21 does not specifically address disclosure obligations for either the user or environmental professional. This lack of disclosure obligations is not significant, because the AAI regulation does not include any disclosure requirements, but the standard merely notes that it does not limit or expand any disclosure requirements otherwise required under CERCLA. Appendix X6 in ASTM E1527-21 (Summary of Common Non-Scope Issues) briefly discusses the potential for OSHA and real estate transaction disclosure requirements relating to mold hazards.
Section 312.10	Definitions			

Definition of						
Abandoned Property	312.10(b)	3.2.1	3.2.1	ASTM E1527-21 clarifies the term as a noun (denoted by an "n").		
Definition of Adjoining Properties	312.10(b)	3.2.4	3.2.4	ASTM E1527-21 clarifies that "adjoining" is relative to the "subject property" and clarifies the term as a noun (denoted by an "n").		
Definition of Data Gap	312.10(b)	3.2.19 12.5.1	3.2.21	The AAI regulation indicates that the data gap applies to efforts by the environmental professional and to the efforts of any person listed in § 312.1(b) to gather the specific information required by §§ 312.20(e)(1) and (e)(2). ASTM E1527-21 indicates that a data gap may result from incompleteness in any activities required under the practice, including site reconnaissance and interviews. ASTM E1527-21 also newly defines "significant data gap" as a "data gap that affects the ability of the environmental professional to identify a recognized environmental condition," and "raises reasonable concerns involving the effects of the data gap on the ability of the environmental professional to render an opinion" (see Sections 3.2.78 and 12.5.1).		
Definition of Date of Acquisition or Purchase Date	312.10(b)	4.6.1, Footnote 9	4.6, Footnote 5	None		
Definition of Environmental Professional	312.10(b)	3.2.30, Appendix X2.1	3.2.32, Appendix X2.1	ASTM E1527-21 specifically refers to the definition provided in the AAI regulation and adds that the person may be an independent contractor or an employee of the user.		
Definition of Relevant Experience	312.10(b)	Appendix X2.2	Appendix X2.2	None		
Definition of Good Faith	312.10(b)	3.2.35	3.2.38	ASTM E1527-21 clarifies the term as a noun (denoted by an "n").		
Definition of Institutional Controls	312.10(b)	3.2.42	3.2.45	ASTM E1527-21 clarifies the term as a noun (denoted by an "n").		
Section 312.11	Section 312.11 References					
References	312.11	2	2	The AAI and ASTM reference sections serve different purposes. The AAI reference section lists the ASTM E1527 standard as alternative means of complying with the AAI rule. The E1527-21 standard lists other ASTM standards (E2091, E2247, E2600, E2790), Federal Statutes, OSHA Standard, and EPA Documents that may be of use or of interest to persons using the E1527-21 standard.		

Section 312.20	All appropria	te inquiries		
List of Components in All Appropriate Inquiries	312.20(a)	4.6, 6, 7, 10	4.6, 6, 7, 10	None
Shelf Life of the Written Report	312.20(b)	4.6.1, 4.6.2	4.6	None
Use of Previous Reports Prepared by Others	312.20 (c)-(d)	4.7	4.7	The AAI regulation and the ASTM E1527-21 standard both recognize that environmental site assessments include information that is relevant to subsequent users and should be considered to avoid duplicating efforts in the future. ASTM E1527-21 clarifies that this practice does not convey a right to use or rely upon prior information and addresses the contractual and legal obligations to subsequent users of the site assessments only in stating that they are beyond the scope of the practice. The AAI regulation states that AAI may include the results and information contained in a previous inquiry so long as the prior AAI were done in compliance with the requirements of CERCLA §§ 101(35)(B), 101(40)(B) and 107(q)(A)(viii); the information was collected or updated within one year prior to the date of acquisition of the subject property (except certain items below); previously collected information is updated to include relevant changes in the conditions of the property and specialized knowledge; and the following were conducted within 180 days prior to that acquisition: (i) Interviews with past and present owners, operators, and occupants (ii) Searches for recorded environmental cleanup liens (iii) Reviews of federal, tribal, state, and local government records (iv) Visual inspections of the facility and of adjoining properties (v) The declaration by the environmental professional. ASTM E1527-21 states that prior environmental site assessments may be used so long as the information was generated as a result of procedures that meet or exceed the requirements of ASTM E1527-21 and there is a current investigation of conditions likely to affect recognized environmental conditions in connection with the subject property. This standard also states generally that additional tasks may be necessary to document conditions that may have changed materially since the prior assessment was done. In addition, this standard applies the same 1 year / 180-day limits as the AAI regulation.

Objectives	312.20(e)	1.2, 7.1	1.2, 7.1	The objectives of the AAI regulation are to set forth the standards and practices that are intended to result in the identification of conditions indicative of releases and threatened releases of hazardous substances on, at, in, or to the subject property in order to satisfy CERCLA liability protection or Brownfield Assessment grant requirements. The objectives of ASTM E1527-21 are to set a practical and reasonable standard practice for environmental site assessments for commercial real estate and to identify recognized environmental conditions for the subject property.
Contaminants of Concern	312.20(e)(2) 312.1(c)	1.1	1.1	The AAI regulation applies to hazardous substances (and if conducted under § 312.1(b)(2) adds pollutants, contaminants, petroleum and petroleum products, and controlled substances). ASTM E1527-21 applies to the broad range of contaminants within the scope of CERCLA and petroleum products. As noted above, the scope for ASTM E1527-21 generally does not include controlled substances but recognizes their applicability under EPA Brownfields Assessment and Characterization Grants.
Performance Factors	312.20(f)	8.1.3, 8.1.4, 8.1.5	8.1.3, 8.1.4, 8.1.5	None
1 400015				None. The ASTM E1527-21standard states that a data gap by itself is not inherently significant. It is only significant if other information and/or professional experience raises reasonable concerns involving the effects of the data gap on the ability of the environmental professional to render an opinion regarding whether conditions exist that are indicative of recognized environmental conditions or controlled recognized environmental conditions. This same concept with regard to data gaps is addressed in the AAI rule.
Data Gaps	312.20(g)	12.5.1, 12.6.2	12.7	If a significant data gap is identified, ASTM E1527-21 requires the environmental professional to comment in the Opinion section of the report how the missing information that caused the significant data gap affects the environmental professional's ability to provide an opinion as to whether the inquiry has identified conditions indicative of releases or threatened releases in, on, or at the subject property. ASTM E1527-21 also requires that the report Conclusions section include all recognized environmental conditions, controlled recognized environmental conditions, and significant data gaps.
Releases and threatened releases	312.20 (h) 312.1(c)	3.2.75, Appendix X1.1.1	3.2.82, Appendix X1.1.1	The AAI regulation states that releases and threatened releases should be noted in the report of inquiries, unless quantities and amounts do not pose a threat to human health or the environment. ASTM E1527-21 clarifies there are statutory exclusions from the definition of "release" that may impact the environmental professional's conclusion and that AAI does not specifically discuss if CERCLA excluded releases have to be identified to comply with the AAI rule.

Section 312.21	Results of inq	uiry by an enviro	onmental profess	ional
				The ASTM A1527-21 standard fully addresses the provisions required in the AAI regulation. Both the AAI rule and the ASTM E1527-21 standard require that the investigation include a review of records, interviews, and a site visit.
Requirements for			7.2, 6	The AAI regulation requires that prospective property owners and the environmental professional conduct interviews with past and present owners. The regulation also requires visual inspections; a review of government records, a review of historical sources, the consideration of commonly known or reasonably ascertainable information, and an assessment of the degree of obviousness of the presence and the ability to detect contamination.
Inquiries of the Environmental Professional	312.21(b)	7.2, 6		The ASTM E1527-21 standard requires the environmental site assessment include: records review (physical setting resources, government records, historical records); site reconnaissance; interviews with owners, operators, and occupants of the property and local government officials; and an evaluation and report. In addition, the user must review land title records and judicial records for environmental liens and activity and use limitations; and report specialized or actual knowledge or experience of the user, purchase price, any commonly known or reasonably ascertainable information, and maps of the property.
				Both the AAI regulation and the ASTM E1527-21 standard require that the final report include an opinion regarding additional appropriate investigation, if the environmental professional holds such an opinion.
				Both the AAI rule and the ASTM E1527-21 standard require the report to contain opinions as to whether there are conditions indicative of release and as to identification of data gaps. Both also require that the final report include a statement that the person signing the report meets the definition of an environmental professional provided in § 312.10 of the AAI regulation.
Report Requirements	312.21(c)	12, Appendix X5	12, Appendix X4	The ASTM E1527-21 standard goes further to require the report to include a site plan showing the approximate location of features, activities, uses, and conditions of the subject property, and photographs of features, activities, uses, and conditions indicative of recognized environmental conditions and de minimis conditions, as well as other relevant and representative photographs deemed at the discretion of the environmental professional. Significant data gaps are required to be identified in the Findings section of the report. ASTM E1527-21 requires that the report include a Conclusions section that lists all recognized environmental conditions (including controlled recognized environmental conditions) and significant data gaps connected with the subject property. The report should also include an opinion by the environmental professional regarding additional appropriate investigation, if any, to detect the presence of hazardous substances or petroleum products.

Signed Declarations to Be Included in the Written Report	312.21(d)	12.7, 12.13, 12.14	12.8, 12.12, 12.13	ASTM E1527-21 requires a more specific declaration of Conclusions about the presence of recognized environmental conditions, controlled recognized environmental conditions, and/or significant data gaps than the AAI regulation. Both require a declaration that the environmental professional meets the definition defined in §312.10 and that the AAI investigation was performed in conformance with 40 CFR Part 312. ASTM E1527-21 requires an additional statement that the Phase I Environmental Site Assessment was performed in conformance with ASTM E1527-21.
Section 312.22	Additional inq	uiries		
Additional		6.2, 6.3, 6.4, 6.5,	6.2, 6.3, 6.4, 6.5,	The AAI regulation assigns the task of developing information on environmental cleanup liens, specialized knowledge, relationship of purchase price to fair market value, and commonly known information to the person seeking liability protection or conducting assessments with Brownfields grants. The AAI regulation states that this data may be provided to the environmental professional by the user.
Inquiries	312.22(a)	6.6	6.6	The ASTM E1527-21 standard goes further and states that it is the user's responsibility to collect the information and the user should report the information to the environmental professional. If the user does not communicate the information to the environmental professional, the environmental professional should consider the significance of the absence of such information.
Section 312.23	Interviews wit	h past and prese	nt owners, opera	tors, and occupants
Interviews with the Subject				The AAI regulation requires that reasonable efforts be made to interview the current owner or occupants. Additionally, at least one of the following groups must be interviewed, to the extent necessary to achieve the objectives and performance factors: current or past facility managers; past owners, occupants, or operators; or employees of current or past occupants.
Property Past and Present Owners, Operators, and Occupants	312.23(b), 312.23(c)	10	10	ASTM E1527-21 states that the key site manager or someone with knowledge of the subject property should be interviewed. Additionally, a reasonable attempt to interview current occupants must be made. ASTM E1527-21 also states that interviews with past owners, operators, and occupants of the subject property shall be conducted to the extent that they have been identified and that the information likely to be obtained is not duplicative of information already obtained from other sources or resources.
Interviews Conducted at Abandoned Properties	312.23(d)	10.5.5	10.5.5	None.

Section 312.24	Reviews of his	storical sources o	f information			
Review of Historical Sources: Suggested Sources	312.24(a)	8.3.4, 8.3.8, 8.3.9	8.3.4	The AAI regulation lists the review of historical documents and records to include, but not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records. The ASTM E1527-21 standard provides a more detailed list of eight standard historical resources (see Sections 8.3.4.1 through 8.3.4.8) to be used in the historical review, as well as several other historical resources (Section 8.2.4.9) that can be used, but are not required. ASTM E1527-21 (Section 8.3.8) clarifies which resource must be reviewed if the environmental professional deems them reasonably ascertainable, likely to be useful, and applicable to the subject property, though some recourse exists if such resources are not reviewed. ASTM E1527-21 (Section 8.3.9) also lists the four resources that must be reviewed if they were researched for the subject property, provide coverage of one or more adjoining properties, and are likely to be useful in satisfying the historical research section objective.		
Review of Historical Sources: Period to Be Covered	312.24(b)	8.3.8	8.3.2	The AAI regulation requires that the historical record review must cover a period of time as far back in the history of the subject property as it can be shown that the property contained structures or from the time the property was first used for residential, agricultural, commercial, industrial, or governmental purposes. ASTM E1527-21 indicates that all obvious uses of the subject property shall be identified from the present, back to the subject property's first developed use, or back to 1940, whichever is earlier. "Developed use" specifically includes agricultural uses and placement of fill dirt, and other uses that may not involve structures. The ASTM E1527-21 standard is more stringent than the AAI final regulation.		
Section 312.25	Section 312.25 Searches for recorded environmental cleanup liens					
Searches for Recorded Environmental Cleanup Liens	312.25	5.4, 6.2, 6.4, 10.8.1.12, X1.7	6.2, 6.4, 10.8.1.10	Both the AAI regulation and the ASTM E1527-21 standard require a search for liens; however, AAI allows the user to retain the information or share it with the environmental professional, whereas ASTM E1527-21 states that the information should be provided to the environmental professional. ASTM E1527-21 also provides additional clarification and information on reviewing land title records and judicial records for environmental liens (see Section 6.2 and Appendix X1.7).		
Section 312.26	Reviews of Federal, State, Tribal, and local government records					
Government Records Review: List of Records	312.26(a), 312.26(b)	8.2.1, 8.2.2, 8.2.3, 8.2.4	8.2.1, 8.2.2, 8.2.3, 8.2.4	The ASTM E1527-21 standard provides more expansive lists of physical setting resources, as well as standard and additional federal, state, tribal, and local environmental record sources than the AAI regulation.		

Government Records Review: Search Distance	312.26(c), 312.26(d)	8.1.2, 8.2.2	8.1.2, 8.2.1	The AAI rule includes a 0.5-mile distance for the search of publicly available lists of engineering controls, but allows for the distance to be adjusted, based upon professional judgement. The ASTM E1527-21 standard sets the institutional and engineering control search distance as "property only." Consistent with AAI, the ASTM E1527-21 standard allows for the adjustment of the minimum search distances based on the discretion of the environmental professional.		
Section 312.27	Visual inspect	tions of the facili	ty and of adjoin	ing properties		
Site Visit: Requirements	312.27(a), 312.27(b)	9	9	The AAI regulation and ASTM E1527-21 standard both require that a visual on-site inspection of the subject property and facilities be conducted, and a visual inspection of adjoining properties be conducted from the subject property line, public rights-of-way, or other vantage point. The ASTM E1527-21 standard states that a prior environmental site assessment may be used for the purposes of guidance but shall not be relied upon as representative of current features, activities, uses, or conditions. Section 9.4 of ASTM E1527-21 requires that current and past features, activities, uses, and conditions (specified in Sections 9.4.1 through 9.4.28) be noted when observed or when such information is ascertained during interviews. The environmental professional is required to document what features, activities, uses, and conditions were and were not present in, on, or at the subject property in the report.		
Site Visit: Limitations	312.27(c)	9.2.6	9.2.4	None		
Section 312.28	Section 312.28 Specialized knowledge or experience on the part of the defendant					
Specialized Knowledge or Experience	312.28	6.3	6.3	The AAI regulation requires the user to take into account any specialized knowledge of the subject property, the area surrounding the subject property, the conditions of adjoining properties, and any other experience relevant to the inquiry. ASTM E1527-21 requires the user to take into account their specialized knowledge about conditions indicative of releases or threatened releases. The ASTM E1527-21 standard states that the goal is to use specialized knowledge that is material to recognized environmental conditions in connection with the subject property. If there is relevant specialized knowledge, the user should communicate such information to the environmental professional prior to the site reconnaissance.		
Section 312.29	The relations!	The relationship of the purchase price to the value of the property, if the property was not contaminated				
The Relationship of the Purchase Price to the Value of the Property	312.29	6.5	6.5	Similar requirements. However, ASTM E1527-21 goes further than the AAI regulation by suggesting the user inform the environmental professional if the purchase price of the subject property is lower than the fair market value due to contamination. However, the user is not required to disclose the purchase price to the environmental professional.		

Section 312.30	Commonly kn	own or reasonab	oly ascertainable	information about the property
Commonly Known or Reasonably Ascertainable Information about the Property	312.30	6.6	6.6	Similar requirements. The AAI rule requires that commonly known or reasonably ascertainable information about the subject property be included in the investigation and provides a list of typical sources of such information. The ASTM E1527-21 standard adds that the user should notify the environmental professional of this knowledge prior to site reconnaissance.
Section 312.31	The degree of	obviousness of t	he presence or li	kely presence of contamination at the property, and the ability to
detect the contam	ination by app	ropriate investig	ation	
The Degree of Obviousness of the Presence or Likely Presence of Contamination	312.31	6.7, 12.6, 12.7, Appendix X3	6.7, 12.6, 12.8, Appendix X3	Similar requirements, but the ASTM E1527-21 standard is more specific with the items to be addressed, such as cases of controlled recognized environmental conditions and any significant data gaps identified. ASTM E1527-21 requires the opinions section of the report to include the environmental professional's rationale for concluding that a finding is or is not a recognized, controlled, or historical environmental condition or a de minimis condition.