Designation: E 2308 – 05

Standard Guide for Limited Asbestos Screens of Buildings[1]

This standard is issued under the fixed designation E 2308; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 The purpose of this *guide* is to (*1*) define good commercial and customary practice in the United States of America for conducting a baseline *limited asbestos screen* (hereinafter, *LAS*) to evaluate the presence of *asbestos-containing materials (ACMs)* in *major building systems* within the interior of *buildings* involved in *commercial real estate transactions*, including, but not limited to, acquisitions, sales, leasing and financing; (*2*) facilitate consistency in the industry as to the scope and *reports* associated with an *LAS*; (*3*) establish reasonable expectations and an industry baseline standard of care for an *LAS*; and (*4*) recommend protocols for *providers* in communicating observations, opinions and recommendations in a manner meaningful to the *user*.

1.2 *Other Purpose Limitations*—While an *LAS* is intended to reduce the risk of the presence of *ACM* within a *building*, it is not designed to eliminate that risk. The *LAS* presented in this *guide* is not intended to serve as a *comprehensive asbestos building survey, comprehensive* inspection or *comprehensive* assessment for the presence of *ACM* in all or most of the building systems throughout a *building*, nor does an *LAS* serve to adequately assess the presence of *ACM* in a *building* or portions thereof for pre-demolition, pre-renovation or OSHA notification purposes. For such services, a *comprehensive asbestos building survey* should be performed that meets applicable state and local regulations. In light of the foregoing purposes, this *guide* primarily offers scope and insight into the limited nature of *asbestos* screens driven by the commercial real estate market. It is recognized, however, that the *asbestos* industry utilizes procedures for sample collection, friability evaluation and analyses based upon such rules and regulations as AHERA, OSHA, and various state regulations. This *guide's* use of terms defined by such regulations (e.g., *friability, damage* assessment, *suspect materials*) in no way implies that the scope of this *guide* is designed to meet all other mandates of those regulations.

1.3 *Considerations Beyond This Scope*—The use of this *guide* is strictly limited to the scope set forth in this section. The scope of this *guide* does not include safety considerations, certification or licensure of *inspectors* other than requiring that work be performed in a safe manner and that *inspectors* be properly credentialed, as described in 3.3.8. The *LAS* set forth in this *guide* is not intended to eliminate the risk potential of *ACM* within the *building*, nor should it be interpreted as a *comprehensive building asbestos survey, comprehensive* inspection or *comprehensive* assessment for the presence of *ACM* in all or most of the building systems throughout a *building*, nor does this *LAS* serve to adequately assess the presence of *ACM* in a *building* or portions thereof for pre-demolition or pre-renovation purposes. Assessment of roofing materials and exterior materials (such as siding/stucco), conveying systems (such as escalators and elevators), energized systems (e.g., charged electrical systems, hydraulic and pneumatic pressure systems), or private single-family residences are specifically excluded from this *guide*. Such exclusions are addressed in *comprehensive building asbestos surveys*, or *users* may request the addition of the foregoing exclusions as Additional Services (see Section 11).

1.4 *Organization of the Guide*—This *guide* has 12 sections. Section 1 defines the Scope. Section 2 is Referenced Documents. Section 3 is Terminology. Section 4 defines the Significance and Use of this *guide*. Section 5 describes *User* Responsibilities. Section 6 sets forth the components of an *LAS* under this *guide*. Section 7 describes the Interview and Report Review process. Section 8 describes the scope of the *building walk-through*. Section 9 provide Analytical Guidelines. Section 10 describes *LAS report* contents. Section 11 identifies Non-Scope Considerations. Section 12 lists keywords for Internet reference.

1.5 *Uncertainty Is Not Eliminated*—A *LAS* is not designed to wholly eliminate uncertainty regarding the potential for the existence of *asbestos-containing* materials within the building systems of a *building*. Conformance with this *guide* is intended to reduce, but not eliminate, uncertainty regarding the potential for *asbestos* in *major building systems* within *buildings*. Although such uncertainty is generally reduced in proportion to an increased number of sampling locations and increased number of samples collected, this *guide* does not purport to be

[1] This guide is under the jurisdiction of ASTM Committee E50 on Environmental Assessment and is the direct responsibility of Subcommittee E50.02 on Real Estate Assessment and Management.

Current edition approved June 1, 2005. Published August 2005.

comprehensive or fully evaluate a *building* for the presence of *asbestos-containing materials*.

1.6 *This guide offers a set of instructions for performing one or more specific operations and should be supplemented by education, experience and professional judgment. Not all aspects of this guide may be applicable in all circumstances. This ASTM standard guide does not necessarily represent the standard of care by which the adequacy of a given professional service must be judged nor should this document be applied without consideration of a project's unique aspects. The word "standard" in the title means only that the document has been approved through the ASTM consensus process.*

2. Referenced Documents

2.1 *ASTM Standards:* [2]

E 1368 Standard Practice for Visual Inspection of Asbestos Abatement Projects

E 2356 Standard Practice for Comprehensive Building Asbestos Surveys

2.2 *Other Documents:*

Model Accreditation Plan, 40 CFR Part 763

3. Terminology

3.1 *Scope*—This section provides descriptions of terms and a list of acronyms for many of the words used in this *guide*. The terms are an integral part of the *guide* and are critical to understanding it.

3.2 *Definitions:*

3.2.1 *asbestos*—any of six naturally occurring fibrous minerals found in certain rock formations.

3.2.1.1 *Discussion*—Of the six, chrysotile, amosite and crocidolite are most commonly found in building materials. When mined and processed, *asbestos* is typically separated into very thin fibers. Because *asbestos* is strong, incombustible and corrosion-resistant, *asbestos* has been used in many commercial products. Its use peaked in the period from World War II into the early 1970s, although significant quantities of asbestos were used in some common building materials through the middle and into the late 1980s (especially drywall joint compound, stucco and flooring materials). Some newly purchased or installed non-friable building materials, such as roofing cement and caulks, may contain asbestos. When inhaled or ingested, *asbestos* fibers can cause serious health problems.

3.2.2 *asbestos-containing material (ACM)*—a building material containing more than one percent (1 %) *asbestos* using Polarized Light Microscopy (PLM).

3.2.2.1 *Discussion*—Some state laws promulgate lower thresholds (e.g., California at one-tenth of one percent (0.1 %)).

3.2.3 *bulk sample*—a sample of suspect *asbestos-containing material* collected for identification and determination of the quantity of *asbestos* present in said sample.

3.2.4 *commercial real estate transaction—for purposes of this guide*, a transfer of title to (i.e., sales/acquisition) or possession (i.e., lease) of improved real property or receipt of a security interest in improved real property (i.e., lending) excepting individual dwellings.

3.2.5 *component*—a portion of a *major building system* or *building* element.

3.2.6 *friable*—a material which, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure.

3.2.6.1 *Discussion*—This may also include previously non-friable material, which is damaged or deteriorated. Examples of *friable* materials include, but are not limited to, acoustic plaster, acoustic ceiling texture, ceiling tile and panels, fireproofing materials on structural members, corrugated duct insulation, paper duct insulation, and pipe/vessel insulation. Note, however, some jurisdictions (e.g. New York City) define friable as being able to be reduced to powder by any mechanical means.

3.2.7 *guide*—a series of options and instructions that do not recommend a specific course of action.

3.2.8 *interviews*—discussions with those knowledgeable about the *building*, its construction and history.

3.2.9 *laboratory*—an entity accredited for analysis of asbestos in *bulk samples* by the NVLAP of the NIST, or the AIHA Bulk Asbestos Proficiency Analytical Testing Program, or both, or meeting any applicable state accreditation requirements, or combination thereof.

3.2.10 *National Emission Standards for Hazardous Air Pollutants (NESHAP)*—rules promulgated by *US EPA*, under the Clean Air Act. Notably, the *asbestos NESHAP* rule requires *building* owners to inspect *buildings* for *asbestos-containing material* prior to renovation or demolition. In some areas, responsibility for administration of the asbestos *NESHAP* has been delegated to a state or local government agency.

3.2.11 *non-friable materials*—those materials not meeting the definition of *friable*, as that term is defined in this *guide*.

3.2.11.1 *Discussion*—Examples of *non-friable* materials include vinyl and asphalt floor tile, sheet vinyl flooring (the backing is *friable* if disturbed), plaster, stucco, paint, composition roofing, finishing/surface texturing materials where the fibers are firmly bound in a hard material, skim coat applications on wall/ceiling substrates, floor leveling compounds, fiber-cement pipes, flooring mastics, and drywall joint compound provided that the material is not damaged.

3.2.12 *observe*—to conduct an *observation* pursuant to this *guide*.

3.2.13 *practice*—a definitive procedure for performing one or more specific operations or functions that does not produce a test result.

3.2.14 *provider*—the firm, company, or entity retained by the *user* to perform the *LAS* and employing, either directly or through a sub-consulting contract, the *inspector*.

3.2.14.1 *Discussion*—The *provider* and the *inspector* may be the same physical person.

3.2.15 *report*—a document produced by the *provider* documenting the services performed for the *LAS* and containing the *laboratory* results and conclusions in conformance with the requirements of this *guide*.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

3.2.16 *standard—as used in ASTM*, a document that has been developed and established within the consensus principles of the Society and that meets the approval requirements of ASTM procedures and regulations.

3.2.17 *user*—the person, persons or entity retaining the provider to perform the *LAS*.

3.2.17.1 *Discussion*—A *user* may include, but is not limited to, an actual or potential purchaser, actual or potential tenant, owner, existing or potential mortgagee, lender, or property manager of the *building*

3.3 *Definitions of Terms Specific to this Standard:*

3.3.1 *actual knowledge*—the knowledge actually possessed by an individual who is a real person, rather than an entity.

3.3.1.1 *Discussion*—Actual knowledge is to be distinguished from constructive knowledge that is knowledge imputed to an individual or entity.

3.3.2 *baseline*—the minimum level of observations, inquiry, research, document review and preparation of opinions for conducting an *LAS* as described in this *guide*.

3.3.3 *building*—any structure identified by the user for purposes of a *LAS*.

3.3.4 *comprehensive*—complete, thorough, entire, methodical and detailed.

3.3.5 *comprehensive building asbestos survey*—a *comprehensive* assessment of building systems throughout the *building* in order to identify *ACM* present in the *building* (see Practice E 2356).

3.3.5.1 *Discussion—Comprehensive* assessments for *ACM* are required prior to demolition or renovation of *buildings* or portions thereof (see 3.2.10 and applicable state or local regulations). This *guide* and the *LAS* presented herein are not intended to be *comprehensive* in scope or purpose.

3.3.6 *easily observable*—describes items, components and systems that are conspicuous, patent, and which may be observed visually during the *walk-through* without intrusion, removal of materials, and exploratory probing.

3.3.7 *exterior*—that portion of the *building* not defined herein as *interior* (see 3.3.9).

3.3.8 *inspector*—a person conducting a *LAS* pursuant to this *guide* who is appropriately trained and who has obtained appropriate licensure, registration, accreditation, or certification as an asbestos inspector in the locale in which the *LAS* is to occur.

3.3.8.1 *Discussion*—Appropriate training includes, at a minimum, completion of an asbestos training course as described in 40 CFR 763 (published February 3, 1994 at 59 FR 5236) and meeting any additional requirements of the state and local authorities having jurisdiction at the site where the *LAS* is performed. Many states (e.g., MA, RI, CT, VT, NY) require a license to perform inspections for *ACM* even if samples are not taken.

3.3.9 *interior—as consistent with the definition under the MAP*, the interior space of any *building* including exterior hallways connecting *buildings*, porticos, and mechanical systems used to condition interior space.

3.3.10 *LAS observations—observations* of representative *major building systems* to the extent that they are *readily accessible* and *easily observable*.

3.3.10.1 *Discussion*—This does not mean all *suspect materials* on *major building systems* in the *building* are observed.

3.3.11 *LAS sampling*—collecting samples of *suspect ACM* from representative *major building systems* of the *building* in accordance with the requirements of this *guide* and does not mean all *suspect materials* on *major building systems* in the *building* are sampled.

3.3.11.1 *Discussion*—Sampling protocols are discussed in more detail in this *guide*.

3.3.12 *limited*—not *comprehensive* in scope or purpose; will not eliminate the risk potential for *ACM* within a *building*.

3.3.12.1 *Discussion*—The term "*limited*" as utilized for this *guide* necessarily provides for *LAS observations* and *LAS sampling* of *readily accessible major building systems* in the *building*.

3.3.13 *limited asbestos screen (LAS)*—a review of relevant documents, interviews, *LAS observations* of the *readily accessible major building systems* in a *building, LAS sampling of suspect materials* thereof, submission of the samples to a *laboratory* for analysis of *asbestos* content, and preparation of a *report* for the purpose of determining the presence and condition of *ACM* in accordance with and subject to the limitations set forth in this *guide*.

3.3.14 *major building system*—interacting or independent components or assemblies, which form single integrated units, that comprise a building and its site work as follows: mechanical (plumbing and HVAC), structural (beams, columns and decks) and architectural (ceilings, walls and floors).

3.3.14.1 *Discussion*—Charged electrical systems, conveying systems (such as elevators and escalators) and energized systems are excluded from this definition for purposes of this *guide*, as further described under 1.3 and Section 11.

3.3.15 *multi-unit apartment complex*—a building (or group of buildings in close proximity) consisting of more than one residential unit.

3.3.16 *multi-story building*—a building with more than one story, excluding a *multi-unit apartment complex*.

3.3.17 *nondestructive*—the use of coring tools, utility knives or similar tools in order to collect small samples of *suspect materials* for *LAS sampling*.

3.3.17.1 *Discussion*—Such sampling necessarily involves the removal of a small sample of *suspect material* but generally does not cause objectionable damage to such materials. This is discussed in more detail under 8.7.1.

3.3.18 *non-friable organically bound (NOB) materials*—materials that are not *friable* and that consist of fibers and other particulate matter embedded in a solid matrix of asphaltic, vinyl or other organic substances.

3.3.18.1 *Discussion*—Examples are vinyl asbestos floor tile or other materials where small fiber size and the presence of interfering substances render *PLM* unreliable for definitive confirmation of *asbestos* content below one percent.

3.3.19 *observation*—the visual evaluation of the *major building systems* that are *readily accessible* and *easily observable* during a *walk-through* of the *building*.

3.3.20 *obvious*—plain, evident, and *readily accessible*; a condition or fact not likely to be ignored or overlooked by an

inspector when conducting a *walk-through* of the *building* or that which is *reasonably available* and easily understood by the *inspector*.

3.3.21 *operations and maintenance (O & M) program*—a management program, including work guides, designed to maintain *ACMs* in good condition within *buildings*, mitigate further release of existing *ACMs*, cleanup of previously released *ACM*, and minimize worker or occupant exposure to *asbestos* fibers.

3.3.21.1 *Discussion*—Such programs typically include inventories of identified, assumed or suspect *ACM* and its condition, employee training, notification and records maintenance. Some states and U.S. EPA have published guidance or promulgated regulations on *O & M programs*.

3.3.22 *readily accessible*—describes areas of the *building* that are promptly made available for *observation* to the *inspector* at the time of the *walk-through* of the *building* and does not require the removal of materials, personal property, equipment or similar items and that are safely accessible in the opinion of the *inspector*.

3.3.22.1 *Discussion*—Use of extraordinary means and methods to access, sample or observe *suspect materials* render such materials inaccessible (e.g. fall protection, mechanical lifts, confined space entry, lockout/tagout, energized systems). Relative to the identification or sampling, or both, of *major building systems*, a material is said to be *readily accessible* if it can be observed, identified, and sampled in a safe manner without causing objectionable damage to such material or other building materials. The necessity to use ladders to reach ceiling materials, the need to remove lay-in ceiling tiles to view components above such lay-in ceilings, the need to remove goods in a retail establishment to look below shelves, or the need to look beneath carpet (at corners or existing holes only) does not render a material inaccessible. The presence of fixtures, furnishings, equipment or similar items within the area to be assessed or restricted access (i.e., locked doors or denied access or authorization to enter or to sample specific items) may render materials not *readily accessible*. For example, materials located underground, below concrete slabs, in crawl spaces, in attics or within walls are not *readily accessible*.

3.3.23 *reasonably available information*—information that is provided and received from the *user* or the party designated by the *user* prior to the *walk-through*.

3.3.24 *suspect asbestos-containing material—for purposes of a LAS as described by this guide, suspect asbestos-containing materials* include surfacing materials, thermal system insulation and miscellaneous materials as defined in Practice E 1368, as follows: (*1*) surfacing material as material that is sprayed, troweled-on or otherwise applied to interior and exterior structural and architectural surfaces (including acoustical plaster on ceilings, fireproofing on structural members, textured paint and exterior stucco, and other materials applied to surfaces for acoustical, decorative, fireproofing and other purposes); (*2*) thermal system insulation as material which is applied to interior and exterior mechanical components to reduce heat gain or loss (including insulation on pipes, fittings, boilers, breeching, tanks, ducts and other mechanical components); and (*3*) miscellaneous materials such as material, other than surfacing material and thermal system insulation, on interior and exterior structural, mechanical, electrical, or architectural components and surfaces (including, but not limited to, ceiling tiles, gaskets, floor coverings and mastics, wallboard joint compound, roofing materials and cementitious products).

3.3.24.1 *Discussion*—As used in this *guide*, the terms *suspect asbestos-containing materials* and *suspect materials* are referred to interchangeably. The professional judgment of the *inspector* shall determine which *suspect asbestos-containing materials* require sampling. See 1.3, Considerations Beyond This Scope, for specific assessment exclusions.

3.3.25 *suspect materials*—referred to interchangeably with *suspect asbestos-containing materials*.

3.3.26 *timely access*—entry provided to the *inspector* at the time of the *walk-through*.

3.3.27 *walk-through*—an activity conducted within the *building* that consists of nondestructive *LAS observations* and *LAS sampling* as defined and more fully described in this *guide*.

3.3.27.1 *Discussion*—It is the intent of this *guide* that this *walk-through* should not be considered exhaustive or *comprehensive* in nature and is subject to the limitations of this *guide*.

3.4 *Acronyms:*

3.4.1 *ACM*—Asbestos Containing Material

3.4.2 *AHERA*—Asbestos Hazard Emergency Response Act

3.4.3 *MAP*—Model Accreditation Plan

3.4.4 *NESHAP*—National Emission Standard for Hazardous Air Pollutants

3.4.5 *NIST*—National Institute of Standards and Technology

3.4.6 *NOB*—Non-friable organically bound materials

3.4.7 *NVLAP*—National Voluntary Laboratory Accreditation Program

3.4.8 *O & M*—Operations and Maintenance

3.4.9 *OSHA*—Occupational Safety and Health Act or Occupational Safety and Health Administration

3.4.10 *PLM*—Polarized Light Microscopy

3.4.11 *TEM*—Transmission Electron Microscopy

3.4.12 *US EPA*—United States Environmental Protection Agency

4. Significance and Use

4.1 *Uses*—This *guide* is intended for use on a voluntary basis by *users* who wish to retain *providers* to conduct *LASs* to evaluate the presence of *asbestos-containing materials* in *major building systems* within *buildings* involved in *commercial real estate transactions*, including, but not limited to, acquisitions, sales, leasing and financing. However, a *LAS* set forth under this *guide* is not intended to serve as a *comprehensive building asbestos survey, comprehensive* inspection or *comprehensive* assessment for the presence of *asbestos-containing materials* in all or most of the building systems throughout a *building*, nor does this *LAS* serve to adequately assess the presence of *asbestos-containing materials* in a *building* or portions thereof for pre-demolition or pre-renovation purposes. While an *LAS* is intended to reduce the risk of the presence of *ACM* in *major building systems* within *buildings*, it is not designed to eliminate that risk.

4.2 *Clarification of Services*—This *guide* recognizes that the *asbestos* industry and *real estate transaction* marketplace utilize the titles of limited *asbestos* services interchangeably and oftentimes inconsistently (e.g., " *asbestos* inspection," "*asbestos* survey") This *guide* serves to reduce the confusion that may result from such interchangeable terminology by matching a new title ("*limited asbestos screen (LAS)*") to a particular limited scope of work as described herein.

4.3 *Cost Considerations*—This *guide* recognizes that *LASs* may be performed on various *building* types and sizes with diverse *major building systems*. *Building* type and size, *major building systems* therein and number of samples collected necessarily affect pricing of *LAS*s.

4.4 *Assumed Purpose*—Either the *user* shall make known to the *provider* the intended purpose and scope for an *LAS*, or, if the *user* does not specify the purpose and scope for the *LAS*, the *provider* shall assume the purpose and scope shall comport with this *guide* for *LASs* and state so in the *report*.

4.5 *Who May Conduct*—An *inspector* as defined by this *guide* under 3.3.8.

5. User Responsibilities

5.1 *Access*—The *user* should arrange for the *inspector* to receive *timely access* to the *building*. In addition, appropriate documents should be provided to the *inspector*. The *inspector* should exclude from the *LAS* those portions of the *building interviews*, or review of documents to which any party objects and should document such objections in the *report*.

5.2 *User Disclosure*—The *user* should disclose in a timely manner all appropriate information in the *user's* possession that may assist the *inspector* in identifying key issues such as *building* construction details, renovation details, *building* damage details, sampling priority, prior *asbestos*-related services performed at the *building* and other information useful in completing the *LAS*.

6. Limited Asbestos Screen (LAS)

6.1 *Objective*—An *LAS* is a limited service requested by *users* to evaluate the presence of *asbestos-containing materials* in *major building systems* within *buildings* involved in *commercial real estate transactions*, including, but not limited to, acquisitions, sales, leasing and financing. However, an *LAS* set forth under this *guide* is not intended to serve as a *comprehensive building asbestos survey, comprehensive* inspection or *comprehensive* assessment for the presence of *asbestos-containing materials* in all or most of the building systems throughout a *building*, nor does this *LAS* serve to adequately assess the presence of *asbestos-containing materials* in a *building* or portions thereof for pre-demolition or pre-renovation purposes. While an *LAS* is intended to reduce the risk of the presence of *ACM* within a *building*, it is not designed to eliminate that risk.

6.2 *LAS Components*—The following subsections list the parts of an *LAS*.

6.2.1 *Interviews*—Refer to Section 7.

6.2.2 *Review of ACM Reports*—Refer to Section 7.

6.2.3 *Walk-through of Building*—Refer to Section 8.

6.2.4 *Analytical Guidelines*—Refer to Section 9.

6.2.5 *Preparation of LAS Report*—Refer to Section 10.

7. Interviews and Review of ACM Reports

7.1 *Objective*—The objective of the *interviews* and review of *ACM* reports is to augment the *walk-through* of the *building* and to assist in the *inspector's* understanding of the *building* and potential for *ACM* therein.

7.2 *Reliance*—The *inspector* is not required to independently verify the information provided and may use information unless the *inspector* has other information or actual knowledge that is contradictory.

7.3 *Accuracy and Completeness*—Accuracy and completeness of information varies among information sources. The *inspector* is not obligated to identify mistakes or insufficiencies in the information provided; however, the *inspector* should make reasonable efforts to compensate for mistakes or insufficiencies of information that are *obvious* in light of other information obtained during the *LAS* or otherwise known to the *inspector*.

7.4 *Responsibility for Lack of Information*—The *inspector* is not responsible for providing or obtaining information that is not *reasonably available information* or when a source contacted fails to respond, responds partially or fails to respond in a timely fashion.

7.5 *Interviews*—The *inspector* should interview the *user* and a person or persons designated by the *user* using the questions presented below, at minimum. The *inspector* should conduct interviews (in person, by telephone or in writing). Should an interviewee be unavailable for an *interview*, whether by intent or inconvenience, or not respond in full or in part to questions posed by the *inspector*, the *inspector* should disclose same within the *report*. Further, should any party not grant such authorization to *interview*, restrict such authorization, or should the interviewee not be knowledgeable about the *building*, this should also be disclosed in the *report*. The following inquiries, at minimum, should be made:

7.5.1 When was the *building* constructed?

7.5.2 Was the *building* constructed in phases? If so, when were the phase(s) constructed?

7.5.3 Has the *building* ever been renovated or remodeled? If so, when and where did this occur? What was the nature of the work performed?

7.5.4 Has damage occurred to the *building* (such as fire or flood). If so, describe when, how damaged and what was done to the *building* in response.

7.5.5 Does any information exist regarding the presence of *ACM* or other *ACM*-related activities performed within the *building*?

7.6 *Review of ACM Reports*—The *inspector* should request and review *reasonably available information* presented in prior *ACM* inspection or survey reports that may help identify the presence and location of *ACM* in the *building*; provided that

such information can be reviewed within the budget and time constraints as agreed with the *user*.

8. Walk-Through of the Building

8.1 *Objective*—The objective of the *walk-through* of the *building* is to perform *nondestructive LAS observations* and *LAS sampling* as more fully described below. An *LAS walk-through* is subject to the limitations of this *guide* and should not be considered exhaustive or *comprehensive* in nature.

8.2 *Frequency*—It is not expected that more than one *walk-through* of the *building* be made by the *inspector* in connection with the *LAS*.

8.3 *Photographs*—During the *walk-through*, photographs may be taken in the discretion of the *inspector* or as agreed with the *user*. Photographs of each sample location and every *suspect material* are not required, unless specifically required by *user*.

8.4 *LAS Observations*—During the *walk-through*, the *inspector* should conduct and note *observations* of representative *major building systems* for *suspect materials* to the extent they are *readily accessible* and *easily observable*. This does not mean all *suspect materials* on *major building systems* in the *building* are observed.

8.5 *LAS Sampling of Suspect ACM in Major Building Systems*—This task involves collecting samples of *suspect ACM* from representative *major building systems* of the *building* in accordance with the requirements of this *guide and* does not mean all *suspect materials* on *major building systems* in the *building* are sampled. Sampling protocols are discussed in more detail in this *guide*. If no *suspect asbestos containing materials* were identified during the *walk-through*, sampling is not necessary.

8.6 *Sampling Protocols*

8.6.1 *Field Notes*—The *inspector* should prepare field notes listing the *inspector's* name and describing sampling date, sample locations and the *building component* from which each sample is collected. Because of the variability between type and size of *buildings, major building systems* therein and *user* objectives, the number of samples to be collected should be determined on a case-by-case basis or as agreed upon between the *provider* and *user*.

8.6.2 *Priority in Sample Collection*—In prioritizing during sample collection, the *inspector* should give consideration to *suspect materials* which comprise the most prevalent and obvious *suspect ACM* within the *building*, unless otherwise agreed with the *user*.

8.6.3 *Tools and Sampling Technique*—Samples shall be collected using care to avoid cross-contamination. Tools which contact *suspect materials* being sampled shall be properly cleaned following collection of the sample and before the tool is stored or used to collect another sample. Appropriate care should be taken to minimize airborne fiber releases during sample collection. Holes in pipe or vessel insulation shall be patched or caulked. Sampling should be *nondestructive* and should be collected using care to avoid de-energizing systems or invoking lockout/tagout protocols.

8.6.4 *Bulk Sample Identification—Bulk samples* shall be placed in sealed containers labeled with the identification sample number(s), at minimum, as they are collected. Where samples of layered materials are contained in one sample container, information to associate the sample number with each layer should also be provided (e.g *bulk samples* of floor tile and mastic might identify the floor tile as sample 1 and the mastic as sample 2). Identification of the sampling or *building* location, or both, from which each *bulk sample* was collected must be included.

8.6.5 *Layers of Materials*—Each layer of layered *suspect materials* should be considered as a separate representative sample. Each layer of *suspect materials*, such as plaster, drywall and joint compound, and vinyl floor tile and mastic should be sampled and analyzed by the *laboratory* separately. At the *inspector's* discretion, samples of *suspect materials* where each layer is distinct and would be obvious to the analytical *laboratory* (such as vinyl floor tile & mastic) may be submitted to the *laboratory* in one sample container, with a separate sample identification number assigned to each layer.

8.6.6 *Assumed Materials*—Certain common *asbestos containing materials* such as *asbestos*-cement pipes, flues, and sheets, and *asbestos*-cloth flexible duct connectors, may be readily identified visually and may be assumed to contain *asbestos*, as may materials which are not *reasonably accessible*, such as mirror mastic. Any *suspect materials* not analyzed should be assumed ACM.

8.6.7 *Friability Assessment*—The *friability* (i.e., yes/no) of each sample should be identified and documented. Due to the limited nature of an *LAS*, condition and potential for disturbance are beyond the scope of sampling. Such assessments are within the purview of a *comprehensive building asbestos* survey.

8.7 *Sampling Limitations*

8.7.1 *Non-Destructive Sampling Limitations—Non-destructive sampling* involves the use of coring tools, utility knives or similar tools in order to collect small samples of *suspect materials* for an *LAS*. Such sampling necessarily involves the removal of a small sample of *suspect material* but generally does not cause objectionable damage to such materials. While it is generally possible to sample for *suspect materials* without causing objectionable damage, certain materials cannot be sampled without causing such damage. Such materials should not be sampled as part of an *LAS*. Examples include paper or felt between hardwood flooring and beneath sub-floor boards, pipes inside walls and above solid ceilings, or a patch of floor tile hidden beneath carpeting and not *easily observable* at a corner or existing hole. Such sampling falls within the scope of a *comprehensive building asbestos survey* and not within the scope of this *guide*.

8.7.2 *Building Area Limitations*—The *inspector* should document those areas that were not *reasonably accessible*, those areas to which access was denied, and areas excluded from the scope of work.

8.7.3 *Number of Samples Limitation*—Since this *guide* is designed to be a *limited asbestos screen*, rather than a *comprehensive building asbestos survey*, of *suspect materials* within *major building systems* of a *building* in connection with *commercial real estate transactions*, it is recognized that the *user* may frequently limit the number of samples permitted in a scope of work. Note that the number of samples collected

may not be enough to refute the presumption of *ACM* in surfacing material, thermal system insulation and resilient flooring as per OSHA or other applicable state or federal regulations.

8.7.4 *Variations in Suspect Materials*—Many common *suspect asbestos-containing materials* (e.g. drywall joint compound, acoustic ceiling texture) may vary in composition between *major building systems* and throughout a *building* (*e.g.* several percent *asbestos* in some areas, and very little or none in other areas). Also, *suspect materials*, which appear to be representative may not be so. The *inspector* should collect the number of samples agreed upon with the *user*; however, *users* should be aware that performance of an *LAS* does not guarantee that all or even most *ACMs* will be identified in the *building*. *Users* and *providers* are reminded that identification of most or all of *ACM* in a *building* falls within the scope of a *comprehensive building asbestos survey*.

8.7.5 *Impact of Limitations*—Sampling or other limitations may preclude collection of an adequate number of samples to refute the presence of *asbestos containing materials* within the *major building systems* of the *building*. Collection of an inadequate number of samples is only sufficient to refute the presence of *asbestos* in the particular *bulk sample(s)* collected.

9. Analytical Guidelines

9.1 *Bulk Sample Analyses—Bulk samples* submitted for analysis shall be analyzed using analysis appropriate for the material submitted. This *guide* recognizes that PLM is an adequate and appropriate analytical method for purposes of an *LAS* in that an *LAS* is necessarily limited in scope, *observations*, systems assessed and number of samples collected. Due to the limitations of *PLM*, any bulk sample result reported to contain less than or equal to 1 % *asbestos* (including *NOBs* reported as nondetect) using visual estimation should be regarded as inconclusive, unless other analytical methods are requested by the user to confirm the *asbestos* content of the sample, recognizing such result applies only to the particular sample analyzed. Utilizing point-counting or other analytical methods such as TEM within the scope of an *LAS* is inappropriate because it suggests that an *LAS* can be used for more extensive objectives, services or analysis which would be addressed by the scope of a *comprehensive building asbestos survey*.

NOTE 1—PLM sample test results reported to be nondetect for materials other than NOBs can be considered non-asbestos containing for purposes of this LAS.

9.2 *Chain-of-Custody Forms*—The bulk samples shall be submitted to the *laboratory* with a chain-of-custody form listing the *bulk sample* identification numbers or range of numbers, the date the samples were collected, the name and signature of the *inspector* who collected the samples, the name and signature of the person receiving the samples at the *laboratory*, and date of receipt. A description of the sample location should be included unless the identification numbers utilized by the *inspector* are otherwise associated with a sample location and documented by the *inspector* (for purposes of confidentiality, for example).

9.3 *Analytical Limitations and Assumptions*—If the *laboratory* report identifies more than one percent *asbestos* in a sample, all similar *suspect material* must be considered to be *ACM*. Conversely, if the *laboratory* report shows that a sample is not *ACM*, it cannot be concluded that all of that type of *suspect material* in the *building* are not *ACM*.

10. Report

10.1 *Report Contents and Format*—This *guide* does not set forth a specific *report* format to be followed. This should be determined between the *user* and the *provider*. However, the *report* should contain the following information:

10.1.1 *Scope of Work*—The *report* should reference the specific scope of work agreed upon between the *user* and the *provider* (e.g., number of samples, identification of *building* screened, areas excluded) and should make reference to this *guide*.

10.1.2 *Provider Information* (including the name, address, phone number and fax number of the firm conducting the *LAS* as well as the name, signature, and license or certification numbers of the *inspector(s)* conducting the *LAS*).

10.1.3 *Building Identification* (including name, if any, and address of the *building*, age, size, usage, the materials used to construct and finish the frame, general description of the exterior and interior).

10.1.4 *User Information* (including the name, address, phone number and fax number).

10.1.5 *Information Summary* (i.e., information obtained from *interviews* and review of *ACM*-related reports).

10.1.6 *Walkthrough Summary* (i.e., date(s) that the *walkthrough* and sampling activities occurred, locations observed and sampled, *suspect materials* sampled, locations excluded from *observation* and sampling).

10.1.7 *Summary of Analytical Result*:

10.1.8 *Information and Limitations Inherent in this Type of Screen*—The report should make reference to the limited nature of an *LAS* (e.g., an *LAS* is not intended to serve as a *comprehensive asbestos building survey, comprehensive* inspection or *comprehensive* assessment for the presence of *ACM* in all or most of the building systems throughout a *building*, nor does an *LAS* serve to adequately assess the presence of *ACM* in a *building* or portions thereof for pre-demolition, pre-renovation or OSHA notification purposes (for which a *comprehensive asbestos building survey* performed as per applicable state and local regulations would be appropriate)). Limitations information is most useful to *users* when located near the beginning of a *report*.

10.1.9 *Deviations from the Guide*—Deviations from this *guide*, if any, should be discussed or listed within the *report*. Deviations should be presented near the beginning of the *report*.

10.1.10 *Additional Services—Any* additional services contracted between the *user* and the *provider* are beyond the scope of this *guide* and should only be included in the *report* if so specified by the terms of engagement between the *user* and the *provider*.

10.1.11 *Conclusions*—Conclusions listing the identified ACM and the assumed *ACM* identified.

10.1.12 *Recommendations*—Recommendations may be included as agreed by the user and provider. In the event recommendations are included, examples include: development and implementation of an *O & M Program* or performance of a *comprehensive building asbestos survey* (which is necessary prior to renovation or demolition activities).

10.2 *Inspector Credentials*—The *report* shall include a copy of the *inspector's* asbestos licenses, accreditations, or certifications, or combination thereof, as required by this *guide* and a disclosure of any relationship between the *inspector* and the *laboratory* which analyzed the *bulk samples*.

10.3 *Photographs*—Photographs taken should be included with the *report* as set forth under this *guide*.

10.4 *Table Of Samples*—The report should contain a table listing all *bulk samples* collected and all *suspect materials* assumed to contain *asbestos*. This table should list *bulk sample* identification numbers, the description and location of each *bulk sample*, the *friability* of each *ACM* and *suspect material* assumed to contain *asbestos*, (yes/no), whether each *ACM* or *suspect material* assumed to contain *asbestos* will become friable if disturbed, and the *laboratory* result.

10.5 *Laboratory Report and Credentials*—The *report* should include the name, address, phone number and certification number(s) of the *laboratory* that performed the analysis, statement that the *laboratory* certification meets the requirement of the state where the samples were collected, name of the *laboratory* analyst performing the *laboratory* services, the specific *laboratory* methods employed, and the analytical report supplied by the *laboratory*. Any of the information contained in the *laboratory* report does not need to be reproduced in the *report* text.

11. Non-Scope Considerations

11.1 *Additional Services*—Any additional services contracted between the *user* and the *provider* are beyond the scope of this *guide* and should only be included in the *report* if so specified by the terms of engagement between the *user* and the *provider*. The scope of such additional services is not considered in this *guide*. In the event the *user* requests such services, a scope of work should be mutually developed by the *provider* and the *user*. Additional *provider* qualifications may be required to perform these Additional Services.

11.2 *Other Standards*—There may be standards or protocols associated with Additional Services developed by governmental entities, professional organizations, or other private entities.

11.3 *List of Additional Services*—Following are several non-scope considerations that *users* may wish to include in the terms of engagement with the *provider*. No implication is intended as to the relative importance of inquiry into such non-scope considerations, and this list of non-scope considerations is not intended to be all-inclusive:

11.3.1 Assessment of roofing materials and exterior materials (such as siding/stucco), conveying systems (such as escalators and elevators), or energized systems (e.g., charged electrical systems, hydraulic and pneumatic pressure systems);

11.3.2 Assessment of private single-family residences;

11.3.3 Estimating the quantities of *ACMs* identified in the *LAS* or cost estimates for removal or replacement of these estimated quantities. Note, however, this *guide* is not intended to serve as a *comprehensive building asbestos survey* for the presence of *ACM* in all or most of the building systems throughout a *building*, nor does an *LAS* serve to adequately assess the presence of *ACM* in a *building* or portions thereof for pre-demolition or pre-renovation purposes. Therefore, any estimation of quantities (and related cost estimates) will be based upon assuming *suspect materials* within the *major building systems* contain *ACM* unless sampling and analysis confirms otherwise. *Users* should be cautioned when requesting said estimates that a *comprehensive building asbestos survey* for the presence of *ACM* in the *building* should be conducted in order to accurately assess quantities (and develop related cost estimates) throughout a *building*, and, in any case, prior to renovation or demolition activities.

11.3.4 *Preparation or implementation of an O&M Program*—This *guide* is not intended to serve as a *comprehensive building asbestos survey* for the presence of *ACM* in all or most of the building systems throughout a *building*, nor does an *LAS* serve to adequately assess the presence of *ACM* in a *building* or portions thereof for pre-demolition or pre-renovation purposes. Therefore, *O&M Programs* will be based upon the assumption that *suspect materials* within the *major building systems* contain *ACM* unless sampling and analysis confirms otherwise.

12. Keywords

12.1 asbestos; *asbestos-containing* material; ASTM; asbestos screen; ACM