The Use and Application of

the 2026 Minimum Standard Detail Requirements for ALTA/ NSPS Land Title Surveys

with additional commentary on certifications, contracts and case law

Presented by

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Biography of Gary R. Kent

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- **2026 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys**
- **Red-lined version of 2021 Standards showing changes that resulted in the 2026 Standards**
- **2026 ALTA/NSPS Land Title Surveys - FAQs**

Exhibits

Exhibit 1 *Thoughts on Relative Positional Uncertainty* and *A Simulation Study in the Precision Criterion for the 2011 ALTA-ACSM Land Title Survey Standards* by Charles Ghilani and Ian McAllister, reprinted with permission from Surveying and Land Information Science, Volume 71, Number 2 (June 2011) [p. 62-72]

Exhibit 2 A lender's survey requirements (circa 2016)

Exhibit 3 U.S. Department of Housing and Urban Development's Interim *HUD Survey Instructions and Surveyor's Report* for multifamily projects - currently under development by HUD

Exhibit 4 U.S. Department of Housing and Urban Development's *HUD Survey Instructions and Borrower's Certification* for Section 232 Projects (residential care facilities) - status unknown

Acknowledgements

The author would like to recognize many persons for their contributions to this document including, and especially, Mr. Robert Foster whose original document a number of years ago formed the strong foundation for my subsequent versions.

Also, appreciation is extended to the many persons who contributed to the effort of developing the various versions of the Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys and its predecessor the ALTA/ACSM Standards.

Special recognition is reserved for the late Mary Feindt, PS of Michigan who competently chaired the Workgroup for many years prior to my chairmanship in 1995, Mr. Malcolm Shaw, PS of New York who contributed significantly to 2016 Standards and Mr. Paul McNamara, Esq. of Massachusetts who made thoughtful and valuable contributions to the ALTA/ACSM and ALTA/NSPS Standards for many years.

Ms. Feindt passed away in 2003. Mr. Shaw passed away in the weeks following adoption of the 2016 standards and Mr. McNamara passed away in January 2016.

James Maher, who has also passed, was the long-time Executive Vice President of the American Land Title Association. He provided years of guidance and competence in the on-going development and revisions of the ALTA/NSPS Minimum Standards.

Richard Bales, Esq. was a long-time respected member who resigned from the Workgroup following adoption of the 2016 Standards, but who remains a close and valued friend and resource.

Last, but not least, to the many surveyors and attorneys who have contributed to the Standards over the years, who are too many to list, but who have exhibited continuous professionalism in their collective work.

Surveyors should help spread the word and educate others on the 2026 ALTA/NSPS standards. Take the initiative and contact your local title agencies and law offices – volunteer to come in and talk about the standards.

Thank you and please let me know what you hear about the 2026 Standards and if you see or hear of anything that needs to be addressed the next time around, presumably in 2031.

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Introduction

For years, the surveying profession has engaged in an ongoing debate regarding the "Minimum Standard Detail Requirements for ALTA/ACSM [now ALTA/NSPS] Land Title Surveys" (the "Standards"). Much of this discussion seems to have finally diminished due to extensive and ongoing continuing education efforts, and perhaps more significantly, due to continuous refinements of the Standards.

The Standards have received mixed reviews; some claim they are too lenient, while others argue they are excessively restrictive. Many see them as an intrusion on the surveyor's professional responsibility, while others regard them as a useful, albeit isolated, example of the types of standards the profession needs. As one commentator noted years ago, the Standards can be described as "*a bureaucratic, self-serving, counter-productive sort of rip-off*." An ALTA official, after attending several meetings and panel discussions with surveyors across the country, noted the wide range of opinions, stating that with such diversity of views, we "*must have gotten it just about right*."

The purpose of this seminar is to examine the Standards from various perspectives and to explore their true purpose and value, not only to the title insurance industry but also to the surveying profession and its clients.

Land title insurance differs from other types of insurance in several key ways. For instance, an insurer offering health, homeowner, or auto insurance typically *expects*, or at least understands, that they *may* have to pay out on a claim at some point in the future. A life insurance *writer knows* they will eventually pay on the policy. In contrast, a title insurer operates under the intention of *never* having to pay out on a title insurance claim. Title insurance has been referred to as risk elimination insurance. The insurance company examines the title to the land to the extent necessary to mitigate its risk to an acceptable level. During this examination, the company identifies potential issues that may cause a decrease in value and eliminates those issues from coverage, either through exceptions or mitigation. Ultimately, the company issues a contract that provides two types of protection: a duty to indemnify the policyholder for any undiscovered issues and a duty to defend the title against unwarranted claims.

If a title insurance company performs a thorough investigation and identifies all potential issues —either excluding them from coverage or mitigating them—it typically does not have to pay on any claims. However, conducting a thorough investigation involves more than just examining the property title. Some issues can only be discovered through a physical examination of the property, which is where the surveyor becomes essential.

Title insurance policies often include survey exceptions. This means that without a current, accurate survey of the property, the insurer will exclude from coverage any title defects that could have been identified through such a survey. To remove the survey exception from the policy, a survey is usually required. While there are other methods to eliminate this exception, they are beyond the scope of this program. So, once a survey is ordered, several questions arise:

- - What type of survey does the title insurer require?
- - What must be included in the survey?
- - What standards should apply?
- - What can lenders and buyers from various locations across the country expect?

Due to the wide range of surveys conducted by surveyors—such as cadastral, topographic, construction, control, hydrographic, and others—and the significant differences in accuracy and precision in different situations, individuals ordering surveys for title insurance purposes recognized the need for a formal, printed standard.

Unfortunately, there is also inconsistency in the quality of services provided by surveyors. This inconsistency exists not only from one region to another but also *within* the same region. For instance, two surveyors working just blocks apart may deliver vastly different levels of survey quality. As a result, purchasers of surveying services need assurance regarding the quality they can expect. This is where the establishment of standards becomes both necessary and appropriate. It is also relevant to note that when states adopt their own minimum standards, public protection is part of the consideration.

A reasonable question *arises: "Why should a professional, who is knowledgeable in their field and understands what kind of survey is required for a specific purpose, be constrained by any standards, especially those imposed by a client?*" One answer is that there is evident disagreement among surveyors regarding the quality and content of surveys required for particular purposes. Customers of surveying services report experiencing varying levels of survey quality and inconsistent presentation of information. Therefore, those seeking surveying services for title insurance purposes are entitled to a set of standards that ensures the accuracy and content of the services provided, regardless of where in the United States the survey is conducted.

Standards help create uniformity within the profession. Surveyors are more likely to deliver services of consistent quality when they adhere to a common set of standards rather than relying on their subjective interpretations of what is required. When surveyors receive a request for proposal (RFP) for a survey, they can feel more confident that their competitors are adhering to the same rules if a clear and comprehensive set of standards is included in the RFP.

It is essential to remember that most purchasers of surveying services have little or no understanding of surveying practices and procedures; surveyors' work is often "out of sight" from the perspective of their clients. Standards clarify what is expected from both the purchaser and the service provider in terms of the final deliverable. One of the most common causes of disputes over fees between professionals and their clients stems from a poorly defined scope of work. A carefully defined scope, guided by well-prepared standards, reduces confusion during both the contracting process and the billing stage of a project.

Some have argued that printed standards increase a surveyor's liability. While this can be true, it typically applies only when the surveyor is not familiar with the standards relevant to a specific project. A surveyor who, due to ignorance or incompetence, fails to meet a standard will

ultimately face consequences. Conversely, well-defined standards can limit a practitioner's liability by clearly outlining the scope and accuracy requirements, benefiting both the client and the surveyor. A client is less likely to successfully claim surveyor misfeasance or nonfeasance when the surveyor's work adheres to a printed standard that both the client and practitioner have agreed upon.

Printed standards assist in establishing the normal standard of care within a profession. In professional liability cases, one of the initial questions involves determining what standard of care should have applied to the situation in question. Typically, the normal standard of care is established through expert testimony, examination of similar cases, and a review of common law precedents.

Printed standards set forth certain minimum performance thresholds that professionals must not fall below for their specific type of survey. However, these standards do not necessarily define the normal standard of care for all types of work within the profession. The ALTA/NSPS Standards specifically address a narrow concern: surveys conducted for title purposes. Written standards help define a minimum performance level for this kind of survey; the normal standard of care for such work must at least meet this level and may even exceed it.

There are generally four categories of standards: precision, accuracy, content, and performance. These can be defined as follows:

- *Precision* refers to the degree of refinement in the performance of a task or the degree of perfection in the instruments and methods used during measurements. It measures the uniformity or reproducibility of the results.
- *Accuracy* denotes the degree of conformity with an accepted value. While accuracy relates to the quality of the result, precision pertains to the quality of the process used to obtain that result.
- *Content standards* in surveying refer to the features, both natural and man-made, that are to be measured and reported on the final survey plat.
- *Performance standards* outline the steps to be followed in conducting an operation and may go beyond the technical procedures of a survey.

Standards can also be categorized as *technical* or *conceptual*. Precision and accuracy standards fall under the technical class, while content and performance standards are more conceptual. Clients often find conceptual standards more relevant, as they may consider technical standards to be abstruse. However, technical standards specified within documents like the ALTA/NSPS Standards provide considerable value to practitioners. Regardless, conceptual standards establish the scope of work for both the practitioner and the client.

The 2011 ALTA/NSPS Standards generated significant discussion within the title and lending industries when they were adopted and enacted. This had been the first complete rewrite of the standards in nearly 50 years. The 2026 version marks the third modification of those 2011 standards and the 11th overall version.

ALTA/NSPS Land Title Surveys - the 2026 Minimum Standards

Section 1 – Purpose

1. Members of the American Land Title Association® (ALTA) have specific needs, unique to title insurance matters, when asked to insure title to land without exception as to the many matters which might be discoverable from survey and inspection, and which are not evidenced by the public records.

   For a survey of real property, and the plat, map or record of such survey, to be acceptable to a title insurance company for the purpose of insuring title to said real property free and clear of survey matters (except those matters disclosed by the survey and indicated on the plat or map), certain specific and pertinent information must be presented for the distinct and clear understanding between the insured, the client (if different from the insured), the title insurance company (insurer), the lender, and the surveyor professionally responsible for the survey.

   In order to meet such needs, clients, insurers, insureds, and lenders are entitled to rely on surveyors to conduct surveys and prepare associated plats or maps that are of a professional quality and appropriately uniform, complete, and accurate. To that end, and in the interests of the general public, the surveying profession, title insurers, and abstracters, the ALTA and the NSPS jointly promulgate the within details and criteria setting forth a minimum standard of performance for ALTA/NSPS Land Title Surveys. A complete ALTA/NSPS Land Title Survey includes:
   A. the fieldwork required pursuant to Section 5,
   B. the preparation of a plat or map pursuant to Section 6 showing the results of the fieldwork and its relationship to documents provided to or obtained by the surveyor pursuant to Section 4,
   C. any information from Table A items requested by the client, and
   D. the certification outlined in Section 7.

The General Survey Exception

Title policies normally contain coverage exceptions in addition to the standard coverage exclusions. The exceptions are generally set forth on Schedule B of the policy and can consist of standard printed exceptions (which differ regionally) and specific additional exceptions based on relevant facts.

One general exception, which may be removed, insured over or modified if a current survey (or in certain cases, relevant affidavits or other documents) is provided, is the "survey exception." The general survey exception negates insurance for encroachments, overlaps, boundary line disputes or other matters which would be disclosed by an accurate survey or inspection of the premises. The precise wording of the general survey exception differs from region to region and from insurer to insurer, but typical language might be: "*Rights or claims of parties in possession, boundary line disputes, overlaps, encroachments, and any matters not shown by the public records which would be disclosed by an accurate survey and inspection of the land described in Schedule A.*"

A shorter form of exception might be: *"Encroachments, overlaps, boundary line disputes, or other matters which would be disclosed by an accurate survey and inspection of the premises."*

If an older survey is provided, the insurer may rewrite the exception as: *"Such state of facts occurring subsequent to* [date of prior survey] *as would be disclosed by a current accurate survey and inspection of the premises,"* although it is becoming more frequent that lenders put pressure on title companies to remove exceptions to matters that occurred even *after* the date of a survey.

If a current acceptable survey is provided, the insurer will replace the general survey exception with language keyed to the survey, such as: *"Matters shown on survey of the premises prepared by* [Surveyor] *dated* [Date]*."* A better and more frequently used approach is for the insurer to review the survey and write special exceptions for each potential title problem revealed on the survey, for example: "*Encroachment upon the insured premises of garage along the west line as shown on survey prepared by* [Surveyor] *dated* [Date]*."*

The best approach for the insured is to have the survey exception deleted in its entirety if there are no apparent problems disclosed by a survey.

The relationship between Surveyors and the Title industry

Because title companies rely on ALTA/NSPS Land Title Surveys to be of consistent quality and completeness, it is important that the surveying profession and the title industry work together to achieve their common goals. In order to do this, surveyors and title professionals need to understand each other's roles, obligations and challenges.

It is this writer's opinion that Surveyors and title professionals should take every opportunity to have a dialogue about their common interests, expectations and needs. Surveyors would be well-served to hand-deliver Land Title Surveys to title companies so they can sit down and go over the results, particularly when the survey has any complexity to it.

What constitutes a complete ALTA/NSPS Land Title Survey?

Items A through D in Section 1 of the 2026 ALTA/NSPS Standards (see above) identify the specific performance items for the surveyor. These items were reworded and specifically numbered starting with the 2021 Standards in order to very explicitly lay to rest any misconceptions about the surveyor's responsibilities and to, in a sense, put a bow around the entire set of the ALTA/NSPS Minimum Standard Detail Requirements.

One concern that this list is intended to address is the direction to surveyors coming from some parties to not actually conduct a boundary survey, but rather just locate the features on the property, overlay them onto a plot of the boundary, and certify it as an ALTA/NSPS Land Title Survey. The surveyor who follows such direction may be committing a violation of the statute and rules regulating surveying in every state, not to mention misrepresenting what the survey is.

Section 2 - Request for Survey

> The client shall request the survey, or arrange for the survey to be requested, and shall provide a written authorization to proceed from the person or entity responsible for paying for the survey. Unless specifically authorized in writing by the insurer, the insurer shall not be responsible for any costs associated with the preparation of the survey. The request must specify that a "2026 ALTA/NSPS LAND TITLE SURVEY" is required and which of the optional items listed in Table A, if

any, are to be incorporated. Certain properties or interests in real properties may present issues outside those normally encountered on an ALTA/NSPS Land Title Survey (e.g., marinas, campgrounds, mobile home parks, easements, leases, mineral interests, other non-fee simple interests). The scope of work related to surveys of such properties or interests in real properties should be discussed with the client, lender, and insurer, and agreed upon in writing prior to commencing work on the survey. When required, the client shall secure permission for the surveyor to enter upon the property to be surveyed, adjoining properties, or offsite easements.

The order for an ALTA/NSPS Land Title Surveys may come from a title company, attorney, owner, buyer, real estate broker or other interested party. In any event, it is incumbent on the surveyor to identify who is actually responsible for payment and to secure a contract with that party. This section of the 2026 Standards specifies that there shall be a written authorization. The way to deal with that is by virtue of a written contract.

While many surveyors perform surveys without benefit of a written contract, surveyors would be well-advised to recognize that *every* project they undertake involves a contract. They should understand, however, that if a problem is encountered, without a *written* contract, (1) a judge will be the one who interprets what the surveyor's responsibility was under the oral contract, and (2) the statute of limitations under an oral contract may differ from that under a written one.

The contract or correspondence regarding the request shall specify that an ALTA/NSPS Land Title Survey is being requested and which of the optional items listed in Table A, if any, are to be incorporated. It is strongly encouraged that the client be actively involved in the selection of the Table A items. In this way, the client will have a better sense of the standards, and this also affords the surveyor an opportunity to make a connection between Table A items and the fee for the survey. Some surveyors even analyze the costs associated with each Table A item for a given survey and, when they provide Table A for the client's consideration, the associated costs are already itemized. More discussion is provided on contracts in subsequent sections of this handout.

As spelled out in Section 2, certain properties like mobile home parks, marinas and campgrounds, and non-fee interests like easements, leases and mineral interests present issues that fall outside the realm of those normally encountered on an ALTA/NSPS Land Title Survey. The ALTA/NSPS Standards suggest that the scope of work related to such properties should be discussed with the client, lender and title insurance company, and agreed upon in writing prior to requesting the survey. For example, mobile homes themselves are generally (but not always) personal property, not real property. Do any of the parties have an expectation that the surveyor will be locating and showing all of the mobile homes?

Section 3 – Surveying Standards and Standards of Care

Section 3.A. - History and Development

The 2026 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys are effective February 23, 2026. As of that date, all previous versions of the Minimum Standard Detail Requirements for ALTA/ACSM or ALTA/NSPS Land Title Surveys are superseded by these standards.

There has been a succession of "*Minimum Standard Detail Requirements for Land Title Surveys*" beginning in 1962, published jointly by the American Land Title Association (ALTA) and the American Congress on Surveying and Mapping (ACSM) and some history if warranted.

The standards were revised unilaterally by ACSM in 1979, with joint revisions by ALTA and ACSM and/or NSPS, in 1986, 1988, 1992, 1997, 1999, 2005, 2011, 2016, 2021, and now in 2026. With the 1999 version, the National Society of Professional Surveyors took over responsibility for the standards on behalf of the surveying community from ACSM. Unfortunately, the land title and lending industries are not always aware of the latest revisions and surveyors are still occasionally asked to work to an earlier set of standards, and to execute a certification accordingly.

The 1962 ATA/ACSM (the American Title Association, later changed its name to the American Land Title Association) standards made reference to exactness in surveys. Exactness, perfection, and "error-free results" are words and phrases inappropriate to a description of the surveyor's work. There is no exact, perfect or error-free measurement. Furthermore, this document required the surveyor to report "maximum positional tolerance of corners."

The document did not define the term nor is it found in standard surveying texts and books of definitions. The "Allowable positional tolerance of corners" was required to be not more than 0.02 foot in urban areas or more than 0.04 foot in suburban areas.

In the final statement of the preamble it was stated that the title insurance industry was entitled to rely on the "highest professional quality both as to completeness and accuracy," in retrospect, a dangerous directive because it essentially invokes a standard well beyond the normal standard of care required of professionals by law.

In 1979 ACSM revised the document but the 1979 version was acted upon only by ACSM, and never became a jointly published standard.

In 1986 a new "*Minimum Standard Detail Requirements for Land Title Surveys*" was jointly adopted and published by ALTA and ACSM, rejecting many of the more objectionable items of the earlier version and introducing, among other changes, the concept of 'classes' of surveys (Urban, Suburban, Rural and Mountain/Marshland). The 1986 standards also brought the first appearance of the *Table of Minimum Angle, Distance and Closure Requirements* as the criteria for the measurement standard

At the request of the then Lenders Council of ALTA, the standards were revisited and revised again in 1988 resulting in a 'Table 3' being added. Table 3 (later identified as Table A) contained a laundry list of 16 additional items that clients could select from to be included in their Land Title Survey.

Once again in 1991 and 1992, the Joint Workgroup examined the standards due to surveyor concerns. There were problems with interpretation and application and there were criticisms of inconsistency and redundancy through the body of the standards, especially in regards to the additional survey requirements of Table 3 (now Table A). A revised set of standards was brought to the Board of Direction of ACSM and the ALTA membership, and approved in the fall of 1992.

In about 1994, a series of meetings between ACSM/NSPS, ALTA, the ALTA Lenders Council and representatives of the U.S. Department of Housing and Urban Development were held with goals of addressing some concerns, developing a new set of measurement/accuracy standards and addressing the needs of HUD. The resulting standards, which were jointly adopted by ACSM and ALTA in late 1997, incorporated the items necessary for HUD to subscribe to the standards.

In an attempt to quell concerns that the measurement standards were too rigid and inflexible and an impediment to the use of new technologies, the 1997 Standards reintroduced the option of using positional tolerance as the measurement standard rather than applying the *Table of Minimum Angle, Distance and Closure Requirements.*

Two years later, a 1999 revision to the ALTA/ACSM Standards resulted primarily in changes to Table A, in the elimination of the classes of surveys and, except in specific circumstances, the mandatory use of positional tolerance as the measurement standard.

The standards were revisited again in 2005 with an effective date of January 1, 2006. The 2005 version contained a number of significant improvements including the clarification and addition of some Table A items. With regard to zoning, surveyors were no longer required to graphically plot zoning setback lines. Also, there was an allowance for the use of alternative technologies and tools in Table A item 15.

The measurement ("accuracy") standards portion of the standards was significantly revamped in with the 2005 standards. The measurement standard adopted with the 2005 standards came, with minor modifications, from the standards for boundary surveys adopted by the NSPS in 2003 (which used the term "relative positional accuracy"). It also eliminated, once and for all, the remnants of the old *Table of Minimum Angle, Distance and Closure Requirements.*

Also in the 2005 Standards, the certification wording was simplified which, with the introduction of the new measurement standards, resolved a problem in that nearly all surveyors routinely misapplied the bullet points in the 1999 certificate.

The 2011 Minimum Standard Details Requirements for ALTA/ACSM Land Title Surveys were the first complete rewrite of the ALTA/ACSM Standards since their inception in 1962 and were well-received by the surveying profession. Among the many improvements and modifications to the standards was a requirement that the certificate contained in the standards be the *only* certificate appearing on the face of the plat /map and that it be unaltered (other than as required by law).

A number of revisions were made with each of the 2016, 2021 and 2026 standards.

In 2021, for example, the Workgroup had noted the U.S. Supreme Court's ruling in the case on *Gutierrez de Martinez v. Lamagno* (515 U.S. 417) and reviewed all uses of the word "shall" in the Standards. In every case where the word "shall" was intended as an imperative, it was replaced with "must." It is emphasized that this was not some philosophical change on the part of the workgroup, merely an attempt to make it clear what clauses of the ALTA/NSPS Standards are not optional.

As is the case with every revision, virtually all of the changes clarified wording and eliminated unnecessary liability on the part of the surveyor while maintaining the intended use by the title industry.

Section 3.B. – Other Requirements and Standards of Care

> Many states and some local jurisdictions have adopted statutes, administrative rules, and/or ordinances that set out standards regulating the practice of surveying within their jurisdictions. In addition to the standards set forth herein, surveyors must also conduct their surveys in accordance with applicable jurisdictional survey requirements and standards of practice. Where conflicts between the standards set forth herein and any such jurisdictional requirements and standards of practice occur, the more stringent must apply.

Most, but certainly not all, states have adopted either statutes or administrative rules setting standards that regulate the practice of surveying in those states. Additionally, there are some local jurisdictional requirements that are relevant. The 2011 standards also mentioned federal regulation of the practice of surveying, but because surveying is regulated on a state and/or local level, reference to federal standards regulating the practice was removed in 2016.

As an example of the application of Section 3.B., many states require that all boundary corners be monumented, but some do not. Likewise, a few states burden the surveyor with conducting easement research, but most do not.

Notwithstanding the ALTA/NSPS Standards, the surveyor must understand and account for the various requirements that he or she may be operating under, and assure that the most stringent of those has been met. When a state or local requirement exceeds that required under the ALTA/NSPS Standards, the surveyor must meet the jurisdictional requirement even if is higher than that required under the ALTA/NSPS Standards.

Section 3.C. – The Normal Standard of Care

> Surveyors should recognize that there may be unwritten local, state, and/or regional standards of care defined by the practice of the "prudent surveyor" in those locales.

Surveyors are advised to remember that, notwithstanding the written ALTA/NSPS Standards, they also operate under a normal standard of care based on the practice of the prudent surveyor in their localities as of any certain date.

For example, in Section 5.E.ii. of the 2026 Standards, surveyors must show "*evidence of easements or servitudes … not disclosed in the documents provided to the surveyor, but observed in the process of conducting the fieldwork….*" Perhaps there was some improvement or feature on the property that the surveyor did not observe and that was, therefore, not shown on the survey. If, however, that feature turned out to be evidence of a prescriptive easement its nondisclosure on the survey may have resulted in a title claim. In defense of the survey, the surveyor might testify that his or her field crew did not "observe" that feature; however, a judge, weighing the survey against the normal standard of care, might rule that the surveyor ***should*** have seen the feature and was therefore responsible for the omission.

There are a number of clauses in the 2026 Standards in which the written standard is clear, but

the where the surveyor's *performance* under that standard could be dictated by the normal standard of care. It is therefore very important that surveyors be very familiar with surveying practice in those areas in which they may find themselves working.

Section 3.D. – Boundary

> The boundary lines and corners of any property or interest in real property being surveyed (hereafter, the "surveyed property" or "property to be surveyed") as part of an ALTA/NSPS Land Title Survey must be established and/or retraced in accordance with appropriate boundary law principles governed by the set of facts and evidence found in the course of performing the research and fieldwork.

Until 2011, the ALTA/ACSM Standards were silent on the topic of retracement or establishment of boundaries – apparently leaving it to the professional's judgment. Many persons felt this had always been a shortcoming of the ALTA/ACSM Standards. The standards were very specific as to measurement precision, but that they were silent on the issue on the integrity of the boundary resolution. That was a valid concern and for that reason, Section 3.D. was written into the 2011 ALTA/ACSM Standards.

The wording was later revised to acknowledge that a Land Title Survey may be of less than a fee interest in real property, or even of a lease, to clarify that the lines and corners ***must*** be established and/or retraced in accordance with appropriate boundary law principles, and establish consistent wording throughout the standards for naming the property that is the subject of the survey (the "surveyed property" or "property to be surveyed" depending on the context in the standards).

The surveyor is specifically charged with understanding the applicable boundary law principles and applying those accordingly to the set of facts and evidence when establishing or retracing a boundary.

Section 3.E. – Measurement Standards

> The following measurement standards address Relative Positional Precision for the monuments or witnesses marking the corners of the surveyed property.

Section 3.E.i. – Relative Positional Precision

> "Relative Positional Precision" is the accepted indicator of measurement quality on an ALTA/NSPS Land Title Survey. It is defined as the length of the semi-major axis, expressed in meters or feet, of the error ellipse of the line connecting the monuments or witnesses marking adjacent boundary corners of the surveyed property at the 95 percent confidence level. Relative Positional Precision is most commonly estimated by the results of a correctly weighted least squares adjustment of the survey, or alternatively it can be estimated by the standard deviation of the distance between the monument or witness marking any boundary corner of the surveyed property and the monument or witness marking an immediately adjacent boundary corner of the surveyed property (called local accuracy) that can be computed using the full covariance matrix of the coordinate inverse between any given pair of points, understanding that Relative Positional Precision is based on the 95 percent confidence level.

Section 3.E. spells out the various facets of the measurement standards for ALTA/NSPS Land Title Surveys. Accuracy is a term related to the closeness to a true value; but the true value of a survey measurement cannot be exactly known since all measurements contain some level of uncertainty or uncontrollable error, albeit it minute in many cases. Thus the measurement standard is, and always has been, related to the *precision* of a measurement – its uniformity or reproducibility.

The definition of Relative Positional Precision specifies that the length of the semi-major axis of the relative error ellipse is the essential calculation. (See further discussion on this topic under Sections 3.E.iv. and v. below). That definition has been adjusted over the years, most recently the 2026 standards have narrowed the definition to apply to the *line* connecting adjacent boundary monuments (which is one dimensional), not to the *relationship* between adjacent boundary monuments (which is two dimensional).

Sections 3.E.ii. and 3.E.iii. – Uncertainties in Boundary Locations

> **3.E.ii.** Any boundary lines and corners established or retraced may have uncertainties in location resulting from (1) the availability, condition, history and integrity of reference or controlling monuments, (2) ambiguities in the record descriptions or plats of the surveyed property or its adjoiners, (3) occupation or possession lines as they may differ from the written title lines, or (4) Relative Positional Precision. Of these four sources of uncertainty, only Relative Positional Precision is controllable, although, due to the inherent errors in any measurement, it cannot be eliminated. The magnitude of the first three uncertainties can be projected based on evidence; Relative Positional Precision is estimated using statistical means (see Section 3.E.i. above and Section 3.E.v. below).
>
> **3.E.iii.** The first three of these sources of uncertainty must be weighed as part of the evidence in the determination of where, in the surveyor's opinion, the boundary lines and corners of the surveyed property should be located (see Section 3.D. above). Relative Positional Precision is a measure of how precisely the surveyor is able to monument and report those positions; it is not a substitute for the application of proper boundary law principles. A boundary corner or line may have a small Relative Positional Precision because the survey measurements were precise, yet still be in the wrong position (*i.e.*, inaccurate) if it was established or retraced using faulty or improper application of boundary law principles.

In the process of conducting a boundary survey, a variety of conflicts between deed descriptions, plats, surveys, and even facts on the ground, will often, if not almost certainly, be found. An explanation of the causes of these discords is warranted. And since many disagreements between legal descriptions have their genesis in the surveys that were performed in the creation of those descriptions, a look at the sources of uncertainties in boundary determinations is necessary.

There are four potential sources of uncertainty in boundary locations. These result from (1) uncertain, indeterminate or conflicting reference monuments; (2) inconsistent, erroneous or conflicting legal descriptions and survey plats or maps; (3) lines of occupation or possession that differ from the lines of written title; and (4) the inherent imprecision in any measurement.

Reference/Controlling Monumentation

Any boundary survey must begin at, or be based on, (except in very rare cases) at least two known "control" or "reference" points (or, in some cases, as we learned in geometry, a point and a ray (direction/line)). Boundaries are not established out of thin air, they must relate in some way to other known locations, such as right of way lines/corners, subdivision corners, section lines, or grant corners.

Reference monuments can take many forms other than those mentioned above since there are many points and lines referenced in any given description on which the boundary may be dependent. The location of each of these dependent points or lines must be recovered, established or otherwise determined in order to retrace the boundary properly and with confidence.

Frequently, however, the referenced point or line is not well-documented. For example, a description may call for a line to run parallel with a railroad right of way line. If that particular railroad was abandoned 50 years ago, determining exactly where it was may be problematic.

Likewise, a description may commence at the intersection of the centerlines of two old county or township roads. The surveyor may find few if any records related to that location. The field investigation may or may not reveal any marker at that location, in which case the location must re-established — often based on conflicting, old and incomplete records and evidence. The resulting location will not have as a high of a level of "confidence" as it would have had the original marker been found.

Different surveyors may interpret the records and evidence differently thereby coming up with their own conflicting opinions as to the location of the same point. Obviously, surveys utilizing different beginning points will result in boundary corners and lines that are in conflict.

Documenting the uncertainties inherent in many, if not most, reference monuments is a good habit to develop.

Record Documents

Another source of boundary conflicts lies in the records themselves. Many boundary lines, where one would expect neighboring properties to share "common" lines, in fact, have gaps and overlaps between the parcels. The exact source of these variances can sometimes be found and sometimes not. They may be result of unqualified persons writing descriptions, descriptions that were written without benefit of a boundary survey, or even poor surveys.

Sometimes these problems are simply the result of mistakes that occurred in the transcription of a deed and that were perpetuated through the years in a series of deeds. Sometimes they are the result descriptions based on conflicting surveys (as discussed above under "Reference Monumentation"). And conflicts in the records can simply be the result of poor survey work in the first place.

In any event, in a boundary survey, it is important to recognize that conflicts will often occur

in the records and this is not unusual or unexpected. Again, it would be a good habit to document these conflicts and their magnitude.

Lines of Possession or Occupation

It is not unusual in the process of performing a boundary survey to find lines of occupation such as fence lines, walls, tree lines or hedge rows near, but not exactly on the boundary line. Sometimes, these lines will be significantly different from the line as described in the deed. This is important to recognize since the courts often afford great weight to lines of occupation. Likewise, surveyors may also; sometimes justifiably, sometimes not.

Often fence and tree lines are reliable evidence of where a boundary may lie. But sometimes, they differ significantly and those differences may be evidence of the movement of lines by unwritten means such as adverse possession. Alternately they may be the best evidence of the original lines, when no other is available.[1] And, of course, sometimes a fence is just a fence.

Generally for possession to be considered evidence of original survey lines:

- There must have been a controlling survey that, if located, would control the lines between the adjoiners
- Lines of possession are along the lines surveyed or presumed to have been surveyed by the original surveyor
- A series of possessions in agreement with one another tend to substantiate one another
- The possession is of a former generation (ancient) or testimony can be taken as to its origin
- Possession has the reputation of being on the correct survey lines.[2]

Measurement Uncertainty

As noted above, and as all surveyors know, there is no such thing as a perfect measurement. No matter what type of measuring device is used, the "true" length of anything is unknown — at least within the tolerance of the measuring device being used. Surveying is no different.

Surveyors have many highly accurate measuring devices such as electronic total stations, EDM, lasers and GPS. But none are perfect and all result in some level of uncertainty in the measurement. When current technologies are applied in land surveys to retrace boundaries that were originally surveyed with a compass and chain in the mid 1800s, these measurement issues can become significant.

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[1] Michigan Supreme Court Chief Justice Thomas M. Cooley, in his famous 1881 treatise The [Quasi-] Judicial Function of Surveyors stated "*Occupation, especially if long continued, often affords very satisfactory evidence of the original boundary when no other is attainable…"* and *"…in a legal controversy the law as well as common sense must declare that a supposed boundary long acquiesced in is better evidence of where the real line should be than any survey made after the original monuments have disappeared."*

[2] Evidence & Procedures for Boundary Location, 5th Edition, Brown, Robillard & Wilson, p. 111

These issues can be the source of conflicts that occur in modern surveys and descriptions as they fit with, or relate to, older parcels.

Interestingly, of these four sources of uncertainty in boundary location, only the last one — measurement uncertainty — is controllable by surveyor; yet it cannot be eliminated, only minimized. The other sources — reference monuments, records and occupation/possession — are part of the evidence that the surveyor uses in forming an opinion about where a boundary line or corner should be placed.

Section 3.E.iv. – Measurement Technology and Procedures

> For any measurement technology or procedure used on an ALTA/NSPS Land Title Survey, the surveyor must (1) use appropriately trained personnel, (2) compensate for systematic errors, including those associated with instrument calibration, and (3) use appropriate error propagation and measurement design theory (selecting the proper instruments, geometric layouts, and field and computational procedures) to control random errors such that the maximum allowable Relative Positional Precision outlined in Section 3.E.v. below is not exceeded.

When it comes to the actual measuring, surveyors are, and have always been, charged with making sure that their staff is appropriately trained and equipped. Surveyors also know that they must compensate for systematic errors in their measurements, including those associated with instrument calibration, or their results will not be precise. They know that they must use appropriate error propagation and measurement design theory, which, in part, involves selecting the proper instruments, geometric layouts, and field and computational procedures so that the random errors that are inherent in any measurement are controlled to the extent possible and practicable.

Section 3.E.v. - Relative Positional Precision

> The maximum allowable Relative Positional Precision for an ALTA/NSPS Land Title Survey is 2 cm (0.07 feet) plus 50 parts per million (based on the direct distance between the two corners being tested). It is recognized that in certain circumstances, the size or configuration of the surveyed property, or the relief, vegetation, or improvements on the surveyed property, will result in survey measurements for which the maximum allowable Relative Positional Precision may be exceeded in which case the reason shall be noted pursuant to Section 6.B.x. below.

The ALTA/NSPS Standards address measurement uncertainty through the concept of Relative Positional Precision (RPP). As noted above, Relative Positional Precision is defined in Section 3.E.i. of the 2026 Standards as "*the length of the semi-major axis, expressed in meters or feet, of the error ellipse of the line connecting the monuments or witnesses marking adjacent boundary corners of the surveyed property at the 95 percent confidence level.*"

In order to eliminate any confusion, previous reference to "two standard deviations" in earlier versions of the Standards was eliminated in the 2021 Standards (the 95% confidence level is, for a one-dimensional uncertainty, actually 1.96, not 2, standard deviations).

If an adjustment is not properly weighted, the resulting uncertainty estimates in coordinate locations may not be valid. In order to properly weight a least square adjustment, one must (1) know what the primary sources of measurement uncertainty are for any given measurement, and (2) determine reliable estimates of the magnitude of the uncertainty from each of those contributing factors (at the 95% confidence level).

Exhibit 1 of this handout contains some example information in this regard. As demonstrated therein, estimates of those uncertainties can be obtained collectively from textbooks, field testing and instrument manuals.

Once reliable estimates of the various sources of uncertainty have been determined, those numbers are used in the least squares adjustment to assure proper weighting of the various measurements.

Every physical point located or set on a survey has an uncertainty in its location that can be represented by an error ellipse. The size (length of the semi-major and semi-minor axes) and orientation of the error ellipse for any point is a function of the uncertainties in the measurements that were made in the determination of that point's location.

For example, if a point was located based on an angle and distance made from only one point, the resulting error ellipse at the first point will have one axis that is along the line measured (the length of which is a function of the uncertainty in the distance measurement); and one axis that is perpendicular to the line measured (the length of which is a function of the uncertainty in the angle).

In the case of Figure 1 below, the uncertainty in the angular measurement was greater than in the distance measurement. Figure 2 further below demonstrates the opposite — where the uncertainty in the distance measurement was greater.

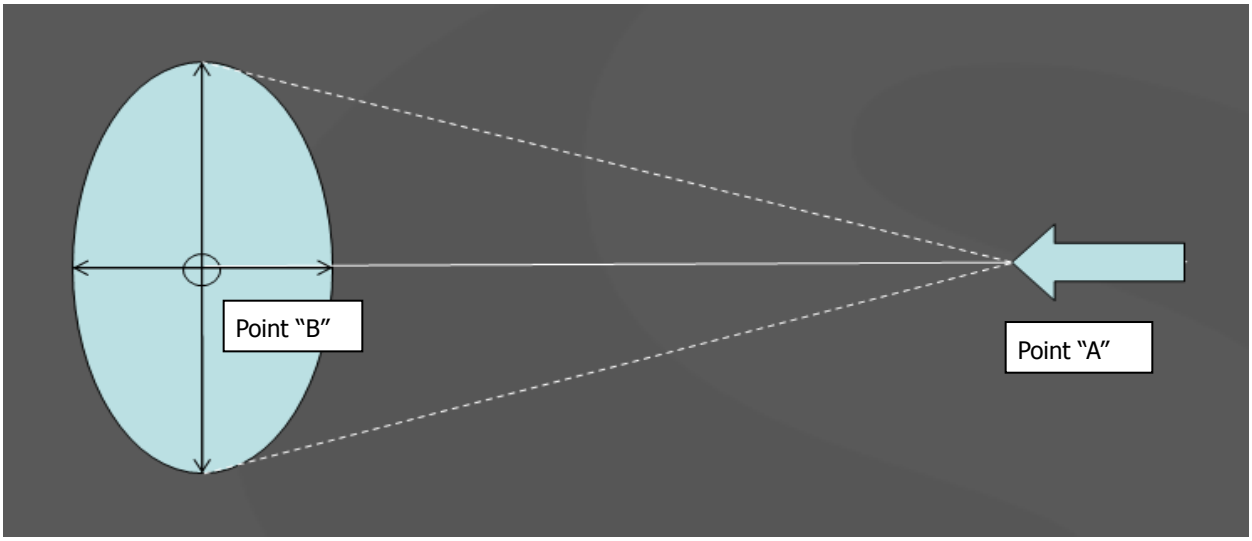

Figure 1

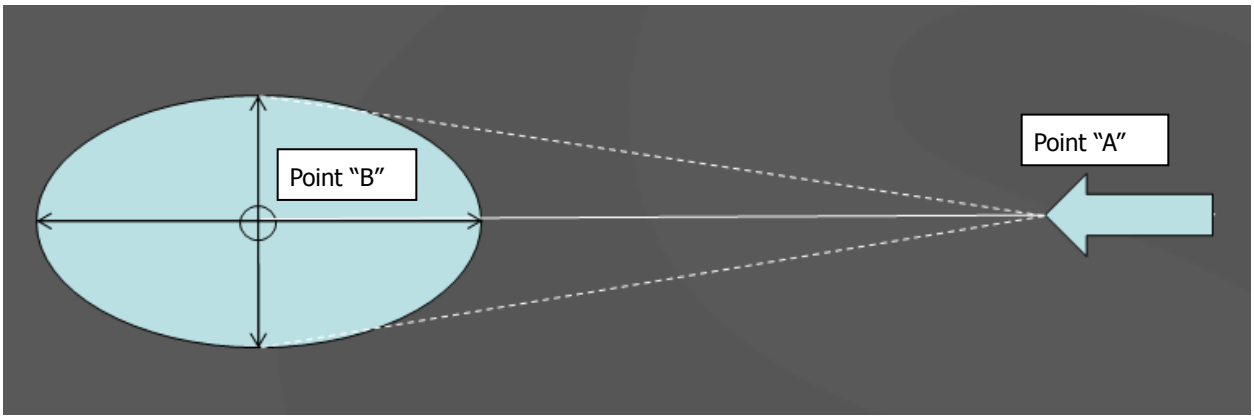

Figure 2

If Point 'B' was, however, located based not only on that one set of distance and angle measurements from Point 'A,' but also redundantly, using an angle and distance from Point 'C,' then the resulting error ellipse at Point 'A' will have a different size and orientation because it will be a function of two error ellipses — one based on the measurements made from Point 'A' and one based on the measurements made from Point 'C.' Generally, because of the redundant measurement, the size of the combined error ellipse will be smaller (the respective lengths of its two axes will be shorter). Also, its orientation will no longer simply be along and perpendicular to the measurement from Point 'A' because it will obviously also be affected by the set of measurements made from Point 'C' (see Figure 3 below).

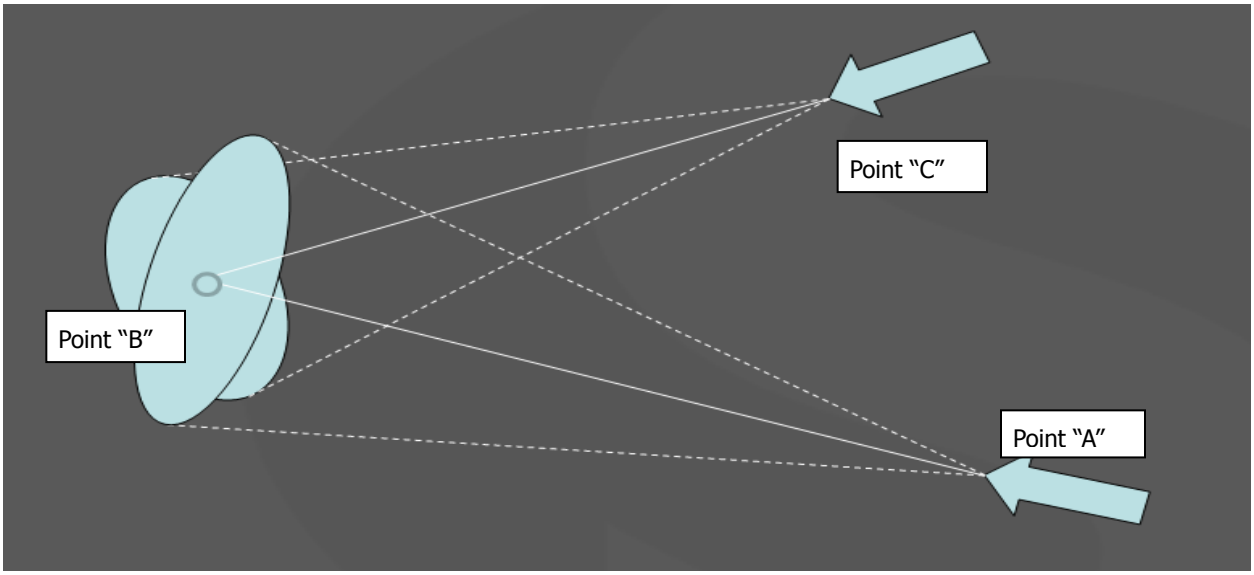

Figure 3

The RPP for the line connecting any two adjacent boundary monuments is compared to the allowable RPP which is 2 cm (0.07 feet) plus 50 ppm, with the 50 ppm being based on the length of the line directly connecting the two points being tested. If the RPP exceeds the allowable 2 cm and 50 ppm, then the survey will need to be looked at and perhaps some targeted redundant measurements made, or higher precision equipment utilized in order to decrease the size of the

relevant error ellipses.

There are a number of excellent resources available that explore measurement uncertainty in far more depth than is appropriate in this handout.

Section 4 – Records Research

> It is recognized that for the performance of an ALTA/NSPS Land Title Survey, the surveyor must be provided with appropriate and, when possible, legible data that can be relied upon in the preparation of the survey. In order to complete an ALTA/NSPS Land Title Survey, the surveyor must be provided with the following:
>
> A. Given the purpose of an ALTA/NSPS Land Title Survey, complete copies of the most recent title commitment or, if a title commitment is not available, other title evidence satisfactory to the title insurer (if a recent title commitment is not provided, in some cases, additional title research may be required on the part of and by the insurer or on the part of the surveyor due to state law);
> B. The current record description of the real property to be surveyed or, in the case of an original survey prepared for purposes of locating and describing real property that has not been previously separately described in documents conveying an interest in the real property, the current record description of the parent parcel that contains the property to be surveyed;
> C. The following documents from records established under state statutes for the purpose of imparting constructive notice of matters relating to real property (public records):
> i. Any recorded easements benefitting (i.e., appurtenant to) the property to be surveyed; and
> iii. Any recorded easements, servitudes, or covenants burdening the property to be surveyed; and
> D. If desired by the client, any unrecorded documents affecting the property to be surveyed and containing information to which the survey shall make reference.
>
> Except, however, if the documents outlined in B and C of this section are not provided to the surveyor or if non-public or quasi-public documents (e.g., highway or railroad plans) are otherwise required to complete the survey, the surveyor must conduct that research which is required pursuant to the statutory or administrative requirements of the jurisdiction where the surveyed property is located and that research (if any) which is negotiated and outlined in the terms of the contract between the surveyor and the client.

In order for the surveyor to meet the needs and expectations of the title industry regarding the location and existence of easements, the relationship with adjoiners, the width and locations of rights of way, etc., the American Land Title Association has, since 1962 by adoption of the ALTA/ACSM (or ALTA/NSPS) Standards, understood and agreed that the insurer (title company) should provide the appropriate documents to the surveyor for use in preparing the survey.

However, an ALTA/NSPS Land Title Survey is performed pursuant to a contract (preferably written, but an unwritten contract is just as valid), and that contract cannot impose any responsibilities on third parties. So, contractually the responsibility for providing documents falls to the client, but from a practical standpoint, everyone should understand that the title company will be the entity that provides them.

The request for an ALTA/NSPS Land Title Survey is to include the current record description of

the property to be surveyed or, in the case of an original survey,[3] the current record description of the parent parcel that contains the property to be surveyed. The provider of this information is not specified, but contractually it is the client.

The list of documents to be provided to the surveyor was shortened with the 2026 Standards. Responsibilities have also been clarified in the 2026 Standards, particularly when those documents have, in fact, not been provided to the surveyor.

Normally there will be a title company involved and someone will provide the surveyor with a copy of the title commitment. There are, however, occasions when someone simply decides they want an ALTA/NSPS Land Title Survey even though there is no pending conveyance or financing, and in that case, there may *not* be a title company. Nevertheless, ALTA and NSPS agreed in 2011 that title work must be provided to the surveyor or an ALTA/ACSM Land Title Survey could not be performed.

The wording in the 2026 Standards has tried to address the issue of title evidence. Between the client and the surveyor, some sort of resolution to the title work will need to be negotiated because a Land Title Survey cannot be completed without title work. In the worst case, the surveyor could perform a survey to the 2026 Standards, but he or she could not entitle it an "ALTA/NSPS Land Title Survey" and neither could the ALTA/NSPS certification be used or other reference to the Standards made if no title work was provided.

Other than title work, the documents to be provided to the surveyor include easements benefitting the property being surveyed, easements, servitudes and covenants burdening the property being surveyed, and unrecorded documents to which the survey is to make reference.

For a several reasons, the record descriptions of adjoiners are no longer required to be provided to the surveyor, although the surveyor will need to obtain them one way or the other in order to assess the relationship of the boundary of the surveyed property with those adjoining properties.

Prior versions of the standards purposely ignored what to do if those documents were not provided, under the presumption that Section 3.B. would provide the necessary guidance. With the 2026 Standards, however, in order to prevent any confusion and to provide better guidance to surveyors, this issue has been better addressed: if the listed documents are not forthcoming, or if there are other non-public or quasi-public documents required to complete the survey, the surveyor's responsibility is limited to the statutory and administrative requirements of the jurisdiction where the property being surveyed is located and any other research that may have been negotiated in the contract between the surveyor and client.

Surveyors should note that that there is nothing in the 2026 Standards to suggest that these documents must be provided at no cost.

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[3] For clarity and to draw a distinction from original surveys of the public lands performed by or for the Bureau of Land Management, when performing an ALTA/NSPS Land Title Survey an "original survey" is defined in Section 4 as a "*survey prepared for purposes of locating and describing real property that has not been previously separately described in documents conveying an interest in the real property.*"

Section 5 – Field Work

The fieldwork must be performed using practices generally recognized as acceptable by the surveying profession for purposes of an ALTA/NSPS Land Title Survey. Except as related to the precision of the boundary, which is addressed in Section 3.E. above, features located during the fieldwork shall be located to what is, in the surveyor's professional opinion, the appropriate degree of precision based on (a) the planned use of the surveyed property, if reported in writing to the surveyor by the client, lender, or insurer, or (b) the existing use, if the planned use is not so reported. The fieldwork shall include the following:

ALTA/NSPS Land Title Surveys were always to be based on field work conducted on the ground, unless Table A item 15 has been selected by the client. Technology, however, has somewhat muddied the waters as to what "on the ground" means. With surveyors beginning to routinely take advantage of advancements in technology such as LiDAR and drones, the wording of this paragraph was modified to leave it to the profession to essentially define what is acceptable.

Section 5.A. – Monuments

Section 5.A.i. – Monuments Found

The location, size, character (including relationship to surface of the ground), and type of any monuments found during the fieldwork.

Section 5.A.ii. – Monuments Set

The location, size, character (including relationship to surface of the ground), and type of any monuments set during the fieldwork, if item 1 of Table A was selected or if otherwise required by applicable jurisdictional requirements and/or standards of practice.

Any monuments found during the fieldwork must be shown and adequately described on the face of the plat/map. Surveyors all know that they are to "*follow in the footsteps of the original surveyor,"* but if they do not leave good evidence of their work by virtue of substantial monumentation on the ground and clear descriptions of those monuments (whether found or set) documented on their plats/maps, then following in their footsteps becomes a challenge at best and impossible at worst. In that spirit, *relationship to surface of the ground* was added as an identifying feature to monuments found or set.

Pursuant to Section 3.B., if jurisdictional requirements require monumentation, then the client's wishes do not matter. The client may not want to pay for monuments, but surveyors are bound by law to conduct their practice pursuant to the statutes and administrative rules/regulations of their state. So, if monuments are required by the state, the surveyor may as well make a habit of automatically checking Table A Item 1.

Section 5.A.iii. – Controlling Lines and Monuments

The location, description and character of any lines that control the boundaries of the surveyed property.

Monuments or lines that control the boundaries of the surveyed property generally fall into one of two categories. The first are those monuments called for directly in the description, or indirectly (e.g., by virtue of reference to a subdivision plat) and which therefore control the

perimeter boundary of the surveyed property itself.

The other category includes those monuments or lines that control the boundary by reference. Examples include:

- If the description commences at a remote corner and then runs one or more courses to the point of beginning, that remote corner may control the location of the point of beginning even though it is not actually on the perimeter of the surveyed property.
- If a part of the boundary of the property runs parallel with, for example, a railroad right of way line, that right of way line is a controlling line even though it is not itself part of the boundary of the surveyed property.
- In the U.S. Public Land Survey states where the surveyed property is described, for example, as a quarter-quarter or half-quarter section, the monuments forming *the entire quarter section* would typically be part of what controls the smaller aliquot part actually being surveyed.

There are innumerable other examples, but in all cases, the 2026 Standards require that the location, description and character of such lines and monuments be included as part of the survey (and, of course, shown on the plat/map).

Section 5.B. – Rights of Way and Access

Issues of access are of paramount concern to title companies. Surveyors performing ALTA/NSPS Land Title Surveys would be well-advised to know that, based on input from the title industry, this is an area where surveyors often do a less than stellar good job of accurately and completely reporting the access situation on the ground.

Section 5.B.i. – Distance to nearest right of way line

> The distance from the appropriate corner or corners of the surveyed property to the nearest right of way line, if the surveyed property does not abut a right of way.

It is of concern to the title company when a property appears to be land-locked or has access to a public road only by virtue of an easement. Thus, in such cases, the field work is to include a measurement to the nearest right of way line from the appropriate corner or corners of the property.

"*Appropriate corner or corners"* means that, for example, if the nearest right of way line is to the east of the property, the surveyor does not need to make or show a measurement to that right of way line from corners on the *west* side of the surveyed property.

Section 5.B.ii. – Name, width and location of abutting right of way

> The name of any street, highway, or other public or private way abutting the surveyed property, together with the width of the travelled way and the location of each edge of the travelled way including on divided streets and highways. If the documents provided to or obtained by the surveyor pursuant to Section 4 indicate no access from the surveyed property to the abutting street or highway, the width and location of the travelled way need not be located.

Where the surveyed property abuts an existing public or private way, the name of that way must

be identified. Where a way exists only by virtue of a prescriptive right (which is not something the surveyor necessarily needs to determine) , the location of the traveled way can be particularly important because in some states, the prescriptive width extends only to include the traveled way. In those cases, if the boundary of the surveyed property does not reach the edge of the traveled way, there may be an access issue.

Even when the width of the right of way is known and documented, the parties may be very interested in knowing the width and location of the traveled way (even on divided streets and highways because of access from the other side of the road).

As implied above, being able to assess the condition of access to public and private ways is critically important. Claims related to access (or, more accurately, lack thereof) are not uncommon. See more discussion related to this issue under Sections 5.B.iv. and vi. below.

When there is no access to the abutting street from the surveyed property is indicated in the documents provided (e.g., the right of way is limited access), the width and location of the traveled way need not be determined.

Section 5.B.iii. – Observed evidence of access

> Evidence of physical access (including vehicular access such as curb cuts and driveways) to any abutting streets, highways, or other public or private ways observed in the process of conducting the fieldwork.

The surveyor is obligated to show the evidence of physical access (such as curb cuts and driveways) to any street, highway or other public way that abuts the surveyed property they was observed in the process of conducting the fieldwork. This gives the title company yet more information as to the exact access situation affecting the property.

Up until 2026, that this had been the only place in Section 5 of the standards where the term "*observed in the process of conducting the fieldwork*" was not used to describe the surveyor's obligation. For the 2026 standards, the joint workgroup felt it was appropriate to place the same responsibility on the surveyor as in the rest of Section 5.

Section 5.B.iv. – Access by other than the occupants

> The location and character of vehicular, pedestrian, or other forms of access by other than the apparent occupants of the surveyed property to or across the surveyed property observed in the process of conducting the fieldwork (*e.g.*, driveways, alleys, private roads, railroads, railroad sidings and spurs, sidewalks, footpaths).

Vehicular, pedestrian or other forms of access to or across the surveyed property by other than the apparent occupants of the surveyed property may be evidence of a prescriptive easement. The location and character of such uses must be shown. For 2016, the examples provided were extended to include railroads and railroad sidings and spurs in addition to driveways, alleys, private roads, sidewalks and footpaths.

In the case of, for example, sidewalks and driveways, the title-based concern is not with regard to regular visitors or occupants who might access the property or building via a driveway to the parking lot or a sidewalk to the building, but rather adjoiners or members of the general public who use or cross the property for general access purposes.

Section 5.B.v. – Potential encroachments of ways of access

> Without expressing a legal opinion as to ownership or nature, the location and extent of any potentially encroaching driveways, alleys, and other ways of access from adjoining properties onto the surveyed property observed in the process of conducting the fieldwork.

Notwithstanding the fact that surveyors often give opinions and make general statements using the word "encroachment," whether or not a physical condition represents a true encroachment is a *legal* determination, not a matter of survey. An encroachment can be defined as an 'illegal trespass' and neither of those words falls under the definition of the practice of surveying. Thus, this section begins with the phrase, "*Without expressing a legal opinion as to ownership or nature…"*

In any event, the surveyor must carefully look for potentially encroaching ways of access from adjoining properties, and locate and measure the extent of any such condition. Again, these conditions tie to potential claims of prescriptive rights, and the title company needs to be made aware of their existence so appropriate exceptions can be written.

Section 5.B.vi. – Widths of abutting rights of way

> Where documentation of the location of any street, road, or highway right of way abutting, on, or crossing the surveyed property was not disclosed in documents provided to or obtained by the surveyor, or was not otherwise available from the controlling jurisdiction (see Section 6.C.iv. below), the evidence and location of parcel corners on the same side of the street as the surveyed property recovered in the process of conducting the fieldwork which may indicate the location of such right of way lines (*e.g.*, lines of occupation, survey monuments).

When surveyors are provided documentation (see discussion under Section 4 above) regarding the location of rights of way abutting, on or crossing the surveyed property, that information must be reflected on the survey. However, when no such information was provided, the surveyor needs to check with the controlling jurisdiction for any available information (see also the discussion below under Section 6.C.iv).

When no information was provided by the client or obtained through the jurisdiction, the legal width of the right of way may remain in question. This section requires that the surveyor look for and report evidence along the same side of the street (for example, fences, utility poles or survey monuments) that might represent someone's opinion of the right of way's width and location. As with the other items under Section 5.B., such information helps the title company understand and evaluate the access situation.

Section 5.B.vii. – Water access

> Evidence of access to and from waters adjoining the surveyed property observed in the process of conducting the fieldwork (*e.g.*, paths, boat slips, launches, piers, docks)

In many cases, property adjoins a waterway or pond/lake. In most states, such access is of particular and significant value. Water access also typically carries with it certain riparian and other rights, which are, in some cases, shared with others.

In a few remaining states, water access carries a particular importance because property owners in those states cannot claim an easement by necessity if their property has access to navigable waters. As a result of these types of issues, evidence of access to water is of particular interest to the title company, and the surveyor must locate and show the related improvements such as boat launches, piers and docks.

Locations of the water features themselves are discussed below under Sections 5.G. and 6.B.vi.

Section 5.C. – Lines of Possession, and Improvements along Boundaries

Potential encroachments, claims of adverse possession, acquiescence and prescriptive rights are examples of potential title or boundary conflicts that could affect title and result in title claims. As a result, title companies must be aware of their existence.

Section 5.C.i. – Evidence of possession or occupation

> The character and location of evidence of possession or occupation along the perimeter of the surveyed property, both by the occupants of the surveyed property and by adjoining properties, observed in the process of conducting the fieldwork regardless of proximity to the perimeter boundary lines.

Lines of occupation and/or possession are normally an indication of the respective owners' opinions as to where they believe their property lines are. When those lines differ from the line established pursuant the written title, there is the potential for a boundary dispute or claim of unwritten rights. The surveyor must locate and identify the character of the possession or occupation and show it on the plat/map. The title company will likely write an exception for any conflicting claims associated with those lines.

Typically, such lines are represented by improvements like fences, walls, buildings and landscaping, but the surveyor should also watch for less obvious features such as brush or tree lines. In some states, a mow line may be considered enough of an occupation on which to base a claim of unwritten rights. In other states, adversely occupying a portion of a parcel can result in a valid claim of adverse possession against the entire parcel. In any event, the surveyor should assess the magnitude and significance of such conditions, and locate and show them if there is any question.

Previously there was an incorrect belief amongst some surveyors that pursuant to Section 5.C.ii., evidence of possession or occupation needed to be shown only if it was within 5 feet of the perimeter boundary. That is not what the standards said, but this item now addresses that confusion.

Some may remember reading about the court case in which Curtis Brown served as an expert where a surveyor was held liable for not providing detail on a line of occupation that was 230 feet from the perimeter boundary.

Title companies, lenders and clients must know about potential claims against the property regardless of how far they are located from the perimeter of the property. There could be a situation where a line of possession or occupation is so far from the perimeter boundary or, for example, hidden from view in thick woods, that the surveyor misses it. The defense in that case

might well be the normal standard of care: Would the competent surveyor, surveying in that same area and under similar circumstances, have observed that line or not?

Section 5.C.ii. – Improvements within 5 feet of the boundary line

> Unless physical access is restricted, the character and location of all walls, buildings, fences, and other improvements within five feet of each side of the boundary lines observed in the process of conducting the fieldwork (see Section 5.D.iv. regarding the location of utility features). Trees, bushes, shrubs, and other vegetation need not be located other than as specified in the contract, unless they are deemed by the surveyor to be evidence of possession or occupation pursuant to Section 5.C.i.

Title companies have an interest in the character and location of any improvements within five feet of each side of the boundary lines. Features such as neighboring buildings or manholes near the line may end up being significant, for example, in the development or a property, so the surveyor must locate and show such improvements on the plat/map. This is independent of the issue of a line of occupation or possession covered in Section 5.C.i.

Of course, surveyors almost universally include Table A item 8 as part of their surveys, and when that is the case, this subsection *really* means the character and location of all walls, buildings, fences, and other improvements *on the surveyed property and off, but within five feet of, the surveyed property* observed in the process of conducting the fieldwork.

If the surveyor is unable to access the area 5 feet from the boundary lines, Section 6.B.xi. requires a note to that effect.

Utility poles, due to the length of cross arms, are a special case addressed in Section 5.D.iv.

Section 5.C.iii. – Potential encroachments over boundary lines

> Without expressing a legal opinion as to the ownership or nature of the potential encroachment, the evidence, location and extent of potentially encroaching structural appurtenances and projections observed in the process of conducting the fieldwork (*e.g.*, fire escapes, bay windows, windows and doors that open out, flue pipes, stoops, eaves, cornices, areaways, steps, trim) by or onto adjoining properties, or onto rights of way, easements, or setback lines disclosed in documents provided to or obtained by the surveyor.

As with Section 5.B.v., notwithstanding the fact that surveyors often give opinions and make general statements on encroachments, whether or not a physical condition represents an actual encroachment (i.e., an "*illegal trespass*") is a legal determination, not a matter of survey. So, again, similar to Section 5.B.v. this section begins with the phrase, "*Without expressing a legal opinion as to the ownership or nature of the potential encroachment…."*

The surveyor must carefully assess the property for potential encroachments, which can take many forms, particularly in downtown and urban areas. The location, extent and nature of any potential encroachment observed must be noted and shown on the plat or map in relation to the impacted boundary or any affected right of way, easement or setback line for which documentation was provided or obtained pursuant to Section 4.

As with Section 5.B.v., the title company will typically write a Schedule B exception for the

potential encroachment.

Section 5.D. – Buildings

> The location of buildings on the surveyed property observed in the process of conducting the fieldwork.

All buildings observed in the process of conducing the fieldwork must be located. Section 6.B.ix. explains how buildings are to be dimensioned on the plat/map.

Section 5.E. – Easements and Servitudes

Section 5.E.i. – Evidence of easements or servitudes disclosed in the Record Documents

> Evidence of Documented Easements: Evidence of any easements or servitudes burdening the surveyed property as disclosed in the documents provided to or obtained by the surveyor pursuant to Section 4 and observed in the process of conducting the fieldwork.

When surveyors are provided copies of easements and servitudes any evidence of those encumbrances observed in the course of performing the fieldwork must be located. Such evidence would be that consistent with the purpose of the easement (e.g., a manhole for a sewer easement, a utility pole or transformer for an electric line easement, a drive for an access easement).

If such documents are not provided, surveyors may have to obtain them themselves, but only if jurisdictional requirements or standards put such a burden on surveyors. Notwithstanding that, however, Section 5.E.i. applies only when the documents were provided.

Section 5.D.ii. – Evidence of easements or servitudes not disclosed in the Record Documents

> Evidence of Undocumented Use (Prescriptive Easements): Evidence of easements, servitudes, or other uses by other than the apparent occupants of the surveyed property not disclosed in the documents provided to or obtained by the surveyor pursuant to Section 4, but observed in the process of conducting the fieldwork if they are on or across the surveyed property (e.g., roads, drives, sidewalks, paths and other ways of access, utility service lines, utility locate markings (including the source of the markings, with a note if unknown), water courses, ditches, drains, telephone lines, fiber optic lines, electric lines, water lines, sewer lines, oil pipelines, gas pipelines).

As with Section 5.B.iv., this section is focused on the possibility of prescriptive easements. The title company is relying on the surveyor to be its eyes in observing evidence of possible prescriptive easements or servitudes that may exist without benefit of a supporting record document.

This writer once gave a deposition in a federal lawsuit against a surveyor's insurance company claiming over $1 million in damages due to a manhole not having been shown on an ALTA/ ACSM Land Title Survey. The manhole turned out to be the only observable evidence of a large, old, brick combination sewer which cut right through the surveyed property, *and for which there was no record easement*. As such, it represented a valid prescriptive easement claim and the title company had to provide an indemnification because it was not aware of the existence of the manhole.

Likewise, this writer is familiar with a $60,000 claim for damages resulting from a gate in a fence that had provided long-time access by an adjoiner across the surveyed property. The fence was shown on the ALTA/ACSM Land Title Survey, but the gate was not.

Both of these cases involved claims of prescriptive easements that resulted in valid title claims. And in both cases, the surveyor clearly had a responsibility to have observed and shown the conditions.

Observable evidence of easements and servitudes can take many forms as noted in this section of the Standards. It would be advisable for surveyors to train their field technicians on the nature of prescriptive easements and what features might constitute evidence of one.

Particular note should be taken that utility locate markings have been identified as evidence of potential easements (in this section), evidence of underground easements (in Section 5.D.iii.), and evidence of utilities (Section 5.D.iv).

It should be noted that some utility installations may be evidence of an easement or prescriptive easement, while other features may not. In order to help surveyors avoid problems related to that issue, Section 5.D.iv. was added in 2016 (see below). Any utility features observed on the property (and off the property but within 5 feet [10 feet for utility poles]) must be located.

Section 5.D.iii. – Underground easements and servitudes

> Indication of Underground Easements: Surface indications of underground easements or servitudes on or across the surveyed property observed in the process of conducting the fieldwork (e.g., utility cuts, vent pipes, filler pipes, utility locate markings (including the source of the markings, with a note if unknown)).

As with Section 5.D.ii., surveyors and their field technicians must be familiar with what might constitute, in this case, evidence of underground easements and servitudes. When in doubt, it is likely better to ere on the side of caution and show any questionable features. Examples were added in 2016.

Section 5.E.iv. – Evidence of use by others

> Evidence of Utilities: Evidence on or above the surface of the surveyed property observed in the process of conducting the fieldwork, which evidence may indicate utilities located on, above, or beneath the surveyed property. Examples of such evidence include pipeline markers, utility locate markings (including the source of the markings, with a note if unknown), manholes, valves, meters, transformers, pedestals, clean-outs, overhead lines, and guy wires on and within five feet of the surveyed property, and utility poles on or and within ten feet of the surveyed property. Without expressing a legal opinion as to the ownership or nature of the potential encroachment, the extent of all potential encroaching utility pole crossmembers or overhangs.

Utility features might or might not be evidence of an easement. If they are deemed not evidence of an easement, then prior to the 2021 Standards, they did not need to be located and shown. But if they were deemed evidence of an easement, then they did need to be located and shown. Should the surveyor or field crew make a wrong determination, the result could be financially painful.

Since many times, utility features are, in fact, evidence of easements, the ALTA/NSPS Workgroup decided in 2016 to mitigate this conundrum by simply requiring that the observed evidence of utilities (formerly Table A item 11(a)) be a mandatory part of the standards.

Ambiguous language in the 2021 standards was addressed with the 2026 standards. Any observed utility features on or within 5 feet of the property are to be located and shown; observed utility poles on or within 10 feet of the property are to be located and shown.

Section 5.F. – Cemeteries

> As accurately as the evidence permits, the perimeter of cemeteries and burial grounds, and the location of isolated gravesites not within a cemetery or burial ground, (i) disclosed in the documents provided to or obtained by the surveyor, or (ii) observed in the process of conducting the fieldwork.

The title industry knows it is unreasonable and impossible to ask surveyors to identify 'all' cemeteries, burial grounds and gravesites on the surveyed property. Thus, the burden on surveyors with regard to cemeteries, burial grounds and gravesites is limited to when documents have been provided indicating their existence or when they were observed in the process of conducting the fieldwork.

The 2016 Standards clarified an unintended consequence of changes made in 2011 by requiring that the perimeter of cemeteries and burial grounds be located, but not the 'perimeter' of isolated gravesites — only their locations.

No change was made to this subsection in 2021 or 2026.

Section 5.G. – Water Features

Section 5.G.i. – Springs, ponds, lakes, streams and rivers

> The location of springs, ponds, lakes, streams, rivers, canals, ditches, marshes, and swamps on, running through, or outside, but within five feet of, the perimeter boundary of the surveyed property and observed during the process of conducting the fieldwork.

The various water features and courses that border on, run through or are within 5 feet of the perimeter boundary of the surveyed property need to be located and shown on the plat or map.

The extent of this effort, and the precision with which these features need to be located and shown, is dependent on a variety of factors.

Section 6 begins with the statement "The fieldwork shall include the following, *located to what is, in the surveyor's professional opinion, the appropriate degree of precision based on (a) the planned use of the property, if reported in writing to the surveyor by the client, lender, or insurer, or (b) the existing use, if the planned use is not so reported.*" (See more on Section 6 below.) This is particularly relevant with respect to water features. Being armed with what the planned use of the property will be helps the surveyor determine the effort necessary to meet the client's expectations and needs.

Other than adding the word "and" and removing a comma for clarity, no changes were made to this subsection in 2021.

Section 5.G.ii. – Water Boundaries

> The location of any water feature forming a boundary of the surveyed property. The attribute(s) of the water feature located (*e.g.*, top of bank, edge of water, high water mark) should be congruent with the boundary as described in the record description or, in the case of an original survey, in the new description (see Section 6.B.vi. below).

No change was made to this section in 2021.

The surveyor must locate any water feature that forms a boundary of the surveyed property. Studying the record documents will help identify what feature of the water boundary actually forms the legal boundary (e.g., the ordinary low water line, the bank, the edge of water).

While it is acknowledged that the lines and points located by the surveyor will not be the actual limit of title due to the meandering, irregular nature of most natural water boundaries, the locations obtained (and shown on the plat/map) should bear some relationship to the legal boundary or, if a new boundary is being created, to that described boundary. If this cannot be done (e.g., when the boundary is the center of a river or out in a lake), there should be a note on the survey explaining this fact.

This section must be taken together with Section 6.B.vi. for a more complete understanding of the ALTA/NSPS Standards' requirements regarding natural water boundaries.

Section 6. – Plat or Map

> A plat or map of an ALTA/NSPS Land Title Survey must be prepared using practices generally recognized as acceptable by the surveying profession for purposes of an ALTA/NSPS Land Title Survey and shall show the following information. Where dimensioning is appropriate, dimensions shall be annotated to what is, in the surveyor's professional opinion, the appropriate degree of precision based on (a) the planned use of the surveyed property, if reported in writing to the surveyor by the client, lender, or insurer, or (b) existing use, if the planned use is not so reported.

Recognizing the rapidly changing technological environment, Section 6 of the 2026 Standards has — similar to the new introductory language to Section 5 — recognized that the surveying profession should collectively determine what is acceptable practice in preparing the plat or map of a Land Title Survey.

Also similar to the introduction to Section 5, surveyors are to dimension features on their plats/maps commensurate with the planned uses of the properties if reported to them in writing.

Section 6.A. – Field Locations

> The evidence and locations gathered, and the monuments and lines located during the fieldwork pursuant to Section 5 above, with accompanying notes if deemed necessary by the surveyor or as otherwise required as specified below.

The plat or map must obviously reflect the data gathered in the fieldwork outlined in Section 5 (otherwise, why did we bother locating it?!).

Section 6.B. - Boundary, descriptions, dimensions and closures

Section 6.B.i. – Descriptions

> (a) The current record description of the surveyed property, or
> (b) In the case of an original survey, the current record document number of the parent tract that contains the surveyed property

As has been required for the past few versions of the ALTA/ACSM/NSPS Standards, the record description of the surveyed property is to appear on the face of the plat/map. The Workgroup understands that this is not the typical practice in some areas, but felt it was appropriate, so the parties relying on the survey know exactly what real estate was the subject of the survey.

If the survey is an original survey (defined in Section 4 as one "*prepared for purposes of locating and describing real property that has not been previously separately described in documents conveying an interest in the real property"*), then the recording information for the deed to the parent tract is to appear on the face of the plat/map.

Section 6.B.ii. – New Descriptions

> Any new description of the surveyed property that was prepared in conjunction with the survey, including a statement explaining why the new description was prepared. Except in the case of an original survey, preparation of a new description should be avoided unless deemed necessary or appropriate by the surveyor and insurer. Preparation of a new description should also generally be avoided when the record description is a lot or block in a platted, recorded subdivision. Except in the case of an original survey, if a new description is prepared, a note must be provided stating (a) that the new description describes the same real estate as the record description or, (b) if it does not, how the new description differs from the record description.

Vey minor changes were made to this subsection in the 2021 Standards. "Shall" was replaced with "must" and "if it does not" was moved to a more proper location in its sentence.

When the surveyor and the title company deem it appropriate, and a new description is prepared, that description is to also appear on the plat or map — *with an explanation as to why the new description was prepared*. This will help the title company and others understand what may have been lacking in the record description.

Generally speaking, preparing a new description for a property that was otherwise adequately described in the record is not necessary, appropriate or even desirable. Additionally, it is usually inappropriate, unnecessary and even confusing to the chain of title to prepare a new description when the record description is a lot or block in a platted, recorded subdivision, thus surveyors are advised to resist such requests except perhaps where the subdivision is very old and the dimensions on the plat are lacking. Even in that case, controlling calls to lot corners and along the lot lines must be included in order to prevent future confusion in the title.

When a new description of an existing parcel *is* prepared, it is necessary that the title company know if that description describes exactly the same real estate as the record (i.e, the surveyor merely "modernized" it), and, if it does not, then it needs to know how it differs. For example in a development situation, the client may wish to quitclaim away an area of overlap along a boundary line in order to eliminate the possibility of a problem.

Section 6.B.iii. – Dimensioning

> The point of beginning, the remote point of beginning or point of commencement (if applicable) and all distances and directions identified in the record description of the surveyed property (and in the new description, if one was prepared). Where a measured or calculated dimension differs from the record by an amount deemed significant by the surveyor, such dimension must be shown in addition to, and differentiated from, the corresponding record dimension. All dimensions shown on the survey and contained in any new description shall be horizontal ground dimensions unless otherwise noted.

To assist in the review of a survey, especially the boundary, all distances and directions identified in the record description need to appear on the plat or map. If a new description was prepared, those dimensions need to be shown also. This makes it easier and less confusing for the person reviewing the survey.

When the calculated or measured dimensions differ from the record, those shall be shown and differentiated from the record dimensions; but only if the surveyor deems the difference to be significant. What difference surveyors deem significant will differ from state to state, perhaps even from locale to locale within a state, and even from surveyor to surveyor. This is a professional judgment on the part of the surveyor. One obvious criteria would be the relative positional precision. For example, if the allowable Relative Positional Precision between two points was 0.12 feet, and the measured dimension between those points was 0.06 feet different from the record, it seems to this writer silly to show a difference; there is more than 0.06 feet of random error allowed in the measurement!

Having said that, there are some states where surveyors believe their standards and/or their registration boards require that the surveyor report exactly what was measured, which is one reason why different surveyors will look at this issue differently.

The point of beginning and points of commencement need to be shown on the face of the plat/ map. In most cases, the property is directly dependent on those points, so they need to be located in order to conduct a proper survey anyway.

In order to address a frequent question, the standards state that dimensions shall be reported on surveys and in descriptions as ground distances unless otherwise noted. For 2021, the word "horizontal" was added in order to eliminate any possible confusion over slope distances.

Section 6.B.iv. – Closure and Basis of Bearings

> The directional, distance and curve data necessary to compute a mathematical closure of the surveyed boundary. A note if the record description does not mathematically close. The basis of bearings and, where it differs from the record basis, the difference.

The plat or map must show the dimensional data (including elements of any curves) necessary to compute a mathematical closure of the boundary as surveyed.

The basis of bearings of bearings on the survey shall be identified and, where the basis used on the survey differs from the record, the difference shall be indicated. Note that the difference between basis of bearings could differ on different lines of the parcel.

Section 6.B.v. – Depicting the Remainder of a Parcel

> The remainder of any recorded lot or existing parcel, when the surveyed property is composed of only a portion of such lot or parcel, shall be graphically depicted. Such remainder need not be included as part of the actual survey, except to the extent necessary to locate the lines and corners of the surveyed property, and it need not be fully dimensioned or drawn at the same scale as the surveyed property.

When the survey is of only a *part* of a larger lot or tract, the plat/map must show the remainder of that larger tract. This is *not* to say that the remainder must actually be included as part of the survey; only that there be a graphic depiction showing where the surveyed property lies within the larger parcel. There are a variety of ways that this can be accomplished.

Section 6.B.vi. – Water Boundaries

> When the surveyed property includes a title line defined by a water boundary, a note on the face of the plat or map noting the date the boundary was measured, which attribute(s) of the water feature was/were located, and the caveat that the boundary is subject to change due to natural causes and that it may or may not represent the actual location of the limit of title. When the surveyor is aware of natural or artificial realignments or changes in such boundaries, the extent of those changes and facts shall be shown or explained.

Where the surveyed property includes a boundary defined by a water feature (e.g., river, stream, lake), the plat/map must include a note explaining when the boundary was measured and what attribute(s) of the water feature was/were located. A caveat including the words indicated in this subsection must also appear explaining the nature of water boundaries.

When the surveyor is aware that realignment or changes in a water boundary occurred in the past, those facts are to be shown or explained.

Section 6.B.vii. – Relationship with Adjoiners

> The relationship of the boundaries of the surveyed property to its adjoining properties (*e.g.*, contiguity, gaps, overlaps), where ascertainable from documents provided to or obtained by the surveyor pursuant to Section 4 and/or from field evidence gathered during the process of conducting the fieldwork. If the surveyed property is composed of multiple parcels, the extent of any gaps or overlaps between those parcels must be identified. Where gaps or overlaps are identified, the surveyor must, prior to or upon delivery of the final plat or map, disclose this to the insurer and client.

Where the relationships of the boundaries of the surveyed property with its various adjoiners can be determined from the record documents and/or from the field work performed as part of the survey of the property that is the subject of the ALTA/NSPS Land Title Survey, these relationships must be identified.

Additionally, if the surveyed property is composed of multiple parcels, any gaps or overlaps between those parcels must be identified.

Where gaps or overlaps are identified, the surveyor must disclose this information to the title company and client prior to or upon issuance of the final plat/map.

Gaps between multiple parcels, overlaps on the perimeter and significant gaps on the perimeter

are of particular concern to the title company, the owner, and the lender because of the potential for third parties to have a claim over a part of what the buyer/lender believe to be "theirs." Normally, the title company will write a Schedule B special exception for such conditions ("*as shown on the survey…*") unless the lender can convince them — or they can convince themselves — that the risk of a claim is minimal, in which case they may take the risk and insure over the condition.

Section 6.B.viii. – Explanatory Notes (Boundary Resolution)

> When, in the opinion of the surveyor, the results of the survey differ significantly from the record, or if a fundamental decision related to the boundary resolution is not clearly reflected on the plat or map, the surveyor must explain this information with notes on the face of the plat or map.

As with Section 6.B.ii. above, we know that the results of many boundary retracements will differ from the written record dimensions, sometimes significantly. If it is the surveyor's opinion that the differences are, in fact, significant, a note must appear on the plat/map explaining the differences.

For example, a description in a public land state that runs from section corner to quarter corner and calls the distance to be 2,640 feet, was obviously written by someone who knows no better. The actual length of the quarter line will most assuredly not be 2,640 feet and, in fact, it could vary significantly from that. A brief explanation would help the title company understand the source of the difference.

Likewise, a description calling 250 feet to the center of stream which has slowly and imperceptibly moved further away by accretion may be found by survey to now be 325 feet. This is easily explained with a note that will help the reviewer of the survey understand why such a difference exists.

As noted in 6.B.ii., what is deemed "significant" will differ from surveyor to surveyor.

Finally, in order that the resolution of the boundary on an ALTA/NSPS Land Title Survey be documented for reference by future surveyors and surveyors of adjoining properties (who *should* be interested in following the previous surveyor's footsteps), when a fundamental decision related to that resolution (e.g. how a controlling monument applied or how an apparent conflict in the record description was resolved) cannot be clearly explained by virtue of the drawing on the plat/map, the surveyor shall provide a note or notes to explain these facts.

Section 6.B.ix. – Building Locations

> The location of buildings on the surveyed property dimensioned perpendicular to those perimeter boundary lines that the surveyor deems appropriate (*i.e.*, where potentially impacted by a setback line) and/or as requested by the client, lender or insurer

With the 2021 Standards, the word "all" was removed from immediately before the word "buildings." This is not a philosophical change; the word is redundant when considered in conjunction with Section 5.D. A building was either observed or it was not. If it was, it needs to be shown.

How building locations should be dimensioned has been an on-going and difficult issue to address. What the 2021 Standards did was have surveyors use their professional judgment and dimension the building from those perimeter boundary lines that are most appropriate. Typically, these would be the boundary lines with related setback lines that have the potential to impact a building's location. This is the title company's concern when they are asked to provide a 3.1 (existing structure) zoning endorsement; they are insuring that there are no violations of the setback lines.

If a zoning setback requires an interpretation, surveyors do not need to make that interpretation (see the Table A, item 6 discussion later in this handout). Surveyors are generally well-versed in the potential impact of setback lines on building locations; they can figure out which boundaries are important in that respect. If they are not sure, it is usually wise to ere on the side of caution and perhaps provide extra dimensions "just in case."

Until the 2005 version of the ALTA/ACSM Standards, the Standards had not addressed the precision with which the physical building setback distances should be shown. The preamble/ introductory sentence to Section 6 addresses that issue, and it is particularly relevant with respect to building locations.

Section 6.B.x. – Explanatory Notes (Relative Positional Precision)

> A note on the face of the plat or map explaining the site conditions that resulted in a Relative Positional Precision that exceeds the maximum allowed pursuant to Section 3.E.v.

As explained in Section 3.E.v., there may be site conditions (e.g., size, configuration, vegetation, relief, improvements) that prevent the surveyor from achieving the specified Relative Positional Precision (2 cm and 50 ppm). If that is the case, the surveyor needs to provide a note explaining those site conditions.

Section 6.B.xi. – Explanatory Notes (access to areas along the perimeter boundaries)

> A note on the face of the plat or map identifying areas, if any, on the boundaries of the surveyed property, to which physical access within five feet was restricted (see Section 5.C.ii).

Section 5.C.ii. requires that surveyors note improvements within 5 feet of the perimeter boundaries of the surveyed property. When access to certain those areas is restricted (e.g., by privacy fences, walls, buildings), rather than leaving the reviewer in the dark, a note to that effect needs to appear on the plat/map.

Section 6.B.xii. – Explanatory Notes (source of title work)

> A note on the face of the plat or map identifying the source of the title commitment or other title evidence provided pursuant to Section 4, and the effective date and the name of the insurer of same.

As noted in comments related to Section 4, the Land Title Survey must be performed in conjunction with some sort of title work. The plat/map must identify the title commitment/policy number or whatever other title work was provided pursuant to Section 4. The effective date and name of the insurer are valuable information for the

reviewers of the survey and provide protection for the surveyor in the event someone claims that he or she did not show some particular easement, but, in fact, it did not appear in the title work provided.

Section 6.C. – Easements, Servitudes, Rights of Way, Access and Record Documents

Section 6.C.i. – Documentation of Plottable Rights of Way, Easements and Servitudes

> The location, width, and recording information of all plottable rights of way, easements, and servitudes burdening and benefitting (i.e., appurtenant to) the surveyed property, as evidenced by documents provided to or obtained by the surveyor pursuant to Section 4.

Easements that *benefit* the surveyed property are appurtenant easements that are typically listed in Schedule A of the title commitment as an interest that the title company is insuring. Thus, the location, width and documentation for such easements must be shown on the plat/map if the information is provided.

Likewise, the title company will typically take exception to easements that *burden* the property being surveyed and list them in Schedule B2 of the title commitment. The location, width and recording information of those easements also need to be shown on the plat/map.

It is important to note, however, that a title commitment is ***not*** an abstract of title, so it does not necessarily represent the actual condition of title to the surveyed property. What a commitment is *actually*, is an *offer* to insure title to property subject to certain conditions. As such, it is not particularly unusual that an easement may affect a particular property, and yet not be listed in Schedule BII. This happens when the title company makes a business decision (often at the 'encouragement' of the lender) to essentially pretend that an easement doesn't exist and remove it from Schedule BII. If a claim ends up occurring related to that easement, the title company will have to defend title or indemnify for damages pursuant to the terms of the policy.

As noted previously (see Sections 3.B. and 3.C.), laws or standards in some states and regions may require such information be shown regardless of whether or not the documents were provided.

Note that this section does not require that Schedule A easements actually be surveyed as if they were part of the fee parcel. They simply need to be shown and identified. Only if Table A item 18 has been selected, is the easement subject to all of the terms of Sections 5 and 6 of the Standards.

Section 6.C.ii. – Explanatory Notes (Easements and Servitudes)

> A summary of all rights of way, easements, and other survey-related matters burdening the surveyed property and identified in the title evidence provided to or obtained by the surveyor pursuant to Section 4. Such summary must include the record information of each such right of way, easement, or other survey-related matter, a statement indicating whether it lies within or crosses the surveyed property, and a related note for each of the following conditions, if present:
>
> (a) its location is shown;
> (b) its location cannot be determined from the record document;
> (c) there was no observed evidence at the time of the fieldwork;
> (d) it is a blanket easement;
> (e) it is not on, does not touch, and/or — based on the description contained in the record document — does not affect, the surveyed property;

(f) it limits access to an otherwise abutting right of way;
(g) the documents are illegible; or
(h) the surveyor has information indicating that it may have been released or otherwise terminated.

In cases where the surveyed property is composed of multiple parcels, indicate which of such parcels the various rights of way, easements, and servitudes cross or touch.

Starting with the 2016 Standards, the surveyor was to provide some sort of organized summary of the easements burdening the property when documentation was either provided to the surveyor or otherwise obtained pursuant to Section 4. Such a summary is very helpful to the reviewer and should result in fewer calls to surveyors asking for clarification on easement matters.

With the 2021 Standards, this requirement was clarified. Only survey-related (i.s., plottable) easements and servitudes need to be listed, and the variety of related notes were better stated.

Whether or not an easement "affects" a property is a matter of title, not a matter of survey. 'Where the easement is' is the survey issue, whether or not that easement "affects" the property is not a matter of survey. Yet, lenders frequently want surveyors to comment on the "affect" of an easement. So, use of the word "affect" was clarified in the 2021 Standards to apply only to where the easement plots, not as to its legal effect.

The summary of easements/servitudes needs to provide the recording information for each easement and indicate whether or not the easement is shown on the plat/map. In addition, certain conditions — see subsections (a) through (h) above — related to the easement must be identified. Again, this information is exceptionally helpful to the title company and others reviewing the survey who need to understand exactly what the situation is related to each easement. Thorough notes will result in fewer unnecessary (at least in the surveyor's eyes) phone calls and emails asking for clarification on easement issues.

Section 6.C.iii. – Explanatory Note (Physical Access)

A note if no physical access to an abutting street, highway, or other public or private way was observed in the process of conducting the fieldwork.

As previously mentioned, access is a very important issue to title insurers, thus, if no physical access was observed while conducting the survey, the surveyor must provide a note to that effect.

The 2021 Standards corrected an oversight in earlier standards seemingly applied only to access to public streets.

Section 6.C.iv. – Width of Rights of Way

The locations and widths of rights of way abutting or crossing the surveyed property, and the source of such information, (a) where available from the controlling jurisdiction, or (b) where disclosed in documents provided to or obtained by the surveyor pursuant to Section 4.

Again, emphasizing the importance of access issues, the plat or map of the survey shall document the width and location of the rights of way abutting or crossing the surveyed property where they were disclosed in documents provided to or obtained by the surveyor pursuant to Section 4. If no such documents were provided or obtained, the surveyor needs to contact the

controlling jurisdiction to see if such information is available.

In some areas, a "Thoroughfare Plan" documenting existing rights of way may be published. In many areas, though, the jurisdiction may be unable to document rights of way, or may even decline to provide such information. The surveyor could readily document his or her investigation by disclosing any conversations had, requests made or searches undertaken.

Section 6.C.v. – Identifying Titles and Recording/Filing Data of Referenced Documents

> The identifying titles of all recorded plats, filed maps, right of way maps, or similar documents that the survey represents, wholly or in part, with their recording or filing data.

The titles of any documents represented by or on the survey, such as those listed in this sub-section, together with their recording or filing data, must be identified on the plat or map. As with a number of other Section 6 subsections, this helps any reviewer of the survey more readily understand what is represented.

Section 6.C.vi. – Adjoiners

> For non-platted adjoining properties, recording data and tax parcel number, identifying adjoining properties according to current tax records, where available. For platted adjoining properties, the recording data of the subdivision plat.

Where adjoiners are non-platted properties, the recording data (from current tax records) for those adjoiners is to be provided on the plat/map. Where adjoiners are parts of a subdivision plat, only the recording data for that plat, not for individual lots within the plat, need be provided.

In 2021, the requirement was added that, where available, the tax parcel number of adjoiners must be provided.

Section 6.C.vii. – Setback Lines

> Platted setback or building restriction lines which appear on recorded subdivision plats or which were disclosed in documents provided to or obtained by the surveyor pursuant to Section 4.

Where setback or restriction lines are identified on recorded subdivision plats or in documents provided to the surveyor, such lines shall be depicted on the plat/map.

Section 6.C.viii. – Recorded easements not appearing in the title work

> If in the process of preparing the survey the surveyor becomes aware of a recorded easement not otherwise listed in the title evidence provided, the surveyor must advise the insurer prior to delivery of the plat or map and, unless the insurer provides evidence that the easement has been terminated or extinguished, show or otherwise explain it on the face of the plat or map, with a note that the insurer has been advised.

This subsection was new for 2021 and is retained in the 2026 Standards with a clarification and rewording regarding when an easement has been terminated or extinguished.

If surveyors become aware of easements that they believe burden the property, yet are not listed in Schedule BII, they must contact the title company to inquire.

Normally one of three things has occurred in such situations.

In the first case, the title company may have simply missed the easement in its search, in which case they will appreciate the surveyor bringing it to their attention.

In the second case, the title company may have information related to the termination or extinguishment of that easement, in which case, a copy of that document can be provided to the surveyor for his or her documentation.

Lastly, the title company may have agreed to insure over the easement, and that information should be conveyed to the surveyor.

If the title company made a business decision to insure over an otherwise valid easement, surveyors need to recognize that this does not mean the easement is no longer legally in effect and burdening the surveyed property.

This can become contentious when a lender contacts the surveyor and requests that a particular easement be removed from the plat/map because it no longer appears in Schedule BII of the title commitment. Lenders do not want to see any easements on the face of the survey if they are not listed in the title work. But surveyors must be cognizant of their liability.

If the easement in question was merely insured over, it may still be a valid, legal easement and because the surveyor is aware of its existence he or she has an obligation to show it or at least explain its existence.

The response to the lender who demands that such easement be removed is simple: Provide a recorded document proving that the easement has been terminated or extinguished and it will be removed from the survey. Otherwise, it stays on.

Section 6.D. – Presentation

Section 6.D.i. – Size and Scale

The plat or map must be drawn on a sheet of not less than 8 ½ by 11 inches in size at a legible, standard engineering scale, with that scale clearly indicated in words or numbers and with a graphic scale.

Section 6.D.ii. – Drafting Standards

The plat or map must include:

(a) The boundary of the surveyed property drawn in a manner that distinguishes it from other lines on the plat or map.
(b) If no buildings were observed on the surveyed property in the process of conducting the fieldwork, a note stating "*No buildings observed*."
(c) A north arrow (with north to the top of the drawing when practicable).
(d) A legend of symbols and abbreviations.
(e) A vicinity map showing the surveyed property in reference to nearby highway(s) or major street intersection(s).
(f) Supplementary or detail diagrams when necessary.
(g) Notes explaining any modifications to Table A items and the nature of any additional Table A items (*e.g.*, 21(a), 21(b), 21(c)) that were negotiated between the surveyor and client.
(h) The surveyor's project number (if any), and the name, registration or license number, signature, seal, street address, telephone number, company website, and email address

(if any) of the surveyor who performed the survey.

(i) The date(s) of any revisions made by the surveyor who performed the survey.

(j) Sheet numbers where the plat or map is composed of more than one sheet.

(k) The caption "ALTA/NSPS Land Title Survey."

(l) Notation of any parol statements by interested landowners or occupants as to title or boundary issues relating to the surveyed property

As Section 1 stated, title companies and others reviewing and relying on surveys have the right to expect some level of standardization on ALTA/NSPS Land Title Surveys and the accompanying plats and maps. Subsection 6.D.ii. outlines a number of drafting standards aimed at accomplishing that standardization. Item l is new for 2026 and will require training for field crews.

Several items are brought to the surveyor's attention in particular.

- Subsection (a) requires that the boundary be drawn is a way that is distinctive from other lines shown on the plat/map.
- Subsection (b) requires a note if the surveyor did not observe any buildings on the surveyed property.
- Subsection (e) requires a vicinity map
- Section (g) requires an explanation of any Table A items that were negotiated or qualified in a manner that differentiates them from how those items were represented in Table A. It also specifies that any additional Table A items that were negotiated be explained and that such items must all fall under item 21. So if there is more than one additional item, they shall be identified as, for example, sub-items 21(a), 21(b), 21(c), etc., not as 21, 22, and 23.
- Subsection (h) also requires identifying the company website, if any
- Subsection (l) is new with the 2026 ALTA/NSPS Standards. Such information is important to the title company since boundary line disputes are included as part of the general survey exception.

Section 6.D.iii. – Recordation

When recordation or filing of a plat or map is required by state statute, administrative rule or local ordinance, such plat or map shall be produced in the required form and at a legible scale.

If the jurisdiction will require recordation of the plat/map of an ALTA/NSPS Land Title Survey, the plat/map delivered to the client and title company shall be produced in the form required for recordation. The client should not expect an additional fee for the preparation of a second plat/map.

If the size of the plat/map required for recordation is not conductive to or in accordance with the client's requirements, that issue should be addressed during the negotiations and contracting stage of the project.

Section 7 – Certification

A. The plat or map of an ALTA/NSPS Land Title Survey must bear only the following unaltered certification except as may be required pursuant to Section 3.B. above:

> "To (name of insured, if known), (name of lender, if known), (name of insurer, if known), (names of others as negotiated with the client):
>
> This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2026 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items _____ of Table A thereof. The fieldwork was completed on _____ *[date].*
>
> *Date of Plat or Map:* _____ *(Surveyor's signature, printed name and seal with Registration/License Number)*"

B. Certification may be extended to successors and assigns of the lender if requested.

Section 7 of the 2026 ALTA/NSPS Standards has maintained the specification first adopted in 2011 that that only the unaltered certificate contained in Section 7 may be placed on the face of the plat/map. There continue to be a few lenders who ignore this requirement — probably out of ignorance.

In addition, as started in 2011, the certification includes a date of fieldwork. The "*date of plat or map*" is at the discretion of the surveyor: some prefer to date it the same as the fieldwork, some date it as of the day they sign the plat/map, and others, no doubt, use some other date significant to them. The important date from the standpoint of the title company and from the standpoint of the surveyor's liability, is the date of the fieldwork.

Notwithstanding the fact that this writer continues to see lenders' certificates that include wording regarding the measurement standard, such wording has not appeared in the certificate since the 2005 Standards. The reference to the overall set of standards in the certificate make any additional reference to the measurement standards unnecessary and redundant.

The only certification allowed on the face of an ALTA/NSPS Land Title Survey is the certification in Section 7, except — pursuant to Section 3.B. — as required by *jurisdictional* laws, regulations or standards of practice. Some state surveying boards, for example, require specific wording for certifications.

The Section 7 "short-form" certification typically covers every issue that the surveyor can factually and honestly certify to by stating that the survey was conducted in accordance with the Standards. When it does not, however, cover some esoteric issue that the lender is concerned about, usually a simple statement or note on the face of the plat will suffice.

For those lenders (and a few clients) who absolutely insist, it is permissible to negotiate to provide an additional certification, but it must be on a separate sheet of paper and cross-referenced to the survey. The surveyor could put it on the face of the plat/map, but if so, the title ALTA/NSPS Land Title Survey may not be used.

An important note regarding lenders' certifications is this: this writer has, to his recollection, never seen a lender's certificate that did not contain unconditional warranties or guarantees. So if surveyors decide they do need to provide the lender's "long-form" certificate — albeit on a

separate sheet — they need to review the certificate carefully and make the necessary modifications to prevent themselves from taking on unacceptable, unnecessary and dangerous liability.

Some lenders have claimed that Section 3.B. allows the use of alternate lenders' certifications on the face of the plat/map, but it does not. Section 3.B. specifically addresses statutes, rules or ordinances, from jurisdictions that regulate the practice of surveying. Lenders, and even HUD, Fannie Mae and Freddie Mac, do not fall in that category no matter what the attorney claims.

Most lenders fell into compliance with Section7 fairly quickly following its initial adoption in 2011. Some still want their own certificate, but those are far fewer than pre-2011.

Surveyors need to read and educate themselves on the new Standards, and be confident in what they say regarding the Section 7 certificate. Then, they will be in a position to educate others (clients, employers, lenders, title companies and other surveyors) on certifications. Remember, many, if not most, attorneys and title people have not read the standards (not just the 2026 Standards - ANY of them!).

The "only" and "unaltered" wording in Section 7 is a reaction to the fact that that lenders routinely abused, belittled, threatened, and mislead surveyors on certification issues. Every single lender's certification that this writer has ever read (which numbers in the dozens, if not hundreds), contained express guarantees and warranties which surveyors could not ethically *or, in many cases, even lawfully* sign under their respective state registration laws because they would be making statements on matters of which they could not possibly have first-hand knowledge (e.g., 'all utilities [or easements] are shown') and that, in many cases, even fall outside the realm of their lawful practice (e.g., 'there are no violations of setbacks').

A new sub-item B was added to Section 7 in 2026. Often a request is made, or specific instructions given, for the surveyor to certify to "ATIMA" and/or "ISAOA." These are acronyms that mean "*as their interests may appear*" and "*its successors and/or assigns*." The loan policy defines "insured" in a way that should remove the need for such wording, but if the lender demands that the title company put those in the policy, the title company will likely want to surveyor to certify to the same.

Surveyors should seek guidance from their attorneys on the desirability of certifying in this matter; however, in any event, they may want to avoid certifying to successors and assigns of the client/buyer.

It is particularly important that surveyors understand that their professional liability (E & O) insurance policies do not cover unconditional warranties and guarantees.

Every competent surveyor in the United States knows these things to be true, and it is a huge issue in the surveying profession. Yet many surveyors feel they 'must' sign these certificates as presented because they are brow-beaten by lenders' attorneys.

A true story in this regard that this writer has told in many of his seminars bears repeating. One lender's attorney told a gathering of surveyors a number of years ago that he does all of those things listed above (abuse, belittle, threaten, and mislead) — and more — to get surveyors to sign his certificate. And yet his exact comment was *"Any surveyor who signs this certificate is*

crazy!" When asked why he does this, he said because 85% of surveyors crack under the pressure and go ahead and sign it as is.

The change represented by the wording in Section 7 starting with the 2011 Standards was essentially a statement from (1) the title industry that it can, in fact, provide lenders the title insurance coverage they want and need without these burdensome certificates, and (2) from the surveying profession that it is long past time for lenders to actually learn what is in the ALTA/ NSPS Standards.

US Department of Housing and Urban Development (HUD)

HUD has several sets of survey requirements.

First are the HUD Multifamily requirements (form HUD-92457 et seq.). As of the date of this writing, HUD is just beginning assessment of the 2026 ALTA/NSPS Standards and how they will address them.

Despite threats from attorneys to the contrary, there was a HUD website that stated that it was, in fact, acceptable for HUD Multi-family to be provided their certification on a separate sheet (e.g., company letterhead) and cross-referenced to the survey. While that webpage is apparently no longer on-line, a copy of it as it appeared live on September 8, 2015 can be found at: https://web.archive.org/web/20150908110244/http://portal.hud.gov/hudportal/HUD?src=/program_offices/general_counsel/mffaqs/surveys.

Second are the HUD LEAN 232 standards which cover nursing home-types of facilities. A new set of survey requirements for LEAN 232 project.

There are also requirements related to surveys of hospital facilities. These requirements still specify the 2016 ALTA/NSPS Standards and can be found at:
https://www.hud.gov/sites/dfiles/OCHCO/documents/91073-OHF.pdf

General Comments on Certifications

Surveyors are frequently called upon to provide certifications with their work. Some surveyors feel that their seal and signature should be sufficient to indicate that they stand behind their reports and statements, but to many clients and agencies a certification is necessary as a specific statement that the surveyor did, in fact, perform the survey pursuant to a specific set of standards.

In the case of an ALTA/NSPS Land Title Survey, the surveyor's work is, to a great extent, a matter of reporting facts (e.g., improvement locations) rather than supplying opinions (as to the boundary location). Clients, title companies and lenders all typically want some type of certification by the surveyor attesting to the integrity of his or her work and to assure that, in fact, the survey was conducted in accordance with the written ALTA/NSPS Standards.

Black's Law Dictionary says that a certification is "*the formal assertion in writing of some fact."*

According to Webster's New World Dictionary, the word certify means "*To declare a thing true, accurate, certain, etc., by formal statement, often in writing; verify attest."*Black's Law Dictionary says certify is "*To authenticate or vouch for a thing in writing. To attest as being true or as represented."*

Clearly, a certification in this context does not involve a statement of opinion. A surveyor is a reporter of facts when certain features of a parcel of land are measured and reported on a plat/ map of the site. When an opinion is offered as to the reliability of the evidence determining the boundary lines of the parcel, the surveyor is no longer just a reporter of facts. Such a statement of opinion should not be in the form of a certification.

Certifications can present an assortment of problems and liabilities for surveyors ranging from slight to excessive. Some are statements of fact. Others require certification on the basis of an opinion or on the basis of facts not knowable by the surveyor and should be avoided. The following discussion examines a few of the related issues.

The Long-Form (Lender's) Certification

Fortunately, with the adoption of the 2011 ALTA/ACSM Standards, requests from lenders wanting their own "long-form" certifications have diminished, although many still want them. As noted above, they can be provided, but (1) must be on a separate sheet of paper and (2) the surveyor must watch carefully for express guarantees and warranties and negotiate acceptable alternate wording.

Exhibit 2 contains an example of the circa 2016 survey requirements from a well-known national lender. Fortunately, this lender has recognized the Section 7 certification, although it is seemingly requiring some "notes" that are, at best, redundant in the context of the ALTA/NSPS Standards. At worst, they represent uninsurable express warranties or guarantees.

Certifications - Liability

Lawyers and professional liability insurers who deal with surveyor liability issues advise against the execution of certifications containing problematic language. They also advise that certifications should only be furnished when they:

- are consistent with contractual duties,
- do not create guarantees or warrantees,
- do not create unacceptable or uninsurable exposures to liability,
- do not create statements beyond the professional's personal knowledge, and
- do not claim standards higher than the normal standard of care.

Surveyors should learn to be as conservative in such matters as the people who advise them, and the companies that insure them.

Surveyors should be aware of the fact that many lenders' attorneys are fully cognizant that their own certifications are unreasonable and create excess and unacceptable liability for the surveyors who sign them. If surveyors would routinely question the wording in these certifications — or even the need at all (suggesting the use of the Section 7 certificate) — lenders would be less inclined to ask for them.

The author is aware of one national lender who, a number of years ago, had a meeting regarding their own long-form (and to surveyors, unacceptably burdensome) surveyor's certification wording. They concluded that they will continue to use it simply because not enough surveyors had complained about it.

The 2026 Standards have been reviewed by RLI Design Professionals, a provider of professional liability insurance for surveyors (and which has been a commended program of NSPS for a number of years).

Their comment was that the language included in Section 3.B. "*caught [our] eye. From an insurance carrier standpoint, we do not want to see our policyholders be held to a level of care that's more "stringent" or requires higher standards than what common law or the jurisdiction requires."*

This comment likely represents a misunderstanding of that requirement which is to point out that if jurisdictionally-mandated standards require more than the ALTA/NSPS Standards require, the surveyor must comply with the law, and if the ALTA/NSPS Standards require more than jurisdictional requirements, the surveyor must follow the ALTA/NSPS Standards. The former is obvious — surveyors must comply with the law. More importantly, with respect to the latter, RLI noted "*Other than this particular point, I'm not seeing anything else that really stands out that could impact insurability or creates a warranty or guarantee*."

They also commented that care must be taken in the use of the word "*must.*" A review by the ALTA/NSPS Workgroup of where that word was used in the standards revealed no potential issues.

Certifications - Certified Parties

Frequent questions arise over requests for surveyors to certify to "successors and assigns," especially when the lenders' certificates list all of the parties they want the survey certified to followed by "their respective successors and assigns."

The following comments are offered:

1. Title companies do not need certification to successors and assigns.
2. It is difficult to envision a situation where a surveyor would want to certify to the successors and assigns of the owner/buyer.
3. Lenders may need a certification to successors and assigns because they may be selling the mortgage on the secondary market.

As related to the lender, surveyors need to recognize that they are liable to the lender on an ALTA/NSPS Land Title Survey for as long as the loan is outstanding. On commercial loans, this might typically be something on the order of 7 years. If the lender were to sell the loan, its terms do not change and pursuant to "successors and assigns" the surveyor is still liable to a lender for the remainder of the term of the loan.

Attorneys from professional liability management firm Victor O. Schinnerer Company — a large professional liability management firm based in the Washington, DC area — have previously stated that they were not concerned about certifications to successors and assigns of lenders as they affect surveyor liability. Notably, the 2026 Standards added a new Section 7.B that explicitly addresses this issue, stating: "Certification may be extended to successors and assigns of the lender if requested." This, in essence, codifies what had previously been a matter of negotiation and professional judgment, and confirms that the Standards contemplate and

accommodate such requests from lenders.

Section 8 - Deliverables

> The surveyor shall furnish copies of the plat or map of survey to the insurer and client and as otherwise negotiated with the client. Hard copies shall be on durable and dimensionally stable material of a quality standard acceptable to the insurer. A digital image of the plat or map may be provided in addition to, or in lieu of, hard copies pursuant to the terms of the contract. If the surveyor is required to record or file a plat or map pursuant to state statute, administrative rule or local ordinance it must be so recorded or filed.

ALTA and NSPS decided in 2011 that the plat/map of an ALTA/NSPS Land Title Survey needs to be provided to — at a minimum — the client and the title company. Other copies may obviously be provided either at the surveyor's discretion or in accordance with the terms of the contract. The 2026 Standards set out this same requirement.

A digital image may be provided in addition to, or in lieu of, hard copies if so negotiated (understanding that in some states, the only valid copy of a survey is one with an original seal and embossed seal).

As noted above under Section 6.D.iii., if the plat/map must be recorded or filed pursuant to state statute, administrative rule or local ordinance, it must be produced in the required form and recorded/filed accordingly. Section 8 notes that if recordation is required, the plat/map shall be so recorded or filed.

Table A – Optional Survey Responsibilities and Specifications

> NOTE*: When any of the first twenty (20) items of Table A are selected, the exact wording of and fee for any selected item may be negotiated between the surveyor and client. Note that some items may be required by state statute, administrative rule or local ordinance in which case they must be included pursuant to Section 3.B. Any additional items negotiated between the surveyor and client must be identified as 21(a), 21(b), etc. Any additional items negotiated between the surveyor and client, and any negotiated changes to the wording of a Table A item, must be explained pursuant to Section 6.D.ii.(g). Notwithstanding Table A Items 5 and 11, if an engineering design survey is desired as part of an ALTA/NSPS Land Title Survey, such services should be negotiated under Table A, Item 21.*
>
> *If checked, the following optional items are to be included in the ALTA/NSPS LAND TITLE SURVEY, except as otherwise qualified (see note above):*

Table A items are, by definition, optional and negotiable. The 2026 Standards make this patently clear with the first sentence of the introductory comments to Table A. Table A items are to be requested by clients when surveys are ordered, so surveyors have the opportunity to associate additional fees with the items requested and, when deemed necessary, to negotiate the exact performance specifications.

The second sentence of the introductory paragraph is new for 2026 and simply serves to remind surveyors and clients that some Table A items (notably monumentation) may be required by state law and therefore must be included regardless of whether the client wants it or not.

For example, if Item 7(c) is checked, will the surveyor be expected to access and go onto the roof

of a tall building in order to measure to the top of the elevator shaft, or is a survey measurement to the parapet sufficient?

In order to end the confusion created by companies that specify additional Table A items (as is allowed pursuant to Item 21), all such items shall be identified as 21, using 21(a), 21(b), 21 (c) , etc., when there are multiple additional items.

The last sentence clarifies for clients that ALTA/NSPS Land Title Surveys, even when they include certain Table A items, are not engineering design surveys. Such services may be negotiated under Table A item 21.

Item 1 – Monuments

> Monuments placed (or a reference monument or witness to the corner) at all major corners of the boundary of the surveyed property, unless already marked or referenced by existing monuments or witnesses in close proximity to the corner.

Many, but certainly not all, states require the monumentation of boundaries at least to some extent. If the surveyor and surveyed property are in one of those states, he or she must monument (see Section 3.B.); Table A item 1 is not optional. For the rest of the states, monumentation is an option.

It has been reported that some surveyors have been skirting compliance with this item by relying on distant buildings or other features not near the corner as witnesses. To this writer, this is a sham, inconsistent with what any set of requirement considers a valid witness to a corner. The 2026 Standards call for witnesses to be in close proximity to the corner.

Oftentimes questions are raised about the term "major corners." This is left to the surveyor's discretion, except in states where regulations specify otherwise.

Item 2 – Addresses

> Address(es) of the surveyed property if disclosed in documents provided to or obtained by the surveyor, or observed while conducting the fieldwork.

If the surveyor observes addresses while conducting the survey (e.g., on buildings, mailboxes, signs) or if the addresses are otherwise provided in documents provided to the surveyor, those addresses are to be reported on the plat or map. This information is important when the title company is providing an endorsement associated with the address of the property.

Item 3 – Flood Zone

> Flood zone classification (with proper annotation based on federal Flood Insurance Rate Maps or the state or local equivalent) depicted by scaled map location and graphic plotting only.

The surveyor's responsibility regarding flood zones pursuant to this item is to scale the location off the appropriate Flood Insurance Rate Map (FIRM) and, if appropriate, show the line on the plat/map. *This item does not contemplate completing elevation certificates or conducting topographic surveys*, either of which could be negotiated separately or under Table A item 21 or under a separate contract. A topographic survey could also be negotiated pursuant to Table A item 5.

Surveyors would be well-advised to include a note on their plats/maps regarding map scale uncertainty on the location of a flood line. Many FIRMs were developed at a printed/plotted scale of 1 inch equals 1000 feet. Surveyors routinely transfer that line to a map/plat drawn at scale of perhaps 1 inch equals 50 feet. *In such a case, the uncertainty in location of the flood line as shown on the survey might be something on the order of 20 feet.*

Item 4 – Land Area

Gross land area (and other areas if specified by the client).

The surveyor must provide the gross land area of the surveyed property. If other areas are required (e.g., net of right of way, net of setback lines, net of easements) those must be specifically requested by the client.

Item 5 – Topography

Vertical relief with the source of information (e.g., ground survey, aerial map), contour interval, datum, with originating benchmark, when appropriate.

Item 5 is an excellent example of a Table A item that needs to be negotiated with the client. What is needed and/or expected? To what purpose will they be putting this information? Depending on the answer, this might involve a 'full-blown' topographic survey of the property being surveyed, or it might involve something considerably less. In any case, the information specified in Item 5 must appear on the face of the plat/map as appropriate.

Item 6 – Zoning

Zoning issues have remained high on the list of problematic issues even after changes made in the 2011 and 2016 Standards. With the 2026 Standards, the committees worked very hard to find common ground that was acceptable to both the title companies and the surveyors, but the results were mixed.

Zoning issues vis-à-vis ALTA/NSPS Land Title Surveys are widely misunderstood in the surveying and lending communities. Many, if not most, lenders believe that the surveyor needs to show the zoning setback lines (and, in many cases, certify to compliance with zoning setbacks) in order that the title company can issue a 3.1 Zoning Endorsement (which insures, among other things, that the buildings on the property do not violate the zoning setbacks). Adding to the confusion is that some title companies in fact, <u>*do*</u> rely on surveyors' depictions of such lines, while others do not.

It is the opinion of the ALTA/NSPS Workgroup that the client must provide a zoning letter or report outlining the appropriate zoning requirements of the property in order for the surveyor to address either Items 6(a) or 6(b). For 2026, the Standards specify that this information must *specific to the surveyed property.*

There are firms that make a business of providing such zoning reports. In some cases, the jurisdiction itself may provide the client a report or letter. Of course, there is nothing to prevent surveyors from negotiating to obtain this information themselves if they would like.

Item 6(a) – Zoning Requirements Listed

If the current zoning classification, setback requirements, the height and floor space area restrictions, and parking requirements specific to the surveyed property are set forth in a zoning report or letter provided to the surveyor by the client or the client's designated representative, list the above items on the plat or map and identify the date and source of the report or letter.

In order to relieve the surveyor from having to research what are often complex zoning ordinances and to determine what is applicable to the property, item 6(a) requires — as noted above — that such information *specific to the surveyed property* be provided to the surveyor by the client or the client's representative in the form of a zoning report or letter detailing the desired information.

The surveyor will then copy that information onto the face of the plat/map and note the source of the information.

Item 6(b) – Zoning Classification and Setback Requirements

If the zoning setback requirements specific to the surveyed property are set forth in a zoning report or letter provided to the surveyor by the client or the client's designated representative, and if those requirements do not require an interpretation by the surveyor, graphically depict those requirements on the plat or map and identify the date and source of the report or letter.

When the client wants the setbacks graphically depicted on the face of the plat/map, again, a zoning letter or report specific to the surveyed property must be provided to the surveyor by the client.

Importantly, if — as is the case in most large (and perhaps even in medium-sized cities) — if an interpretation is required by the surveyor as to the application of certain setbacks, then the surveyor may not be able to comply with this item.

Item 7 – Buildings

Item 7(a) – Building dimensions

Exterior dimensions of all buildings at ground level.

Table A, item 7(a) is a straightforward matter of taking additional measurements in the course of performing the survey. Some surveyors are concerned over whether the dimensions should be to the foundation or face of wall; it is suggested that they pick one and note on the survey where dimensions were taken. Where the dimension is taken should perhaps be considered in light of the related zoning requirement.

Item 7(b)(1) – Square Footage of Buildings

Square footage of: (1) exterior footprint of all buildings at ground level.

In order to meet this requirement, the surveyor will need to calculate the square footage encompassed by the ground level perimeter of the building.

Item 7(b)(2) – Other Square Footage of Buildings

Square footage of: (2) other areas as specified by the client.

Starting with the 2011 Standards, the ALTA/ACSM standards no longer offered the "gross floor area" as an option under Table A item 7. That item would often be checked off by clients and when asked what exactly they were looking for, lenders were often very cavalier in insisting that the surveyor should simply "know" what the item meant.

In order to alleviate confusion on this issue, Table A, item 7(b)(2) starting in 2011, requires that clients specify what areas they want calculated.

Item 7(c) – Height of Buildings

> Measured height of all buildings above grade at a location specified by the client. If no location is specified, the point of measurement shall be identified.

Again, this item is related to the 3.1 zoning endorsement, whereby the title company is being asked to insure that the height of the buildings do not violate that allowable. If the client does not specify where the measurement should be made, the surveyor would be well-served to know what the zoning ordinance says with regard to what part of a building is the defining element in the determination of the height restriction.

Item 8 – Substantial, Visible Features

> Substantial features observed in the process of conducting the fieldwork (in addition to the improvements and features required pursuant to Section 5 above) (e.g., parking lots, billboards, signs, swimming pools, landscaped areas, substantial areas of refuse).

As noted earlier in this handout, surveyors almost universally include this item as a part of their survey wether they certify to it or not. Table A, item 8 is a 'catch-all' whereby significant features not otherwise required to be located pursuant to the mandatory parts of the standards need to be included in the survey and shown on the plat or map.

Examples are given in the item with "*substantial areas of refuse*" having been added in 2016 to balance the elimination of what had been a Table A item in previous versions of the Standards ("*Observed evidence of site use as a solid waste dump, sump or sanitary landfill")*. That item, which was a HUD Multifamily-requested item introduced in 1997 was eliminated in 2016 due to the fact that virtually all commercial properties being bought, sold or financed are the subject of Phase One Environmental Assessments which is where responsibility for such determinations should lie. However, surveyors still need to watch for and note any "substantial areas of refuse" that they observe.

To what degree of precision these features should be located, and how or if they are to be dimensioned, is a matter of the surveyor's judgment as specified in the introductory comments to Sections 5 and 6 of the Standards.

Item 9 – Parking

> Number and type (*e.g.*, disabled, motorcycle, regular and other marked specialized types) of clearly identifiable parking spaces on surface parking areas, lots and in parking structures. Striping of clearly identifiable parking spaces on surface parking areas and lots.

This item is another 3.1 Zoning Endorsement-related item. Under that endorsement, title

companies are also insuring that there is sufficient parking on the real estate pursuant to zoning requirements. The surveyor should provide only factual information in this regard and resist any attempts by the lender to certify compliance with the ordinance or even certifying how many spaces are required.

With the 2026 Standards, the requirement was clarified to specify that striping must be clearly identifiable and that it need not be shown inside parking structures (although the type of spaces and the parking space count needs to be all encompassing, including those in parking structures).

Item 10 – Division and Party Walls

> As designated by the client, a determination of the relationship and location of certain division or party walls with respect to adjoining properties (client to obtain necessary permissions).

If clients wish to have determinations made regarding party or division walls, they need to specify what information is required, and where, and provide for access if necessary.

Previous item 10(b) (i.e., "As designated by the client, a determination of whether certain walls are plumb (client to obtain necessary permissions)") was eliminated in 2021. If the client has concerns over wall plumpness, that can be negotiated as an item 21 in Table A.

Item 11 – Location of Utilities

> *Evidence of underground utilities existing on or serving the surveyed property (in addition to the observed evidence of utilities required pursuant to Section 5.D.iv.) as determined by:*
>
> > *(a) plans and/or reports provided by client (with reference as to the sources of information)*
> >
> > *(b) markings coordinated by the surveyor or client pursuant to a private utility locate request*
>
> Note to the client, insurer, and lender - With regard to Table A, item 11, source information from plans and markings will be combined with observed evidence of utilities pursuant to Section 5.D.iv. to develop a view of the underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response, in which case the surveyor shall note on the plat or map how this affected the surveyor's assessment of the location of the utilities. Where additional or more detailed information is required, the client is advised that excavation and/or a private utility locate request may be necessary.

Utilities may have supplanted certifications as the greatest source of consternation and liability of surveyors on ALTA/NSPS Land Title Surveys. As a result, a number of changes have been made over the years to this item and 2021 was no exception; those changes have been carried forward into the 2026 Standards. By most reports, the changes made in 2021 and retained in 2026 may have significantly alleviated the concerns.

With regard to utilities, all parties need to remember that the observed evidence of utilities on and within 5 feet of the surveyed property (10 feet for utility poles) must be located and shown pursuant to Section 6.D.iv. That is mandatory.

Item 11has two choices (both of which can be modified by negotiation).

First, if the client has utility plans or reports that they would like reflected on the survey, they should check item 11(a).

If a utility locate is appropriate, the 2026 Standards call for the hiring of a private locator because in most parts of the country an 811 locate request by a surveyor is simply an exercise in futility. The "Note" mentioned below addresses this issue. However, if the property happens to be in an area where an 811 request is fruitful, the surveyor can negotiate a change from the word "private" to "811" in item 11(b).

The '*Note to the client, insurer, and lende*r' is critical in managing the parties expectations as to underground utilities. Some surveyors even include this note in their contract and it would be prudent to place it on the face of the plat/map.

Item 12 – Governmental Agency Requirements

> As specified by the client, Governmental Agency survey-related requirements (e.g., HUD surveys, surveys for leases on Bureau of Land Management managed lands). The relevant survey requirements are to be provided by the client or client's designated representative.

As surveyors know, there are some governmental agencies that have their own sets of survey requirements. Various HUD requirements were noted under the discussion of Section 7 of the Standards in this document.

As with all Table A items, the client is to select this item — and provide a copy of the related requirements — when ordering the survey so the surveyor can take into account any issues that may impact costs or liability related to such requirements.

"As specified by the client" was moved to the beginning of the item in 2016 to emphasize client's role in explaining what they are looking for.

Item 13 – Names of Owners of Adjoining Properties

> Names of owners of adjoining properties according to current tax records. If more than one owner, identify the first owner's name listed in the tax records followed by "et al."

This, if requested, is to come from tax records and it explains how to address multiple owners.

Item 14 – Nearest Intersecting Street

> Distance to the nearest intersecting street.

There may be reasons that a client or lender is interested in knowing how far it is from the surveyed property to the nearest intersecting street. If this item is selected, the surveyor should inquire as to the purpose and what is expected (scaling or pacing to the nearest intersection is an entirely different exercise from determining to the nearest 0.01 feet how far it is to the right of way line of that intersecting street).

"As specified by the client" was moved to the beginning of the item in 2016, but has been removed in the 2026 Standards.

Item 15 – Use of Other Technologies

Features, other than the boundary survey portion of an ALTA/NSPS Land Title Survey and the location of features in close proximity to a boundary or other title or relevant setback line, may be shown using imagery; however, the surveyor must

(a) agree with the client in writing on imagery to utilize, including source, date and/or version of imagery, and licensing costs and requirements,

(b) discuss the ramifications of such practices (e.g., the potential accuracy, precision and completeness of the imagery gathered thereby) with the insurer, lender, and client prior to the performance of the survey, and

(c) place a note on the face of the survey explaining the source, date, precision, and other relevant qualifications of any such imagery.

With the 2026 Standards, Table A, item 15 was rewritten to get back to its original intent. It provides an opportunity for the client to perhaps save some time and/or money when, with the concurrence of the title company, lender and client, imagery can provide the detail and completeness necessary on the survey.

The 2026 Standards expanded this item with three specific sub-requirements. Sub-requirement (a) is new for 2026: the surveyor must now agree with the client in writing on the imagery to be used, including its source, date and/or version, and any applicable licensing costs and requirements. Sub-requirement (b) carries forward the prior requirement to discuss the ramifications (e.g., accuracy, precision and completeness — note the addition of "accuracy" in 2026) with the insurer, lender, and client before the survey. Sub-requirement (c) similarly continues the requirement to note the source, date, precision, and other qualifications on the face of the survey.

The addition of the written client agreement in sub-requirement (a) is an important new protection for surveyors against later disputes over the imagery relied upon.

There must be a definitive understanding and agreement ahead of time with respect to the precision and completeness of the data to be gathered, and appropriate notes on the face of the plat or map, so there is no misunderstanding later, or by third parties, as to the source, date, precision, etc., of the associated data.

Item 16 – Evidence of Recent Earth-moving or Construction

Evidence of recent earth moving work, building construction, or building additions observed in the process of conducting the fieldwork.

This item originated in the 1997 standards, along with Table A item 17 and a former item previously eliminated as items required by the US Department of Housing and Urban Development (HUD) in order for them to be able to subscribe to the (at the time) ALTA/ACSM Standards rather than continue to have their own separate and distinct requirements.

Several modifications have been made in the item since 1997 with the latest in 2016 being the use of the word "recent" which replaces the 2011 word "current" and is close to, but not exactly how the item was written in 2005.

Item 17 – Proposed Changes in Street Right of Way Lines

> Proposed changes in street right of way lines, if such information is made available to the surveyor by the controlling jurisdiction. Evidence of recent street or sidewalk construction or repairs observed in the process of conducting the fieldwork.

Again, this is a HUD item that originated in 1997. As with Item 16, there have been some modifications in wording since then, including the 2011 elimination of reference to changes in right of way lines "*either completed or proposed."* This change was made since any completed changes to a right of way line would, presumably, appear in the title commitment.

Similar to Section 6.C.iv. this item puts a burden on the surveyor to contact the controlling jurisdiction — in this case, for any available information on proposed changes in right of way lines.

Item 18 – Offsite (Appurtenant) Easements

> Pursuant to Sections 5 and 6 (and applicable selected Table A items, excluding Table A item 1), include as part of the survey any plottable offsite (i.e., appurtenant) easements disclosed in documents provided to or obtained by the surveyor.

This item was Item 20 in the 2011 Standards and item 19 in the 2021 Standards, but as other Table A items have been eliminated, it is now item 18.

It has been reworded and clarified several times in order to better express its intent which is that the surveyor will include the offsite easements as part of the survey just as if they were fee parcels (other than monumenting the corners). These easements will typically be listed in Schedule A of the title commitment.

Indications are that in the past and in most cases around the country, lenders, title companies and clients expected, and surveyors provided, merely a graphic representation of off-site (appurtenant) easement lines on the plat/map without locating the improvements therein. This item was introduced in 2011 (as Item 20) creating an option whereby a client could have the surveyor locate the improvements observed in the process of conducting the survey within appurtenant (offsite) easements that were identified in the title commitment.

The item has become one that is frequently requested by clients and lenders; however, they often do not recognize the ramifications when the project involves, for example, an out-lot to a mall with cross parking and access easements across the entire mall. Such a situation could obviously drastically increase the cost of the survey, so the surveyor needs to clarify this ahead of time. And, if the item has been checked before surveyors have a title commitment, they need to qualify their proposals until they can review title commitments for any offsite easements.

Item 19 – Professional Liability Insurance

> Professional Liability Insurance policy obtained by the surveyor in the minimum amount of $_____ to be in effect throughout the contract term. Certificate of Insurance to be furnished upon request, but this item shall not be addressed on the face of the plat or map, unless required by the jurisdiction.

This can provide assurance to the client that the surveyor conducting the ALTA/NSPS Land Title Survey has professional liability (errors and omissions) insurance at a specified level.

Where the item mentions "*in effect throughout the contract term*" that deals only with *the length*

of time that the professional liability coverage needs to be maintained by the surveyor; it has nothing whatsoever to do with liability. It is well-understood in the insurance industry that reference to the "contract term" in this context is — in the case of surveyors — a reference to the *contract between the surveyor and his or her client*. Thus, if selected, Item 19 requires that the surveyor maintain professional liability coverage during the time that the contract between the surveyor and client is in effect. This is normally just a few weeks — from the date the contract was signed (or agreed upon, in the case of an unwritten contract), to delivery of the survey and subsequent payment.

This is entirely independent of how long the surveyor is liable for his or her work. That is a function of state law and depends on the state's statutes of limitation and repose. Where surveyors have the benefit of a statute of repose, there is a set time period after which a claimant is prohibited from making a claim. In states where surveyors do not have a statute of repose, the statute of limitations (and length of time from discovery) controls the length of time of the surveyor's liability.

Some lenders have tried to insist that surveyors indicate the extent of their professional liability insurance coverage on the face of the plat or map. This is entirely inappropriate, and in response to such requests, the 2021 Standards stated — and the 2026 Standards reaffirm — that this item shall not be addressed on the face of the plat/map. The 2026 Standards add a practical exception: where a jurisdiction specifically requires it, it may appear on the face of the plat or map.

Questions from attorneys related to the appropriate amount of insurance have been addressed by suggesting that the client consider the type, location, and improvements on the real estate, the potential effect of an error, and the statutes of repose and limitations that relate to the professional services contracted.

Victor (a large professional liability manager and commended by ACSM and NSPS for decades) helped ALTA and NSPS with the wording of this item when it was introduced it in 2011, so the wording is — from a professional liability standpoint — exactly as it should be.

Item 20 – Table

When observed in the process of conducting the fieldwork or otherwise identified in the process of preparing the survey, the following conditions and potential encroachments must be summarized in a table and indicated on the face of the plat or map. Without expressing a statement of legal opinion or an opinion as to ownership, the table must identify the physical conditions and provide a means by which they can be readily located on the face of the plat or map by a reviewer; however, the table may not be a comprehensive list of all concerns shown on the plat or map.:

- potential encroachments over boundary lines onto the surveyed property from adjoining property and onto adjoining property from the surveyed property;
- potential encroachments into rights of way and easements for which written documentation was provided to or obtained by the surveyor pursuant to Section 4;
- potential encroachments of front, side or rear setbacks, but only when setback requirements were provided to the surveyor pursuant to Table A item 6(a) or 6(b) or provided in recorded documents;

- physical access between adjoining parcels without benefit of a documented easement; and
- use of adjoining parcels by apparent occupants of the surveyed property without benefit of a documented easement.

Item 20 is entirely new in the 2026 Standards and represents one of the most significant additions to Table A in recent history. In effect, it codifies a practice that many surveyors have long employed — summarizing potential encroachments and related conditions in a structured table on the face of the plat or map — and makes it available as a negotiable option. The item is carefully worded to make clear that it does not require the surveyor to express legal opinions or opinions as to ownership; rather, it is a factual reporting tool. The table must identify the physical condition observed and provide a reference so that a reviewer can locate it readily on the face of the plat or map.

Of equal importance is the qualification that "this table may not be a comprehensive list of all concerns shown on the plat or map," which appropriately limits the surveyor's liability exposure.

Surveyors should expect that lenders, title companies, and sophisticated commercial clients will increasingly request this item, as it addresses in a single organized summary many of the issues that previously required separate notes, calls, or addenda scattered across the face of a plat or map.

Item 21 – Client Option

Table A, item 21 is provided as an open-ended option for the client to request their own specific requirement(s). As with all Table A items, it is important that such items be requested with the order so the surveyor has the opportunity to consider the request and to negotiate the scope and fee ahead of time. In order to prevent confusion, when there are multiple additional items, they must be identified as 21(a), 21(b), 21(c), etc., not as 22, 23, and 24, etc.

Negotiating a contract to perform an ALTA/NSPS Land Title Survey

A surveyor is often informed of the need for an ALTA/NSPS Land Title Survey for title insurance purposes in one of several ways:

- By the client, who has some idea of what a Land Title Surveys is — at the beginning of the job,
- By the client who has no idea what an ALTA/NSPS Land Title Survey is — after the surveyor has already quoted the project and/or begun work.
- By the client's attorney — after the survey is well underway — or finished.
- By some other third party (e.g. a realtor, purchaser or lender)

Section 2 of the 2026 Standards makes it clear how and when the surveyor should be notified of the need for an ALTA/NSPS Land Title Survey, but it doesn't always happen that way.

Difficulties can arise when a client is told what such a survey will cost, and decides to simply order a generic boundary survey. Then, when the survey is already underway the client is informed that a Land Title Survey is needed, and the surveyor must essentially start over to meet all of the requirements of the Standards.

When the surveyor is told that the ALTA/NSPS Standards are to apply to the survey, the surveyor should immediately contact the client — *being the party who is ultimately responsible for payment* -- to explain the process and the requirements. It is not usually enough that a third party is representing the client; the client must be informed of the cost of the undertaking, and the reasons for what will, no doubt, be seen as an unexpected expense.

The surveyor is encouraged to engage the client in the process as contemplated by the Standards. Send Table A to the client to make them select the items they want included. This will force them to become more educated about the standards and the process, and to respect that fact that the more items they check, the higher the cost will be.

Scoping the Survey

Ordering an ALTA/NSPS Land Title Survey can be like ordering a new car; all the extras look good until their cost becomes apparent. Classification of surveys by the Standards used to be in order of A, B, C and D. Most people, however, wanted a "Class A" survey regardless of the location and value of the site, so the Classes were eliminated in the 1999 standards in favor of what had been the Urban classification.

People may add unnecessary items from Table A. A professional surveyor should take some responsibility for explaining the significance of all these items and for advising the client of the real need for them after understanding the client's intent and reviewing any lender requirements. Some surveyors even attach a dollar value to each Table A item when they send it out for the client's consideration.

It may be that a prospective purchaser has informed the surveyor's client that contours ought to be included in the survey even though there is no need for contours from the title insurer's point of view. This is an opportunity for the surveyor to inform the client of a way to limit the cost of the survey by specifying only those items needs by the title insurer. On the other hand, the performance of an ALTA/NSPS Land Title Survey gives the surveyor an opportunity to market additional services when a significant parcel of land is the subject of the survey and when the sale of the parcel is for development purposes.

Whoever is buying the land may have a need (or think they have a need) for many, if not all of the items of Table A. The addition of Table A items will increase the cost of the survey, but also the value of the survey to the purchaser. The surveyor has an opportunity to enlarge the scope of services while advising the client and the purchaser of the division of the added expenses. In any case, an ALTA/NSPS Land Title Survey is comprehensive -- exceeding the detail of the generic boundary retracement survey, and should be valued accordingly both by the purchaser of services and the surveyor.

Following is an example of the wording that the surveyor might consider for the scope for a 2026 ALTA/NSPS Land Title Survey. This scope somewhat arbitrarily includes Table A items 6 and 11 since those should probably trigger some comments the scope. Additional Table A items might trigger other additional clarifying wording.

Conduct a survey pursuant to (a) [your state's standards, if any] and (b) the 2026 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, including Table items 1-4, 6a, 6b, 8, 11(a), 11(b) and 20 of the 51.5957 acre tract described in a Quitclaim Deed to DeVaney/ Emhardt Farms, LLC dated April 9, 2014.

The certificate will be as specified in Section 7 of the 2026 ALTA/NSPS Standards and certification will be made to the buyer, title company and lender. Additional parties may be certified to for an additional fee. Any required additional "*lenders certificate*" may be provided on company letterhead and cross-referenced to the survey for an additional fee, although exact wording will be negotiated to the surveyor's satisfaction.

The fee quoted below includes four prints (and/or a black and white or color PDF) of an unsigned, pro forma version of the plat of survey, one set of revisions based on the consolidated comments of the interested parties, and 4 prints (and/or a color or black and white PDF) of the final signed /sealed plat of survey. The final signed/sealed plat of survey will not be provided until the consolidated comments are reviewed and the most recent title commitment is provided along with copies of any easements, covenants and other servitudes.

Regarding Table A items 6(a) and 6(b), note that the surveyor client must be provided a copy of a letter or report addressing zoning issues *specific to the surveyed property*. With regard to Table A item 6(b), due to the necessity of interpreting the zoning ordinance with regard to setback requirements, zoning setback lines may not be graphically depicted.

Regarding Table A item 11, it should first be noted that observed evidence of utilities is already required pursuant to Section 5.D.iv. If that is all the client wishes to have shown, there is no need to request Table A item 11.

Otherwise, there are two Item 11 choices available. The first, 11(a), requires that the client provide whatever relevant plans and reports are available and the surveyor will combine that information with the observed evidence of utilities to give a view of the underground utilities.

The second, 11(b), calls for the hiring of a private company to locate the underground utilities. There could be a substantial cost involved and so that will need to be discussed. In many jurisdictions, 811 utility locate requests from surveyors may be ignored or result in an incomplete response, hence the specification of a private locating company. However, if desired, it is acceptable to replace the word "private" with "811" in this item and simply request an 811 locate.

With regard to utilities, please note the following:

Note to the client, insurer, and lender – With regard to Table A, item 11, information from the sources checked above will be combined with observed evidence of utilities pursuant to Section 5.D.iv. to develop a view of the underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response, in which case the surveyor shall note on the plat or map how this affected the surveyor's assessment of the location of the utilities. Where additional or more detailed information is required, the client is advised that excavation may be necessary.

Defining the Survey

Many title insurance policies are lender's policies rather than owner's policies and it is often the

lender who is requiring the survey. If there is a conveyance of land involved, the lender's relationship is with the purchaser, not the seller. If the seller is the surveyor's client, as is often the case, it may be that the surveyor ends up negotiating with a party who has no interest in the actual survey. This arrangement makes it doubly difficult to persuade the client to pay for an expensive survey — especially if a basic retracement survey has already been completed.

In such situations the surveyor's best talents of negotiation and diplomacy may be necessary, although distinct instructions from the lender can help the surveyor get "off the hook" as related to what the seller may want to pay for simply because the deal will not close unless the lender receives a survey that is satisfactory to them.

The Certification

Reference is made to the section of this handout that addresses Section 7 of the 2026 ALTA/NSPS Standards and to Exhibit 2 which shows the current (as of June 2016) requirements from a well-known national lender.

Having defined the survey and set the scope, it may seem to the surveyor that the rest will be straight-forward. Many surveyors, however, have been surprised at the eleventh hour to be presented with a certification statement that goes well beyond the content of the certification in the ALTA/NSPS Standards. Professional surveyors have the right -- and responsibility -- to write certification statements acceptable as to professional practice and liability risk, and should not be reluctant to revise the language of certifications presented by lawyers. Note, however, that the 2026 Standards do not allow for any certification on the face of the plat or map of an ALTA/NSPS Land Title Survey *except that specified in Section 7 of the standards* (and as may be required pursuant to jurisdictional requirements –see Section 3.B).

If the surveyor is inclined to bend to the lender's wishes and provide some form of lender's certificate, as discussed above under the Section 7 discussion, it will have to be provided on a separate sheet of paper (e.g., company letterhead) and cross-referenced to the survey.

Unfortunate delays may be avoided by confronting the issue of the certification at the beginning of the job rather than at the eleventh hour. This, too, is a matter of negotiation between the surveyor and the client and lender. In the scope of work detailed in the contract between the surveyor and client, there should be an acknowledgment of the certification to be executed by the surveyor, and that certification should be described as the certification appearing in the Standards. The surveyor is then in a solid position to deny executing the eleventh hour version presented by an attorney for the bank, the title insurer or the purchaser of the property. The contract should also specify the parties to whom the surveyor will certify, if possible.

"Updating" or "Recertifying" the Survey and Certification

Property sales and loan closures are often delayed well beyond the date of the surveyor's plan and certification. Surveyors have experienced repeated returns to their work as new dates were set and missed by the parties involved (seller, buyer, lawyers for seller and buyer, lenders, title insurers, lawyers for lenders and title insurers). Each time a new date for conveyance approaches the surveyor may be asked to update the survey and certification. It goes without

saying that with every "update" the surveyor's liability exposure is renewed.

Surveyor and others routinely refer to these "updates," but in reality they are new surveys every time the surveyor applies a new certification date. This is one reason why this writer avoids the use of the term "update" altogether when dealing with clients and lenders.

The same care must be applied in reviewing the condition on the ground at the time of the "update" as at the time of the original survey because the surveyor is certifying that what is represented on the face of the plat/map is, in fact, the current condition on the ground and that the requirements contained in the standards have been met.

It is also true that during long delays the *records* can change, so it is not unlikely that if the delay is long enough, updated title work may be forthcoming and new deed research may be required. Eminent domain proceedings can change the configuration of the property; negotiated easements may appear in the record, even when not evidenced on the ground.

Owners have even been known to convey away a portion of a site without thinking to alert the surveyor. Upon a request to update, the surveyor must make a careful examination of the record as well as the site.

As noted above, this writer prefers to avoid the use of the terms "update" and/or "recertify" as they also tend to imply that they are somehow less important (and less expensive, and will take less time) than a "new" survey. The fact is that a recertification or update IS a new survey; the only issue is, in the professional surveyor's opinion, what effort needs to go into the new survey given that fact that he or she has performed the survey previously. This will be a function of a variety of factors such as the age of the prior survey, who worked on it, how good the documentation is, how much has changed on the site, whether or not adjoining properties have changed hands, whether or not additional right of way has been taken, etc.

Case Law

There have been a few of oft-cited cases related to surveyor liability. They include those listed below.

Surveyor may be held liable to third parties
Rozny v. Marnol, 43 Ill. 2d 54, 260 N.E.2nd 686 (1969)

Plaintiffs were subsequent owners of property surveyed under contract between previous owner and defendant surveyor. Survey was inaccurate; damages were suffered by subsequent owner. Court found that surveyor knew or should have known that subsequent owner (third party) would use and rely on the plan and that the surveyor therefore had a duty to the third party and liability for any negligence. The court determined that action was not barred by the absence of privity of contract; the innocent reliant party should not have to carry the burden of the surveyor's negligent work.

Comment: Privity of contract was formerly a defense in such cases. Courts have, however, in recent years recognized the professional's responsibility to whomever might use the product of the professional's service. The test is "foreseeability". In *Rozny v. Marnol* the court determined that the surveyor, knowing that others in

addition to his client would subsequently use the survey, was liable for loss due to his negligence.

Surveyors are held to a standard of care as established <u>regionally</u>

McKinnon v. Batte, 485 So.2d 295 (Miss. 1986)

Jury instructed that surveyor "*need only to have possessed and to have exercised that degree of skill and care of surveyors engaging in the practice of surveying in the Jackson, Mississippi area in December 1978, under the same or similar circumstances as the engagement (of the surveyor of the plaintiffs) in this case...*"

Crawford v. Gary and Associates, 493 So.2d 734 (La. App. 1986)

"*Surveyors are expected to perform with the same degree of care and skill exercised by others in the profession in the same general area...*"

Surveyors held to a standard of care established <u>nationally</u>

Bell v. Jones, 523 A.2d 982 (D.C. App. 1986)

"*(W)e hold that the standard of care by which the professional acts of surveyors are measured is a national standard, not a local or regional one.*"

Comment: The normal standard of care for surveying has historically been held by the courts to be established locally or regionally. The growth of technology, standardization in the education of surveyors, the association of professional surveyors through the National Society of Professional Surveyors and the spread of printed standards of practice among state association of surveyors suggest that surveying is becoming standardized on a national level. In *Bell v. Jones*, the court recognized the trend and cited the ALTA/ACSM Minimum Standard Detail Requirements as a specific standard to which surveyors are bound not just locally, but nationally.

Surveyors Certification

Bell v. Jones, 523 A.2d 982 (D.C. App. 1986)

Jones' certification stated "*I certify that I have carefully surveyed the property as shown and described hereon, in accordance with D.C. Surveyor's records, and have located all of the existing improvements thereon by transit and tape survey, and that the corners have been found or placed as shown, and that there are no encroachments either way across the property lines except as shown.*"

Jones later admitted, however, that he had not carefully surveyed the property, but instead had performed "spot checks" which he conceded were not the same as carefully surveying the property. Furthermore, the property lines were shown on the plat of survey as due north, due east, due south and due west, which indicated to Bell that the corners were all 90 degree angles. In fact, two of the angles were 90 degrees and 51 minutes, which caused Bell's architectural drawings to be substantially in inaccurate. The

evidence showed that Jones knew the angles were 90 degrees and 51 minutes.

"*In this case the evidence established that Jones certified he had done something that he had actually not done. Bell's expert witness, Mr. Hansell, testified that a reasonably prudent surveyor in similar circumstances would not have made such a certification. On this record, we affirm the trial court's finding that Jones negligently certified the plat of survey which he gave to Bell."*

Surveyor Negligence

Walker Rogge, Inc. v. Chelsea Title & Guaranty Co., 116 N.J. 517, 562 A.2d 208 (1989)

The trial judge was able to determine, based on expert testimony, that the Duffy survey was most accurate, thereby implicating the finding that the (defendant surveyor's) survey was inaccurate. He was not willing, however, to take the further step of equating this inaccuracy with negligence, in the absence of expert testimony. Based upon the evidence showing that the surveying of this particular plot was extremely difficult we are unable to say that the judge was incorrect in finding plaintiff's negligence claim required expert testimony to support it. The trial judge stated: "*If this court learned nothing else during the trial of this matter, it learned that surveying land can be a rather imprecise art in some cases."* This observation supports his determination that a valid judgment on the issue of defendant's negligence could not be formed by the application of common judgment and experience. For the same valid reason, the trial judge was unable to conclude whether the occurrence of an inaccurate survey "*ordinarily bespeaks negligence,"* thereby precluding the application of res ipsa loquitur.

Comment: The doctrine of res ipsa loquitur (the thing speaks for itself) suggests that alleged negligence may be inferred by the fact, in this case, of the less accurate survey. The trial court judge, however, decided that in light of the complicated issues in the case, the defendant's surveyor was not negligent simply because he came to a different conclusion than that of the plaintiff's expert.

Statute of Limitations; Discovery

Martin v. Crowley, Wade & Milstead, Inc., 702 S.W. 2d 57 (1985)

In 1973, home builders had a surveyor survey the lot and plot the location of the house they would build. The surveyor got it wrong and the house was, therefore, placed incorrectly. The error was not discovered until 1981 when the plaintiff had a resurvey done to settle a boundary dispute with a neighbor. Under the statute of limitations, the cause of action did not accrue until the damage was "sustained and capable of ascertainment." The Missouri Supreme Court held that the statute was not tolled because until a subsequent survey revealed the problem, there was no reason for the plaintiffs to have questioned the surveyor's work.

Thoughts on Relative Positional Precision

I. Comments on Precision and Accuracy

1. High precision does not necessarily translate to higher accuracy.
2. Higher precision is achieved by using more precise equipment, utilizing an appropriate survey design and making redundant measurements.
3. Accuracy is possible through the application of appropriate knowledge, trained staff and skilled techniques
4. In most cases true accuracy cannot be ascertained, but we hope that precise measurements combined the application of knowledge, skill and trained staff that will result in acceptable accuracy.

II. Blunders and Errors

A. Blunders = mistakes

B. Errors

1. Systematic
   a. Of predictable sign and quantity
   b. Can be corrected for, but there is some accidental error introduced by the correction. Such residual error is generally small enough to be ignored.
2. Accidental
   a. Random : Of unknown quantity; having an equal chance of being + or -.
   b. Constant : Of unknown quantity; always having the same sign.

III. Estimates of Uncertainty due to Accidental Errors cannot be made by casual guess

A. Surveyors must understand (1) the primary sources of accidental errors in their measurements and (2) the magnitude of those errors. This cannot be credibly done by casual guess.

B. The standard deviation of all of the accidental errors in a measurement is the square root of the sum of the squares of the standard deviations of the individual accidental errors introduced by various sources.

IV. Identifying Primary Sources of Accidental Error in Angular Measurements and Estimating their Magnitudes

A. **Pointing:** Sources of pointing error include telescope optics, target design, and atmospheric conditions. Brown and Eldridge in *Evidence and Procedures for Boundary Location* say pointing errors can be considered insignificant if the operator is skilled. Mikhail and Gracie in *Analysis and Adjustments of Survey Measurements*, on the other hand, estimate the standard deviation of a single pointing (σ_P) to be 1 to 4 seconds of arc. The standard deviation of the error in pointing for a measured angle ($\sigma_{\theta P}$ in seconds) is:

$\sigma_{\theta P} = \sigma_p/(n)^{1/2}$

where n = the number of pointings made in the observation of the angle.

B. **Centering of the instrument:** Brown and Eldridge suggested that errors due to miscentering of the instrument can be considered insignificant if the operator is skilled and the equipment is in adjustment. Mikhail and Gracie, however, estimate the standard deviation in centering of the instrument (σ_C) to be 0.5 to 3 mm. The standard deviation of the error in a measured angle due to instrument centering ($\sigma_{\theta C}$ in radians) is:

$\sigma_{\theta C} = (\sigma_C D_3)/(D_1 D_2)$

Where D_1 = the length of the backsight

D_2 = the length of the foresight, and

D_3 = the distance between the backsight and foresight or

$(D_1^2 + D_2^2 - 2D_1D_2\cos\alpha)^{1/2}$

Where α = the angle between the backsight and foresight

C. **Centering of the target:** Mikhail and Gracie estimate the standard deviation in centering of the target (σ_T) to be 0.5 to 5 mm. If the same type of equipment (tribrach) is used on the target setup as on the instrument setup, the estimate of the standard deviation in instrument centering (σ_C) could be used. However, if the target is a prism on 8 feet of range pole, for example, the estimate must be rethought. The standard deviation of the error in a measured angle due to target centering ($\sigma_{\theta T}$ in radians) is:

$\sigma_{\theta T} = \sigma_T(D_1^2 + D_2^2)^{1/2}/(D_1D_2)$

D. **Instrument axial error:** Can be disregarded if proper procedures are used (direct and reverse for non-electronic theodolites), or if electronic total station is used.

E. **Reading:** Mikhail and Gracie state that the standard deviation of the error in the reading of a repeating instrument is:

$\sigma_{\theta R} = \sigma_R/(n(2)^{1/2})$ Where σ_R is the standard deviation of a single sighting (this is NOT the number provided by the manufacturer, which is typically the standard deviation of a set of direct and reverse measurements) and where n is the number of readings made in the observation of the angle.

The standard deviation of the error in the reading of a direction instrument is:

$\sigma_{\theta R} = \sigma_R/n^{1/2}$

Mikhail and Gracie suggest that the range of values for σ_R varies from 1 to 10 seconds depending on the instrument used.

F. **The combined standard deviation in the measurement of a horizontal angle** (in angular units) is the square root of the sum of the squares of the contributing elements:

$$\sigma_\theta = (\sigma_{\theta P}^2 + \sigma_{\theta C}^2 + \sigma_{\theta T}^2 + \sigma_{\theta R}^2)^{1/2}$$

Each factor must be in the same units (all in radians or all in seconds, etc.)

V. Identifying Primary Sources of Accidental Error in Distance (EDM) Measurements and Estimating their Magnitudes

A. σ_C (instrument centering error) [not $\sigma_{\theta C}$ which was the standard deviation in the angle due to instrument centering error]

B. σ_T (target centering error) [not $\sigma_{\theta T}$ which was the standard deviation in the angle due to instrument centering error]

B. The standard deviation in the actual reading of an EDM measurement is**:**

$$\sigma_S = (a^2 + b^2 S^2)^{1/2}$$

Where a and b are provided by the manufacturer, and
S is the length of the distance measured

C. The combined standard deviation in the measurement of an EDM distance is the square root of the sum of the squares of the contributing elements:

$$\sigma_\theta = (\sigma_c^2 + \sigma_T^2 + \sigma_S^2)^{1/2}$$

VI. Relative Positional Precision

- The parameters determined in the types of analyses made above are input along with the field measurements into a least squares adjustment in order to obtain a correctly weighted adjustment.
- RPP is defined as the length of the semi-major axis, expressed in meters or feet, of the error ellipse of the line connecting the monuments or witnesses marking adjacent boundary corners of the surveyed property at the 95 percent confidence level. The maximum allowable Relative Positional Precision for an ALTA/NSPS Land Title Survey is 2 cm (0.07 feet) plus 50 parts per million based on the direct distance between the two corners being tested.

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A Simulation Study in the Precision Criterion for the 2011 ALTA-ACSM Land Title Survey Standards

Charles Ghilani and Ian McAllister

ABSTRACT: When performing an American Land Title Association–American Congress on Surveying and Mapping (ALTA–ACSM) field survey, professional land surveyors must meet a precision criterion based on error ellipses from least squares adjustments. A simulation of a least squares adjustment was performed on four lots of varied size commonly found in practice. An analysis of the feasibility of meeting the precision criterion was conducted. Based on this simulation, recommendations are given as to the type of equipment and field procedures required to attain the ALTA–ACSM precision criterion for these surveys.

KEYWORDS: ALTA–ACSM survey standards, precision criterion, simulation study

Introduction

The purpose of this paper is to explore the 2011 American Land Title Association-American Congress on Surveying and Mapping (ALTA–ACSM) precision criterion for boundary surveys and verify whether they can be reasonably met using standard field procedures. The fact that some corners are witnessed by monuments that exceed the precision criterion is not addressed. To check the feasibility of meeting the precision criterion, we simulated surveys for four parcels with sizes commonly found in boundary work. One of the parcels was a 50-ft by100-ft lot, another was 150-ft by 300-ft, and two were 10-acre parcels with one having clear sight lines and the other being wooded. Each simulation consisted of a traverse survey using conventional instrumentation and commonly used field procedures.

The *Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys* (ALTA/ACSM 2011) are the rules that professional surveyors are required to follow when performing ALTA-ACSM land title surveys. These rules encompass everything from precision criterion to working with clients/adjacent neighbors, rights of access, and the final products the surveyor must supply to the client when work is completed.

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As defined in the 2011 version of the ALTA–ASCM Survey Standards, measurements must hold *relative positional precision* for the monuments or witnesses marking the corners of the surveyed property. As a note to the standards, the maximum allowable relative precision has not changed from the previous version of the standards. However, a method of assessing whether or not the standards are met has been added:

> "Relative Positional Precision" means the length of the semimajor axis, expressed in feet or meters, of the error ellipse representing the uncertainty due to random errors in measurements in the location of the monument, or witness, marking any corner of the surveyed property relative to the monument, or witness, marking any other corner of the surveyed property at the 95 percent confidence level (two standard deviations). Relative Positional Precision is estimated by the results of a correctly weighted least squares adjustment of the survey.
>
> The maximum allowable Relative Positional Precision for an ALTA/ACSM Land Title Survey is 2 cm (0.07 feet) plus 50 parts per million (based on the direct distance between the two corners being tested). It is recognized that in certain circumstances, the size or configuration of the surveyed property, or the relief, vegetation or improvements on the surveyed property will result in survey measurements for which the maximum allowable Relative Positional Precision may be exceeded". (ALTA/ACSM 2011)

Note that the standards do not state how the allowable precision is to be calculated. Using standard statistical procedures, the proper computation

of the maximum allowable semimajor axis for the 95 percent error ellipse is based on the sum of the squares of the two error components as shown in Equation (1).

$$S = \sqrt{0.07^2 + \left(\frac{50}{1{,}000{,}000} D\right)^2} \qquad (1)$$

where D is the distance between the two stations being checked against the ALTA-ACSM Survey Standards.

In Equation (1), the 0.07 ft is the fixed component of the error and the 50 ppm is the scalar component. Some will note that this differs from the equation often supplied by manufacturers of electronic distance measuring devices. To simplify the field computations, manufacturers often state that the error in a measured distance is computed as:

$$S = a + (ppm \times D) \qquad (2)$$

where a is the constant error in the observed distance and *ppm* is the scalar error.

Equation (2) is theoretically incorrect often providing larger uncertainty than is warranted. This implies that the precision of an electronic distance meter (EDM) is better than that being estimated and is thus not considered to be a problem. This notwithstanding, Equation (1) is the proper expression to use with regard to the 2011 ALTA–ACSM Survey Standards.

Table 1 shows the maximum allowable precision for various distances between stations. The values in the column labeled (1) are based on Equation (1) and those in the column labeled (2) are based on Equation (2). Note that the theoretically correct values in column (1) are significantly smaller for longer sight distances, which becomes important when executing a survey that meets the 2011 ALTA–ACSM Survey Standards. In other words, the scalar error does not affect the precision of typical distances observed in surveying, but it may play a more significant role if the distance D is based on the total length of the traverse even though the standards clearly state that this is not the case.

Distance (ft)	(1) S (ft)	(2) S (ft)
50	±0.070	±0.073
100	±0.070	±0.075
150	±0.070	±0.078
200	±0.071	±0.080
250	±0.071	±0.083
300	±0.072	±0.085
350	±0.072	±0.088
400	±0.073	±0.090
450	±0.074	±0.093
500	±0.074	±0.095
550	±0.075	±0.098
600	±0.076	±0.100
650	±0.077	±0.103
700	±0.078	±0.105
750	±0.079	±0.108
800	±0.081	±0.110
850	±0.082	±0.113
900	±0.083	±0.115
950	±0.085	±0.118
1000	±0.086	±0.120

Table 1. Maximum allowable error based on distance between stations and equation number.

Components of a Least Squares Adjustment

The postadjustment statistics, which include error ellipses, are based on the inverse of the normal matrix, which is computed as $A^T WA$. The A matrix is often called the *design* matrix since it is based on the coordinates of the stations, and thus the geometry of the stations. The W matrix is the weight matrix and is based on the estimated errors in the observations. The weight matrix will be discussed in more detail later. For now, the focus is on the design matrix. The equations for the distance, angle, and azimuth observations that are part of a conventional survey are linearized using a first-order Taylor series approximation since the equations representing these observations are nonlinear. The linearized equations relate the observations to the final coordinates of the survey stations. In fact, the design matrix is determined using only the coordinates of the stations. Thus the makeup of the design and normal matrices are dependent on the geometry of the survey. Using this fact, the precision that will be achievable in any survey can be predetermined by using approximate coordinates for the stations. This is one of the strengths of a least squares adjustment. That is, the precisions of the final results can be determined before the field survey is ever conducted, which allows one to check the feasibility of meeting certain requirements.

The weight matrix W used in the normal matrix is based on the estimated precision of the observations. This part of the adjustment is known as the

stochastic model. The role of the W matrix is to determine the distribution of errors in the survey. This explains why the ALTA–ACSM standards state that the error ellipses are derived from a "correctly weighted" least squares adjustment. The last statement should raise some concern amongst practitioners who are unfamiliar with least squares and equally unfamiliar with proper weighting techniques.

As previously stated, the weight matrix determines how the errors in the survey will be distributed. If the weights are incorrect or unjustified, then the distribution of the errors in the adjustment will also be incorrect. However, it is this distribution of errors that is the strength of least squares. When using an arbitrary adjustment method such as the compass rule adjustment, the angular misclosure is often equally distributed amongst the angles. However, in practice it is common to note that angles with shorter sight distances have more error than angles with longer sight distances. This increase in angular error is caused by the uncertainty in setting the instrument and target over a point. While one's ability to set over a point should not vary from station to station, the error this causes in the angles becomes greater with shorter sight distances. Table 2 shows the relationship between setup errors and sight distances in a single pointing using the formula:

$$error'' = \pm \frac{S}{R} 206,264.8'' \qquad (3)$$

where S is the error in the setup and R is the length of the sight.

The headings in columns labeled (1), (2), and (3) show the amount of setup error for the three scenarios. Recognize that every angle involves two sights on stations, and thus the errors in the angles will be larger. Based on Table 2, it can be seen that setup errors over stations can create more error in angles with shorter sight distances and thus should result in more of the angular misclosure error going to these angles. A correctly weighted least squares adjustment will place more of the angular misclosure error into the angles with shorter sight lengths based on the estimated errors of the observations. A more complete formula for computing the estimated error in an angle is:

$$S'' \sqrt{\left(\frac{2 \times DIN}{\sqrt{n}}\right)^2 + \left(\frac{\sqrt{D_1^2 + D_2^2}}{D_1 D_2} S_t \rho\right)^2 + \left(\frac{D_3}{D_1 D_2} \frac{S_i}{\sqrt{2}} \rho\right)^2} \qquad (4)$$

where DIN is the DIN18723 standard for the digital theodolite; n is the number of repetitions of the angle; D_1, D_2, and D_3 are the lengths of the backsight, foresight, and between the two sighted stations, respectively; S_t and S_i are the estimated errors in the setup of the targets and instrument, respectively; and ρ is a conversion factor of 206,264.8″/radian, which is the conversion from radian units to arc seconds.

Note that Equation (4) does not contain an error component for a leveling error. According to Ghilani (2010, p. 115), "This error is generally small for traditional surveying work when normal care in leveling the instrument is taken." However, if steep sights are involved in the survey, this error component should be added to Equation (4). A complete discussion on the computation of estimated angular errors is discussed in Chapter 7 of *Adjustment Computations: Spatial Data Analysis* (Ghilani 2010).

Simulation

The new standards require that a least squares adjustment be performed on the observations to analyze the error ellipses in the post-adjustment statistics. Because the post-adjustment statistics are a function of the stochastic model and the

Distance (ft)	(1) 0.005 ft	(2) 0.01 ft	(3) 0.02 ft
50	±20.6″	±41.3″	±82.5″
100	±10.3″	±20.6″	±41.3″
150	±6.9″	±13.8″	±27.5″
200	±5.2″	±10.3″	±20.6″
250	±4.1″	±8.3″	±16.5″
300	±3.4″	±6.9″	±13.8″
350	±2.9″	±5.9″	±11.8″
400	±2.6″	±5.2″	±10.3″
450	±2.3″	±4.6″	±9.2″
500	±2.1″	±4.1″	±8.3″
550	±1.9″	±3.8″	±7.5″
600	±1.7″	±3.4″	±6.9″
650	±1.6″	±3.2″	±6.3″
700	±1.5″	±2.9″	±5.9″
750	±1.4″	±2.8″	±5.5″
800	±1.3″	±2.6″	±5.2″
850	±1.2″	±2.4″	±4.9″
900	±1.1″	±2.3″	±4.6″
950	±1.1″	±2.2″	±4.3″
1000	±1.0″	±2.1″	±4.1″

Table 2. Error in and angle due to setup error and sight distance.

geometry of the traverse, the size of the error ellipses can be estimated in simulated adjustment. A simulated adjustment is created by establishing approximate coordinates on all the traverse station locations. Additionally, the estimated errors in the observations, which comprise the stochastic model, can be generated following procedures discussed previously. Using these two items, the post-adjustment statistics obtained from the least squares adjustment will closely approximate what would be obtained from an actual field survey. Again, this is due to the fact that the post-adjustment statistics are a function of the geometry of the fieldwork and the estimated uncertainties in the observations. Because manufacturers supply the estimated errors in the observations in their technical specifications for each instrument, the estimated errors in the field observations can be computed. Thus, it is possible to simulate the fieldwork and estimate the post-adjustment statistics (which include the error ellipses) before ever taking an actual observation.

To properly test that the ALTA–ASCM precision criterion can be achieved using commonly practiced surveying techniques, four simulations are covered in this paper. The first deals with a 50-ft × 100-ft lot found typically in urban areas. The second is a 150-ft × 300-ft lot found in suburban areas. The other two simulations were conducted with two 10-acre square parcels (one with normal topography and the other in a wooded area), which will require shorter sight distances.

The Urban Lot

Figure 1 depicts a rectangular 50-ft by 100-ft urban lot used in this study. It is assumed that each property corner can be occupied and that clear sights are available along each boundary, resulting in only four setups. Additionally, it is assumed that observations will be made with an instrument with a DIN18723 angular accuracy of 5″ or better and an EDM accuracy of 5 mm (0.0164 ft) + 5 ppm or better. This study assumed instrument and target setup errors of 0.005 ft, which means that the targets are required to either be on a tripod with tribrach and optical plummet or a prism pole with a bipod/tripod support. This alleviates the errors caused when holding a prism pole by hand. It is assumed that distances were observed only one time. Some of these assumptions will change as we progress through each parcel.



Figure 1. A typical 50-ft by 100-ft lot outlined in yellow (Image from PA Department Conservation and Natural Resources-PAMAP/USGS.

Table 3 shows the largest semimajor axis of the 95 percent error ellipses in the parcel using digital theodolites with DIN18723 standards of 1″, 3″, and 5″. In the adjustment, the first station was held fixed, and thus it was assumed to have no error in its coordinates. This assumption is valid because the remaining coordinates were all relative to the first station, as allowed by the standards. The row labeled "50 by 100″ in Table 3 shows that the error ellipses are all below 0.07 ft. According to the ALTA–ACSM precision criterion, the allowable tolerance for a traverse that has a distance between stations of only 50 ft in length is ±0.070 ft, which is computed as shown in Equation (5).

$$\sqrt{0.07^2 + \left(\frac{50}{10^6}50\right)^2} = \pm 0.070\,\text{ft} \qquad (5)$$

Thus given the stated conditions and careful observations, the ALTA–ACSM relative precision criterion should not pose an obstacle to completing this survey. It should be noted that smaller error ellipses could be obtained by repeating the angle more times or by observing each distance more than once. However, assuming a target setup error of ±0.01 ft resulted in a survey that would not meet the 2011 standards. Thus to meet the criterion in the standards it is recommended that all targets are carefully placed over each corner using a tripod with tribrach and optical plummet or prism pole with bipod/tripod support.

The Suburban Lot

In the study of the 150-ft by 300-ft suburban lot shown in Figure 2, it was assumed that while

Lot	1″	3″	5″
50 by 100 ft	±0.0677	±0.0679	±0.0681
150 by 300 ft[a]	±0.0689	±0.0695	±0.0668[b]
150 by 300 ft[c]	±0.0466	±0.0474	±0.0490
10 ac open[c]	±0.0596	±0.0637	±0.0706
10 ac wooded[c,d]	±0.0573	±0.0604	±0.0661

[a] EDM had a reported accuracy of 3 mm (0.01 ft) + 3 ppm.
[b] Angles were observed 4 times and averaged.
[c] Distances were observed from both ends of the line.
[d] Setup errors were less than 1 mm; EDM accuracy was 3 mm + 3 ppm; angular horizon closure was required at each station.

Table 3. Largest 95 percent error ellipse semimajor axis versus DIN18723 standard of theodolite.

it may be possible to view the entire 300-ft distance from one setup, an intermediate station may be required for the 300-ft boundary lines, making the longest sight distances only 150 ft. This assumption introduces more error into the survey because shorter sight distances result in lower-quality angles, as shown in Table 2. Additionally, errors in computed station coordinates will increase due to the additional setups required to complete the survey. Thus, the study is assuming a lower-quality survey. The study used the same instruments and setup errors of ±0.005 ft as for the 50-ft by 100-ft urban parcel. However, we found that no matter the DIN18723 accuracy standard for the digital theodolite, a 3 mm (0.01 ft) + 3 ppm EDM was required to meet the precision requirement for the suburban lot. Additionally, a digital theodolite with a DIN18723 accuracy of 5″ could not meet the standard when the angles were observed only twice. However, if the angles were observed four times and averaged, the standard could be met with the largest semimajor axis from a 95 percent error ellipse being ±0.0668 ft.

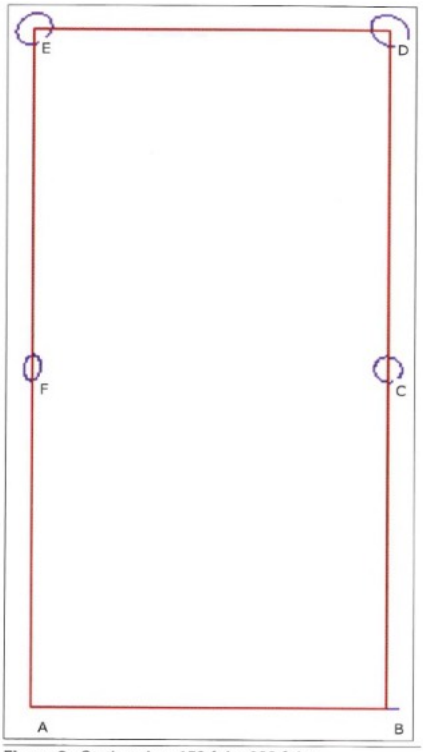

Figure 2. Stations in a 150-ft by 300-ft lot.

Another option was to observe the distance both forward and back. This procedure would not require any additional setups because total stations can observe the distance on both the backsight and foresight pointings thereby providing two independently observed distances for each course. The simulation with angles observed only twice but distances doubled resulted in the largest semimajor axis with the 95 percent error ellipses of only ±0.0490 ft for the 5″ instrument. Row 3 in Table 3 shows the largest semimajor axis for each simulated adjustment. Note that the maximum size for the semimajor axis of an error ellipse conforming to the 2011 precision criterion is only ±0.070 ft. The computation is shown in Equation (6).

$$\sqrt{0.07^2 + \left(\frac{50}{10^6}150\right)^2} = \pm 0.070\,\text{ft} \qquad (6)$$

The 10-Acre Open Lot

The 10-acre, square, open lot shown in Figure 3 had sides of 660 ft in length. Because this lot presented few obstructions, its boundary was observed with six stations with sight lengths of

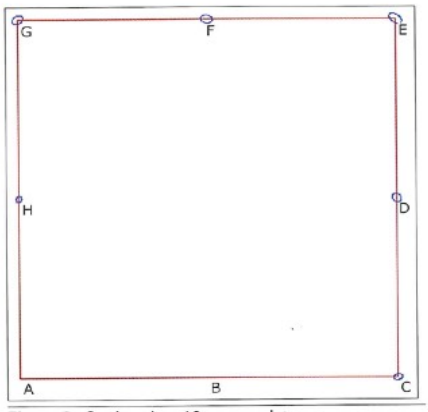

Figure 3. Stations in a 10-ac open lot.

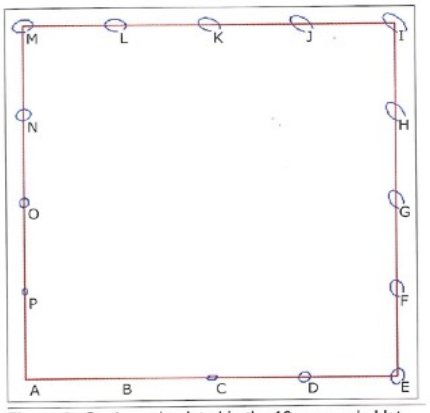

Figure 4. Stations simulated in the 10-ac wooded lot.

approximately 330 ft in length. The simulation took into account setup errors for the instrument and a target of ±0.005 ft, and it was assumed that the angles would be observed twice and averaged. An EDM with an accuracy of 5 mm (0.0164 ft) + 5 ppm was used. It should be noted that this parcel required that all distances be observed from both ends of the line to meet the ALTA–ACSM Survey Standards.

As previously noted, this procedure does not require any additional setups. The largest semimajor axis of a 95 percent error ellipse allowed by the 2011 ALTA–ACSM Survey Standards is ±0.072 ft for a sight distance of 330 ft, as computed in Equation (7). Table 3 shows that the largest semimajor axis for the error ellipses was ±0.0706 ft.

$$\sqrt{0.07^2 + \left(\frac{50}{10^6}330\right)^2} = \pm 0.072\,\text{ft} \qquad (7)$$

The 10-Acre Wooded Lot

From Figure 4 one can see that unlike in the open lot, the sight distances in the wooded lot are 165 ft in length. These shorter sight distances resulted in greater uncertainties in the angles (Table 2). Initially, this simulation used the same instrumental and target setup errors of ±0.005 ft. However, because of the shorter sight distances, several more stations were required to complete the survey. The additional setups introduced additional setup errors into the survey. In fact, the 2011 ALTA-ACSM Survey Standards precision criterion could only be met by assuming instrument and target setup errors of 1 mm (0.003 ft) and an EDM accuracy of 3 mm (0.01 ft) + 3 ppm. Additionally, it was required to close the angular horizon at each station and observe each distance from both ends of the line. As shown in Equation (8), the maximum semimajor axis of the error ellipse allowed by the standards is ±0.070 ft for the 165 ft distance between adjoining stations.

$$\sqrt{0.07^2 + \left(\frac{50}{10^6}165\right)^2} = \pm 0.070\,\text{ft} \qquad (8)$$

An attempt was made to provide a cross tie for the traverse (see Figure 5) in the hopes of reducing the size of the error ellipses while using setup errors of 0.005 ft. A cross tie was also provided for the traverse running in the north-south direction going from station *C* to *K*. In both attempts the largest semimajor axis of the error ellipses exceeded ±0.070 ft. While a single Global Navigation Satellite Systems (GNSS) baseline vector across the survey may not be possible because of canopy conditions, GNSS cross ties between stations *A* and *I* and *E* and *M* were attempted, as illustrated in Figures 4 and 5. However, these additional observations did not improve the semimajor axes of the resulting error ellipses unless the setup errors was estimated as 1 mm or 0.003 ft.

It is interesting to note that this survey could not meet the ALTA–ACSM Survey Standards precision criterion with any quality instrument including a 1″ instrument without closing the

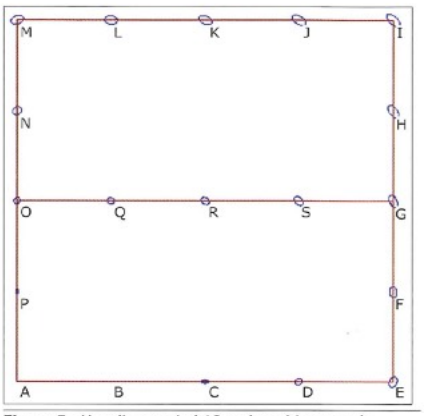

Figure 5. Heavily wooded 10-ac lot with cross-tie.

horizon on the angles and assuming instrument and target setup errors of only 1 mm (0.003 ft). This was due to the short sight distances, which increase the number of stations present in the traverse, and thus the propagation of the setup errors from each station. A surveyor could avoid this complication by clearing more lines to increase the sight distances. This may however require more field time than simply closing the horizon on the angles at each station and using extreme care in setting up instruments and targets.

Guidelines for Meeting ALTA–ACSM Surveys Precision Criterion

The final size of the semimajor axis in a 95 percent error ellipse in any traverse is dependent on the geometry of the network, the precision of the instruments used in the survey, and the abilities of the field personnel. It would be foolish to assume that every survey could meet the 2011 ALTA–ACSM Survey Standards precision criterion. It is also impossible to provide guidelines that can be implemented in the field and guarantee that the standards can be met for every survey. However, from the simulations, some recommendations can be made to aid the practitioner in meeting the standards.

For example, because setup errors of the targets and instruments are crucial to meeting the 2011 ALTA–ACSM Survey Standards precision criterion, it is of utmost importance that optical/laser plummets and all level vials be calibrated before the survey, and that they be regularly checked. Likewise, it is important that field personnel know how to correctly setup an instrument and target so that the latter is truly over the station. Furthermore, targets must be placed in tribrachs on tripods or on prism poles that are supported by bipods or tripods. Properly aligned targets should be sighted, and no reflectors should be sighted when observing angles because a misalignment of the prism with the line of sight will cause the sight line to be off-center, which will introduce larger setup errors. It is always important to use the "angel face" target meant for angle pointings when turning angles.

Distances should always be observed from each end of the line and recorded. Because distances are independently observed, they can be entered into the least squares adjustment as separate observations. A total station can do this without any additional setups. Avoid the temptation to average these distances (as is done when performing a compass rule adjustment). While not required for all surveys, it is wise to always close the angular horizon at each station. The additional observations will require slightly more field time, perhaps an additional minute or two at each station when targets are fixed, but the extra angles provide a field check at each station before the setup is moved as well as providing additional observations for the adjustment. The total station should have a digital theodolite with a DIN18723 standard of 5″ or better and an EDM with an accuracy specification of 3 mm + 3 ppm or better.

Finally, it is recommended to reduce the number of stations required to complete the survey. This means longer sight distances, which will increase the angular precision and reduce the propagation of setup errors in a survey. Thus, plan your survey by walking the property, placing stations at locations that maximize sight distances and reduce the number of setups. This procedure may require extra time before the first angle or distance is measured but it can also reduce the number of observations taken and thus save time.

Conclusion

In all four simulations the precision requirements in the 2011 ALTA–ACSM Survey Standards were met using typical field procedures. However, for the 10-acre wooded lot, the standards could only be met if the setup error was 1 mm.

On a 2-m prism pole this means that the level vial must be within ±1.7 min. This level of accuracy requires that all levels used in the survey be calibrated and adjusted before starting the survey, and that they are properly centered before the first observation is taken. However, if the surveyor takes sufficient care in their fieldwork and uses an instrument having a DIN18723 accuracy standard of at least 5″ and an EDM accuracy of at least 3 mm + 3 ppm using tripods or bipods to hold targets, it should be possible to meet the relative precision criterion in the 2011 ALTA–ACSM Survey Standards. This notwithstanding, every survey is unique, and so the ability to meet or not meet the precision requirements can only be determined by testing this with a correctly weighted least squares adjustment.

REFERENCES

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EXHIBIT 2

[A Lender's] SURVEY REQUIREMENTS

[Note from Gary Kent - Surveyors should read this carefully; they should not do or certify to much of what is asked!]

The survey must comply with both the Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys and the additional requirements specified below. The survey must be performed and certified by a surveyor who is licensed or registered where the Property is located.

All final surveys to be submitted in connection with the closing or real estate loans must meet the following requirements:

1. Be prepared by, or under the direct supervision of, a Registered Land Surveyor with his signature and seal affixed and dated. The survey should bear a date which is on or about the closing date of the loan, but no later than thirty (30) days prior to the closing. Minimum survey plan scale shall be sufficient to clearly show all required details, typically 1"=30'. All the following items noted as "included" or "identified" shall be locate on the survey plan.

2. Include, on the plan, a full legal description for each parcel and sub parcel by the following, as available:

    a. Street, address, block, and lot;
    b. Metes and bounds;
    c. Coordinate values for each corner;
    d. Township, section, and smaller subdivision;
    e. Reference to book and page or document number of public records.

3. Identify all perimeter property lines for each parcel.

4. Identify all points of beginning and corners. Note whether corners are found, placed, or to be placed and nature of monumentation at each point.

5. Indicate names of all recorded adjacent property owners, reference book and page of document number of adjacent parcels.

6. Identify and certify the number of square feet and acres contained in each parcel.

7. Identify all streets adjacent to the property and further identify the R.O.W. lines.

8. Identify all curb cuts, driveways, fences and access routes from the property to public streets.

9. Identify all easements affecting the property and identify them by title, purpose and dimension. Also indicate book and page or document number of instrument creating the easement. Prepare a summary table of each of these easements.

10. Identify perimeters of all existing or proposed structures or improvements thereon, including sidewalks, stoops, canopies, loading docks, party walls. Identify the gross square footage of all structures, the number of stories of all structures, and the perimeter measurements of each building.

11. Identify all utility lines, active and abandoned, public and private, which service or cross the property and improvements. Underground utilities correctly noted on "As Built" plans need not be additionally shown on the survey. Utilities to be shown shall include but are not limited to: sanitary and storm sewers, pump stations, retention and treatment facilities and discharge points. Specifically identify all discharges onto and from the property and easements required therefor. Also identify water, gas, electric and telephone services, traffic signals, and light poles and railroad tracks and sidings.

12. Identify required building setbacks from property lines and identify length of actual building setbacks.

13. Identify limits and areas of all encroachments both on and by the subject or certify that there are no encroachments.

14. Zoning Table. Provide a "Zoning Table" which identifies the zoning classification of the property, any required parking ratios under zoning laws, zoning density or height requirements, and whether the use of the property is consistent with such zoning classification. Identify parking spaces and paved areas. Summarize the actual vehicle parking space count and note any limitations pertaining to easements.

15. Flood Zone Designation. Include a specific reference to the Property's designation within one of the applicable flood zone designations based on Federal Flood Insurance Rate Maps ("FIRM"), by scaled map location and graphic plotting only. If the Property resides in two or more zones then the survey shall clearly display the limits of each zone by graphically transposing each zone line from the FIRM to the survey. The flood zone statement as shown in No. 17.D. below must be completed and appear on the face of the survey.

16. Survey Certificate Requirements:

    A. The survey must be certified to: [Big Lender], its successors or assigns, [Attorneys], [Borrower] and _____ Title Insurance Company.

    B. The survey certificate must provide as follows:

    This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys" jointly established and adopted by ALTA and NSPS and includes Items 1, 2, 3, 4, 6(a), 6(b), 7(a), 7(b)(1), 7(c), 8, 9, 10(a), 11, 13, 14, 16, 17, 18, 19 and 20 of Table A thereof.

    Date of Plat or Map: _____(*Surveyor's signature, printed name and seal with Registration/License Number*)

    _____
    Professional Land Surveyor No._____
    [Seal]

17. Notes Upon Survey: The following provisions shall appear as notes upon the survey:

    "A. This survey correctly shows the size, location and type of all buildings,

structures and other improvements, and visible items on the Property and that all buildings and improvements are within the boundary lines and applicable setback lines of the Property.

B. All utilities serving the Property enter through adjoining public streets and/ or easements of record; that except as shown, there are no visible easements or rights of way across said Property.

C. Except as shown, there are no visible (a) improvements, easements, rights of way, party walls, drainage ditches, streams or conflicts, (b) party walls or encroachments on adjoining property, streets, alleys, or rights of way by any of such buildings, structures, or other improvements, (c) encroachments on the Property by buildings, structures, or other improvements situated on adjoining property, or (d) encroachments on any easement, building setback line or other restricted area by any buildings, structures or other improvements on the Property.

D. Said described property is located within an area having a Zone Designation _____ by the Federal Emergency Management Agency, on Flood Insurance Rate Map No. _____, with a date of identification of _____, for Community Number _____, in _____ County, State of _____, which is the current Flood Insurance Rate Map for the community in which said Property is situated;

E. The property has direct physical access to _____, a public street or highway;

F. The number of striped parking spaces located on the subject property is _____, and to the extent possible, are graphically shown hereon.

G. All set back, side yard and rear yard lines and requirements shown or set forth on all recorded plats and documents, and those set forth in applicable zoning ordinances, are plotted hereon and are noted hereon in tabular form.

H. The undersigned has received and examined a copy of Title Insurance Commitment No(s). _____, dated _____, 20___, issued by _____ Title Insurance Company for the Property as well as a copy of each easement, covenant and restriction listed therein, and the location of any matter shown thereon, to the extent it can be located, has been plotted on the Survey or otherwise noted as to their effect on the subject property, and the property described hereon is the same as the property described in said Title Insurance Commitment."

18. NOTE TO SURVEYOR: IF ANY IMPROVEMENTS ARE LOCATED WITHIN ANY SPECIAL FLOOD HAZARD AREA (A OR V), SURVEYOR MUST COMPLETE, EXECUTE AND RETURN AN ELEVATION CERTIFICATE (FEMA FORM 81-31).

EXHIBIT 3
(HUD Multifamily)

HUD Multifamily requirements addressing the 2026 ALTA/NSPS Standards are currently under development

EXHIBIT 4
(HUD LEAN 232)

Status of HUD LEAN 232 requirements addressing the 2026 ALTA/NSPS Standards is unknown

MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS

(Effective February 23, 2026)

1. **Purpose** - Members of the American Land Title Association® (ALTA) have specific needs, unique to title insurance matters, when asked to insure title to land without exception as to the many matters which might be discoverable from survey and inspection, and which are not evidenced by the public records.

   For a survey of real property, and the plat, map or record of such survey, to be acceptable to a title insurance company for the purpose of insuring title to said real property free and clear of survey matters (except those matters disclosed by the survey and indicated on the plat or map), certain specific and pertinent information must be presented for the distinct and clear understanding between the insured, the client (if different from the insured), the title insurance company (insurer), the lender, and the surveyor professionally responsible for the survey.

   In order to meet such needs, clients, insurers, insureds, and lenders are entitled to rely on surveyors to conduct surveys and prepare associated plats or maps that are of a professional quality and appropriately uniform, complete, and accurate. To that end, and in the interests of the general public, the surveying profession, title insurers, and abstracters, the ALTA and the NSPS jointly promulgate the within details and criteria setting forth a minimum standard of performance for ALTA/NSPS Land Title Surveys. A complete ALTA/NSPS Land Title Survey includes:
   - **A.** the fieldwork required pursuant to Section 5,
   - **B.** the preparation of a plat or map pursuant to Section 6 showing the results of the fieldwork and its relationship to documents provided to or obtained by the surveyor pursuant to Section 4,
   - **C.** any information from Table A items requested by the client, and
   - **D.** the certification outlined in Section 7.

2. **Request for Survey** - The client shall request the survey, or arrange for the survey to be requested, and shall provide a written authorization to proceed from the person or entity responsible for paying for the survey. Unless specifically authorized in writing by the insurer, the insurer shall not be responsible for any costs associated with the preparation of the survey. The request must specify that a **"2026 ALTA/NSPS LAND TITLE SURVEY"** is required and which of the optional items listed in Table A, if any, are to be incorporated. Certain properties or interests in real properties may present issues outside those normally encountered on an ALTA/NSPS Land Title Survey (e.g., marinas, campgrounds, mobile home parks, easements, leases, mineral interests, other non-fee simple interests). The scope of work related to surveys of such properties or interests in real properties should be discussed with the client, lender, and insurer, and agreed upon in writing prior to commencing work on the survey. When required, the client shall secure permission for the surveyor to enter upon the property to be surveyed, adjoining properties, or offsite easements.

3. **Surveying Standards and Standards of Care**
   - **A. Effective Date** - The 2026 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys are effective February 23, 2026. As of that date, all previous versions of the Minimum Standard Detail Requirements for ALTA/ACSM or ALTA/NSPS Land Title Surveys are superseded by these standards.
   - **B. Other Requirements and Standards of Practice** - Many states and some local jurisdictions have adopted statutes, administrative rules, and/or ordinances that set out standards regulating the practice of surveying within their jurisdictions. In addition to the standards set

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forth herein, surveyors must also conduct their surveys in accordance with applicable jurisdictional survey requirements and standards of practice. Where conflicts between the standards set forth herein and any such jurisdictional requirements and standards of practice occur, the more stringent must apply.

C. The Normal Standard of Care - Surveyors should recognize that there may be unwritten local, state, and/or regional standards of care defined by the practice of the "prudent surveyor" in those locales.

D. Boundary - The boundary lines and corners of any property or interest in real property being surveyed (hereafter, the "surveyed property" or "property to be surveyed") as part of an ALTA/NSPS Land Title Survey must be established and/or retraced in accordance with appropriate boundary law principles governed by the set of facts and evidence found in the course of performing the research and fieldwork.

E. Measurement Standards - The following measurement standards address Relative Positional Precision for the monuments or witnesses marking the corners of the surveyed property.

i. "Relative Positional Precision" is the accepted indicator of measurement quality on an ALTA/NSPS Land Title Survey. It is defined as the length of the semi-major axis, expressed in meters or feet, of the error ellipse of the line connecting the monuments or witnesses marking adjacent boundary corners of the surveyed property at the 95 percent confidence level. Relative Positional Precision is most commonly estimated by the results of a correctly weighted least squares adjustment of the survey, or alternatively it can be estimated by the standard deviation of the distance between the monument or witness marking any boundary corner of the surveyed property and the monument or witness marking an immediately adjacent boundary corner of the surveyed property (called local accuracy) that can be computed using the full covariance matrix of the coordinate inverse between any given pair of points, understanding that Relative Positional Precision is based on the 95 percent confidence level.

ii. Any boundary lines and corners established or retraced may have uncertainties in location resulting from (1) the availability, condition, history and integrity of reference or controlling monuments, (2) ambiguities in the record descriptions or plats of the surveyed property or its adjoining properties, (3) occupation or possession lines as they may differ from the written title lines, or (4) Relative Positional Precision. Of these four sources of uncertainty, only Relative Positional Precision is controllable, although, due to the inherent errors in any measurement, it cannot be eliminated. The magnitude of the first three uncertainties can be projected based on evidence; Relative Positional Precision is estimated using statistical means (see Section 3.E.i. above and Section 3.E.v. below).

iii. The first three of these sources of uncertainty must be weighed as part of the evidence in the determination of where, in the surveyor's opinion, the boundary lines and corners of the surveyed property should be located (see Section 3.D. above). Relative Positional Precision is a measure of how precisely the surveyor is able to monument and report those positions; it is not a substitute for the application of proper boundary law principles. A boundary corner or line may have a small Relative Positional Precision because the survey measurements were precise, yet still be in the wrong position (i.e., inaccurate) if it was established or retraced using faulty or improper application of boundary law principles.

iv. For any measurement technology or procedure used on an ALTA/NSPS Land Title Survey, the surveyor must (1) use appropriately trained personnel, (2) compensate for systematic errors, including those associated with instrument calibration, and (3) use appropriate error propagation and measurement design theory (selecting the proper instruments, geometric layouts, and field and computational procedures) to control random errors such that the; maximum allowable Relative Positional Precision outlined in Section 3.E.v. below is not exceeded.

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v. The maximum allowable Relative Positional Precision for an ALTA/NSPS Land Title Survey is 2 cm (0.07 feet) plus 50 parts per million (based on the direct distance between the two corners being tested). It is recognized that in certain circumstances, the size or configuration of the surveyed property, or the relief, vegetation, or improvements on the surveyed property, will result in survey measurements for which the maximum allowable Relative Positional Precision may be exceeded in which case the reason shall be noted pursuant to Section 6.B.x. below.

4. **Records Research** - It is recognized that for the performance of an ALTA/NSPS Land Title Survey, the surveyor must be provided with appropriate and, when possible, legible data that can be relied upon in the preparation of the survey. In order to complete an ALTA/NSPS Land Title Survey, the surveyor must be provided with the following:

A. Given the purpose of an ALTA/NSPS Land Title Survey, complete copies of the most recent title commitment or, if a title commitment is not available, other title evidence satisfactory to the title insurer (if a recent title commitment is not provided, in some cases, additional title research may be required on the part of and by the insurer or on the part of the surveyor due to state law);

B. The current record description of the real property to be surveyed or, in the case of an original survey prepared for purposes of locating and describing real property that has not been previously separately described in documents conveying an interest in the real property, the current record description of the parent parcel that contains the property to be surveyed;

C. The following documents from records established under state statutes for the purpose of imparting constructive notice of matters relating to real property (public records):

i. Any recorded easements benefitting (i.e., appurtenant to) the property to be surveyed; and

ii. Any recorded easements, servitudes, or covenants burdening the property to be surveyed;

D. If desired by the client, any unrecorded documents affecting the property to be surveyed and containing information to which the survey shall make reference.

Except, however, if the documents outlined in B and C of this section are not provided to the surveyor or if non-public or quasi-public documents (e.g., highway or railroad plans) are otherwise required to complete the survey, the surveyor must conduct that research which is required pursuant to the statutory or administrative requirements of the jurisdiction where the surveyed property is located and that research (if any) which is negotiated and outlined in the terms of the contract between the surveyor and the client.

5. **Fieldwork** - The fieldwork must be performed using practices generally recognized as acceptable by the surveying profession for purposes of an ALTA/NSPS Land Title Survey. Except as related to the precision of the boundary, which is addressed in Section 3.E. above, features located during the fieldwork shall be located to what is, in the surveyor's professional opinion, the appropriate degree of precision based on (a) the planned use of the surveyed property, if reported in writing to the surveyor by the client, lender, or insurer, or (b) the existing use, if the planned use is not so reported. The fieldwork shall include the following:

A. Monuments

i. The location, size, character (including relationship to surface of the ground), and type of any monuments found during the fieldwork.

ii. The location, size, character (including relationship to surface of the ground), and type of any monuments set during the fieldwork, if item 1 of Table A was selected or if otherwise required by applicable jurisdictional requirements and/or standards of practice.

iii. The location, description, and character of any lines that control the boundaries of the surveyed property.

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B. Rights of Way and Access

- **i.** The distance from the appropriate corner or corners of the surveyed property to the nearest right of way line, if the surveyed property does not abut a right of way.
- **ii.** The name of any street, highway, or other public or private way abutting the surveyed property, together with the width of the travelled way and the location of each edge of the travelled way including on divided streets and highways. If the documents provided to or obtained by the surveyor pursuant to Section 4 indicate no access from the surveyed property to the abutting street or highway, the width and location of the travelled way need not be located.
- **iii.** Evidence of physical access (including vehicular access such as curb cuts and driveways) to any abutting streets, highways, or other public or private ways observed in the process of conducting the fieldwork.
- **iv.** The location and character of vehicular, pedestrian, or other forms of access by other than the apparent occupants of the surveyed property to or across the surveyed property observed in the process of conducting the fieldwork (e.g., driveways, alleys, private roads, railroads, railroad sidings and spurs, sidewalks, footpaths).
- **v.** Without expressing a legal opinion as to ownership or nature, the location and extent of any potentially encroaching driveways, alleys, and other ways of access from adjoining properties onto the surveyed property observed in the process of conducting the fieldwork.
- **vi.** Where documentation of the location of any street, road, or highway right of way abutting, on, or crossing the surveyed property was not disclosed in documents provided to or obtained by the surveyor, or was not otherwise available from the controlling jurisdiction (see Section 6.C.iv. below), the evidence and location of parcel corners on the same side of the street as the surveyed property recovered in the process of conducting the fieldwork which may indicate the location of such right of way lines (e.g., lines of occupation, survey monuments).
- **vii.** Evidence of access to and from waters adjoining the surveyed property observed in the process of conducting the fieldwork (e.g., paths, boat slips, launches, piers, docks).

C. Lines of Possession and Improvements along the Boundaries

- **i.** The character and location of evidence of possession or occupation along the perimeter of the surveyed property, both by the occupants of the surveyed property and by adjoining properties, observed in the process of conducting the fieldwork regardless of proximity to the perimeter boundary lines.
- **ii.** Unless physical access is restricted, the character and location of all walls, buildings, fences, and other improvements within five feet of each side of the boundary lines observed in the process of conducting the fieldwork (see Section 5.E.iv. regarding the location of utility features). Trees, bushes, shrubs, and other vegetation need not be located other than as specified in the contract, unless they are deemed by the surveyor to be evidence of possession or occupation pursuant to Section 5.C.i.
- **iii.** Without expressing a legal opinion as to the ownership or nature of the potential encroachment, the evidence, location, and extent of potentially encroaching structural appurtenances and projections observed in the process of conducting the fieldwork (e.g., fire escapes, bay windows, windows and doors that open out, flue pipes, stoops, eaves, cornices, areaways, steps, trim) by or onto adjoining properties, or onto rights of way, easements, or setback lines disclosed in documents provided to or obtained by the surveyor.

D. Buildings

The location of buildings on the surveyed property observed in the process of conducting the fieldwork.

E. Easements and Servitudes

- **i.** Evidence of Documented Easements: Evidence of any easements or servitudes

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burdening the surveyed property as disclosed in the documents provided to or obtained by the surveyor pursuant to Section 4 and observed in the process of conducting the fieldwork.

ii. Evidence of Undocumented Use (Prescriptive Easements): Evidence of easements, servitudes, or other uses by other than the apparent occupants of the surveyed property not disclosed in the documents provided to or obtained by the surveyor pursuant to Section 4, but observed in the process of conducting the fieldwork if they are on or across the surveyed property (e.g., roads, drives, sidewalks, paths and other ways of access, utility service lines, utility locate markings (including the source of the markings, with a note if unknown), water courses, ditches, drains, telephone lines, fiber optic lines, electric lines, water lines, sewer lines, oil pipelines, gas pipelines).

iii. Indication of Underground Easements: Surface indications of underground easements or servitudes on or across the surveyed property observed in the process of conducting the fieldwork (e.g., utility cuts, vent pipes, filler pipes, utility locate markings (including the source of the markings, with a note if unknown)).

iv. Evidence of Utilities: Evidence on or above the surface of the surveyed property observed in the process of conducting the fieldwork, which evidence may indicate utilities located on, above, or beneath the surveyed property. Examples of such evidence include pipeline markers, utility locate markings (including the source of the markings, with a note if unknown), manholes, valves, meters, transformers, pedestals, clean-outs, overhead lines, and guy wires on and within five feet of the surveyed property, and utility poles on ~~or~~ and within ten feet of the surveyed property. Without expressing a legal opinion as to the ownership or nature of the potential encroachment, the extent of all potential encroaching utility pole crossmembers or overhangs.

F. Cemeteries

As accurately as the evidence permits, the perimeter of cemeteries and burial grounds, and the location of isolated gravesites not within a cemetery or burial ground, (i) disclosed in the documents provided to or obtained by the surveyor, or (ii) observed in the process of conducting the fieldwork.

G. Water Features

i. The location of springs, ponds, lakes, streams, rivers, canals, ditches, marshes, and swamps on, running through, or outside, but within five feet of, the perimeter boundary of the surveyed property and observed during the process of conducting the fieldwork.

ii. The location of any water feature forming a boundary of the surveyed property. The attribute(s) of the water feature located (e.g., top of bank, edge of water, high water mark) should be congruent with the boundary as described in the record description or, in the case of an original survey, in the new description (see Section 6.B.vi. below).

6. **Plat or Map** - A plat or map of an ALTA/NSPS Land Title Survey must be prepared using practices generally recognized as acceptable by the surveying profession for purposes of an ALTA/NSPS Land Title Survey and shall show the following information. Where dimensioning is appropriate, dimensions shall be annotated to what is, in the surveyor's professional opinion, the appropriate degree of precision based on (a) the planned use of the surveyed property, if reported in writing to the surveyor by the client, lender, or insurer, or (b) existing use, if the planned use is not so reported.

A. Field Locations. The evidence and locations gathered, and the monuments and lines located during the fieldwork pursuant to Section 5 above, with accompanying notes if deemed necessary by the surveyor or as otherwise required as specified below.

B. Boundary, Descriptions, Dimensions, and Closures

i. (a) The current record description of the surveyed property, or
(b) In the case of an original survey, the current record document number of the parent tract that contains the surveyed property.

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ii. Any new description of the surveyed property that was prepared in conjunction with the survey, including a statement explaining why the new description was prepared. Except in the case of an original survey, preparation of a new description should be avoided unless deemed necessary or appropriate by the surveyor and insurer. Preparation of a new description should also generally be avoided when the record description is a lot or block in a platted, recorded subdivision. Except in the case of an original survey, if a new description is prepared, a note must be provided stating (a) that the new description describes the same real estate as the record description or, (b) if it does not, how the new description differs from the record description.

iii. The point of beginning, the remote point of beginning or point of commencement (if applicable) and all distances and directions identified in the record description of the surveyed property (and in the new description, if one was prepared). Where a measured or calculated dimension differs from the record by an amount deemed significant by the surveyor, such dimension must be shown in addition to, and differentiated from, the corresponding record dimension. All dimensions shown on the survey and contained in any new description must be horizontal ground dimensions unless otherwise noted.

iv. The direction, distance, and curve data necessary to compute a mathematical closure of the surveyed boundary. A note if the record description does not mathematically close. The basis of bearings and, where it differs from the record basis, the difference.

v. The remainder of any recorded lot or existing parcel, when the surveyed property is composed of only a portion of such lot or parcel, shall be graphically depicted. Such remainder need not be included as part of the actual survey, except to the extent necessary to locate the lines and corners of the surveyed property, and it need not be fully dimensioned or drawn at the same scale as the surveyed property.

vi. When the surveyed property includes a title line defined by a water boundary, a note on the face of the plat or map noting the date the boundary was measured, which attribute(s) of the water feature was/were located, and the caveat that the boundary is subject to change due to natural causes and that it may or may not represent the actual location of the limit of title. When the surveyor is aware of natural or artificial realignments or changes in such boundaries, the extent of those changes and facts shall be shown or explained.

vii. The relationship of the boundaries of the surveyed property to its adjoining properties (e.g., contiguity, gaps, overlaps) where ascertainable from documents provided to or obtained by the surveyor and/or from field evidence gathered during the process of conducting the fieldwork. If the surveyed property is composed of multiple parcels, the extent of any gaps or overlaps between those parcels must be identified. Where gaps or overlaps are identified, the surveyor must, prior to or upon delivery of the final plat or map, disclose this to the insurer and client.

viii. When, in the opinion of the surveyor, the results of the survey differ significantly from the record, or if a fundamental decision related to the boundary resolution is not clearly reflected on the plat or map, the surveyor must explain this information with notes on the face of the plat or map.

ix. The location of buildings on the surveyed property dimensioned perpendicular to those perimeter boundary lines that the surveyor deems appropriate (i.e., where potentially impacted by a setback line) and/or as requested by the client, lender or insurer.

x. A note on the face of the plat or map explaining the site conditions that resulted in a Relative Positional Precision that exceeds the maximum allowed pursuant to Section 3.E.v.

xi. A note on the face of the plat or map identifying areas, if any, on the boundaries of the surveyed property, to which physical access within five feet was restricted (see Section 5.C.ii.).

xii. A note on the face of the plat or map identifying the source of the title commitment or

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other title evidence provided pursuant to Section 4, and the effective date and the name of the insurer of same.

C. Easements, Servitudes, Rights of Way, Access, and Documents

i. The location, width, and recording information of all plottable rights of way, easements, and servitudes burdening and benefitting (i.e., appurtenant to) the surveyed property, as evidenced by documents provided to or obtained by the surveyor pursuant to Section 4.

ii. A summary of all rights of way, easements, and other survey-related matters burdening the surveyed property and identified in the title evidence provided to or obtained by the surveyor pursuant to Section 4. Such summary must include the record information of each such right of way, easement, or other survey-related matter, a statement indicating whether it lies within or crosses the surveyed property, and a related note for each of the following conditions, if present:

(a) its location is shown;
(b) its location cannot be determined from the record document;
(c) there was no observed evidence at the time of the fieldwork;
(d) it is a blanket easement;
(e) it is not on, does not touch, and/or – based on the description contained in the record document – does not affect, the surveyed property;
(f) it limits access to an otherwise abutting right of way;
(g) the documents are illegible; or
(h) the surveyor has information indicating that it may have been released or otherwise terminated.

In cases where the surveyed property is composed of multiple parcels, indicate which of such parcels the various rights of way, easements, and other survey-related matters cross or touch.

iii. A note if no physical access to an abutting street, highway, or other public or private way was observed in the process of conducting the fieldwork.

iv. The locations and widths of rights of way abutting or crossing the surveyed property and the source of such information (a) where available from the controlling jurisdiction, or (b) where disclosed in documents provided to or obtained by the surveyor pursuant to Section 4.

v. The identifying titles of all recorded plats, filed maps, right of way maps, or similar documents that the survey represents, wholly or in part, with their recording or filing data.

vi. For non-platted adjoining properties, recording data and tax parcel number, identifying adjoining properties according to current tax records, where available. For platted adjoining properties, the recording data of the subdivision plat.

vii. Platted setback or building restriction lines that appear on recorded subdivision plats or that were disclosed in documents provided to, or obtained by, the surveyor.

viii. If in the process of preparing the survey the surveyor becomes aware of a recorded easement not otherwise listed in the title evidence provided, the surveyor must advise the insurer prior to delivery of the plat or map and, unless the insurer provides evidence that the easement has been terminated or extinguished, show or otherwise explain it on the face of the plat or map, with a note that the insurer has been advised.

D. Presentation

i. The plat or map must be drawn on a sheet of not less than 8 ½ by 11 inches in size at a legible, standard engineering scale, with that scale clearly indicated in words or numbers and with a graphic scale.

ii. The plat or map must include:

(a) The boundary of the surveyed property drawn in a manner that distinguishes it from other lines on the plat or map.
(b) If no buildings were observed on the surveyed property in the process of conducting the fieldwork, a note stating *"No buildings observed*."

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(c) A north arrow (with north to the top of the drawing when practicable).
(d) A legend of symbols and abbreviations.
(e) A vicinity map showing the surveyed property in reference to nearby highway(s) or major street intersection(s).
(f) Supplementary or detail diagrams when necessary.
(g) Notes explaining any modifications to Table A items and the nature of any additional Table A items (e.g., 21(a), 21(b), 21(c)) that were negotiated between the surveyor and client.
(h) The surveyor's project number (if any), and the name, registration or license number, signature, seal, street address, telephone number, company website, and email address (if any) of the surveyor who performed the survey.
(i) The date(s) of any revisions made by the surveyor who performed the survey.
(j) Sheet numbers where the plat or map is composed of more than one sheet.
(k) The caption "ALTA/NSPS Land Title Survey."
(l) Notation of any parol statements by interested landowners or occupants as to title or boundary issues relating to the surveyed property.

iii. When recordation or filing of a plat or map is required by state statute, administrative rule or local ordinance, such plat or map shall be produced in the required form and at a legible scale.

7. **Certification** -

A. The plat or map of an ALTA/NSPS Land Title Survey must bear only the following unaltered certification except as may be required pursuant to Section 3.B. above:

"To (name of insured, if known), (name of lender, if known), (name of insurer, if known), (names of others as negotiated with the client):

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2026 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items _____ of Table A thereof. The fieldwork was completed on _____ *[date].*

Date of Plat or Map: _____ *(Surveyor's signature, printed name and seal with Registration/License Number)*"

B. Certification may be extended to successors and assigns of the lender if requested.

8. **Deliverables** - The surveyor shall furnish copies of the plat or map of survey to the insurer and client and as otherwise negotiated with the client. Hard copies shall be on durable and dimensionally stable material of a quality standard acceptable to the insurer. A digital image of the plat or map may be provided in addition to, or in lieu of, hard copies pursuant to the terms of the contract. If the surveyor is required to record or file a plat or map pursuant to state statute, administrative rule or local ordinance it must be so recorded or filed.

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TABLE A

OPTIONAL SURVEY RESPONSIBILITIES AND SPECIFICATIONS

NOTE: When any of the first twenty (20) items of Table A are selected, the exact wording of and fee for any selected item may be negotiated between the surveyor and client. Note that some items may be required by state statute, administrative rule or local ordinance in which case they must be included pursuant to Section 3.B. Any additional items negotiated between the surveyor and client must be identified as 21(a), 21(b), etc. Any additional items negotiated between the surveyor and client, and any negotiated changes to the wording of a Table A item, must be explained pursuant to Section 6.D.ii.(g). Notwithstanding Table A Items 5 and 11, if an engineering design survey is desired as part of an ALTA/NSPS Land Title Survey, such services should be negotiated under Table A, Item 21.

If checked, the following optional items are to be included in the ALTA/NSPS LAND TITLE SURVEY, except as otherwise qualified (see note above):

1. _____ *Monuments placed (or a reference monument or witness to the corner) at all major corners of the boundary of the surveyed property, unless already marked or referenced by existing monuments or witnesses in close proximity to the corner.*
2. _____ *Address(es) of the surveyed property if disclosed in documents provided to or obtained by the surveyor, or observed while conducting the fieldwork.*
3. _____ *Flood zone classification (with proper annotation based on federal Flood Insurance Rate Maps or the state or local equivalent) depicted by scaled map location and graphic plotting only.*
4. _____ *Gross land area (and other areas if specified by the client).*
5. _____ *Vertical relief with the source of information (e.g., ground survey, aerial map), contour interval, datum, with originating benchmark, when appropriate.*
6. _____ *(a) If the current zoning classification, setback requirements, the height and floor space area restrictions, and parking requirements specific to the surveyed property are set forth in a zoning report or letter provided to the surveyor by the client or the client's designated representative, list the above items on the plat or map and identify the date and source of the report or letter.*

   _____ *(b) If the zoning setback requirements specific to the surveyed property are set forth in a zoning report or letter provided to the surveyor by the client or the client's designated representative, and if those requirements do not require an interpretation by the surveyor, graphically depict those requirements on the plat or map and identify the date and source of the report or letter.*
7. _____ *(a) Exterior dimensions of all buildings at ground level.*

   (b) Square footage of:

   _____ *(1) exterior footprint of all buildings at ground level.*

   _____ *(2) other areas as specified by the client.*

   _____ *(c) Measured height of all buildings above grade at a location specified by the client. If no location is specified, the point of measurement shall be identified.*
8. _____ *Substantial features observed in the process of conducting the fieldwork (in addition to the improvements and features required pursuant to Section 5 above) (e.g., parking lots, billboards, signs, swimming pools, landscaped areas, substantial areas of refuse).*

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9. _____ *Number and type (e.g., disabled, motorcycle, regular, and other marked specialized types) of clearly identifiable parking spaces on surface parking areas, lots, and in parking structures. Striping of clearly identifiable parking spaces on surface parking areas and lots.*

10. _____ *As designated by the client, a determination of the relationship and location of certain division or party walls with respect to adjoining properties.*

11. *Evidence of underground utilities existing on or serving the surveyed property (in addition to the observed evidence of utilities required pursuant to Section 5.E.iv.) as determined by:*

_____ *(a) plans and/or reports provided by client (with reference as to the sources of information)*

_____ *(b) markings coordinated by the surveyor or client pursuant to a private utility locate request.*

Note to the client, insurer, and lender – With regard to Table A, item 11, information from the sources checked above will be combined with observed evidence of utilities pursuant to Section 5.E.iv. to develop a view of the underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response, in which case the surveyor shall note on the plat or map how this affected the surveyor's assessment of the location of the utilities. Where additional or more detailed information is required, the client is advised that excavation may be necessary.

12. _____ *As specified by the client, Governmental Agency survey-related requirements (e.g., HUD surveys, surveys for leases on Bureau of Land Management managed lands). The relevant survey requirements are to be provided by the client or client's designated representative.*

13. _____ *Names of owners of adjoining properties according to current tax records. If more than one owner, identify the first owner's name listed in the tax records followed by "et al."*

14. _____ *Distance to the nearest intersecting street.*

15. _____ *Features, other than the boundary survey portion of an ALTA/NSPS Land Title Survey and the location of features in close proximity to a boundary or other title or relevant setback line, may be shown using imagery; however, the surveyor must:*

(a) agree with the client in writing on imagery to utilize, including source, date and/or version of imagery, and licensing costs and requirements,

(b) discuss the ramifications of such practices (e.g., the potential accuracy, precision and completeness of the imagery gathered thereby) with the insurer, lender, and client prior to the performance of the survey, and

(c) place a note on the face of the survey explaining the source, date, precision, and other relevant qualifications of any such imagery.

16. _____ *Evidence of recent earth moving work, building construction, or building additions observed in the process of conducting the fieldwork.*

17. _____ *Proposed changes in street right of way lines, if such information is made available to the surveyor by the controlling jurisdiction. Evidence of recent street or sidewalk construction or repairs observed in the process of conducting the fieldwork.*

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18. _____ *Pursuant to Sections 5 and 6 (and applicable selected Table A items, excluding Table A item 1), include as part of the survey any plottable offsite (i.e., appurtenant) easements disclosed in documents provided to or obtained by the surveyor.*

19. _____ *Professional liability insurance policy obtained by the surveyor in the minimum amount of $_____ to be in effect throughout the contract term. Certificate of insurance to be furnished upon request, but this item shall not be addressed on the face of the plat or map, unless required by the jurisdiction.*

20. _____ *When observed in the process of conducting the fieldwork or otherwise identified in the process of preparing the survey the following conditions and potential encroachments must be summarized in a table and indicated on the face of the plat or map. Without expressing a statement of legal opinion or an opinion as to ownership, the table must identify the physical conditions, and provide a means by which the conditions can be readily located on the face of the plat or map by a reviewer; however, this table may not be a comprehensive list of all concerns shown on the plat or map of the survey.*

- *Potential encroachments over boundary lines onto the surveyed property from adjoining property and onto adjoining property from the surveyed property.*
- *Potential encroachments into rights of way and easements for which written documentation of the existence of such rights of way and easements was provided to or obtained by the surveyor pursuant to Section 4.*
- *Potential encroachments of front, side or rear setbacks, but only when the setback requirements specific to the surveyed property were provided to the surveyor pursuant to Table A item 6(a) or 6(b) or provided in recorded documents.*
- *Physical access between adjoining parcels without benefit of an easement for which written documentation of the existence of such easement was provided to or obtained by the surveyor pursuant to Section 4.*
- *Use of adjoining parcels by apparent occupants of the surveyed property without benefit of an easement for which written documentation of the existence of such easement was provided to or obtained by the surveyor pursuant to Section 4.*

21. _____ _____

Adopted by the American Land Title Association on October 8, 2025. More at: www.alta.org.
Adopted by the National Society of Professional Surveyors on October 17, 2025. More at: www.nsps.us.com.

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Redline Comparison of ALTA/NSPS 2026 vs 2021 Survey Standards

MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS

(Effective February 23, ~~2021~~2026)

1. **Purpose** - Members of the American Land Title Association® (ALTA) have specific needs, unique to title insurance matters, when asked to insure title to land without exception as to the many matters which might be discoverable from survey and inspection, and which are not evidenced by the public records.

   For a survey of real property, and the plat, map or record of such survey, to be acceptable to a title insurance company for the purpose of insuring title to said real property free and clear of survey matters (except those matters disclosed by the survey and indicated on the plat or map), certain specific and pertinent information must be presented for the distinct and clear understanding between the insured, the client (if different from the insured), the title insurance company (insurer), the lender, and the surveyor professionally responsible for the survey.

   In order to meet such needs, clients, insurers, insureds, and lenders are entitled to rely on surveyors to conduct surveys and prepare associated plats or maps that are of a professional quality and appropriately uniform, complete, and accurate. To that end, and in the interests of the general public, the surveying profession, title insurers, and abstracters, the ALTA and the NSPS jointly promulgate the within details and criteria setting forth a minimum standard of performance for ALTA/NSPS Land Title Surveys. A complete ~~2021~~ ALTA/NSPS Land Title Survey includes:
   A. the ~~on-site~~ fieldwork required pursuant to Section 5,
   B. the preparation of a plat or map pursuant to Section 6 showing the results of the fieldwork and its relationship to documents provided to or obtained by the surveyor pursuant to Section 4,
   C. any information from Table A items requested by the client, and
   D. the certification outlined in Section 7.

2. **Request for Survey** - The client shall request the survey, or arrange for the survey to be requested, and shall provide a written authorization to proceed from the person or entity responsible for paying for the survey. Unless specifically authorized in writing by the insurer, the insurer shall not be responsible for any costs associated with the preparation of the survey. The request must specify that ~~an "~~a **"2026 ALTA/NSPS LAND TITLE SURVEY"** is required and which of the optional items listed in Table A, if any, are to be incorporated. Certain properties or interests in real properties may present issues outside those normally encountered on an ALTA/NSPS Land Title Survey (e.g., marinas, campgrounds, mobile home parks, easements, leases, mineral interests, other non-fee simple interests). The scope of work related to surveys of such properties or interests in real properties should be discussed with the client, lender, and insurer, and agreed upon in writing prior to commencing work on the survey. When required, the client shall secure permission for the surveyor to enter upon the property to be surveyed, adjoining properties, or offsite easements.

3. **Surveying Standards and Standards of Care**
   A. **Effective Date** - The ~~2021~~2026 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys are effective February 23, ~~2021~~2026. As of that date, all previous versions of the Minimum Standard Detail Requirements for ALTA/ACSM or ALTA/NSPS Land Title Surveys are superseded by these standards.
   B. **Other Requirements and Standards of Practice** - Many states and some local jurisdictions

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have adopted statutes, administrative rules, and/or ordinances that set out standards regulating the practice of surveying within their jurisdictions. In addition to the standards set forth herein, surveyors must also conduct their surveys in accordance with applicable jurisdictional survey requirements and standards of practice. Where conflicts between the standards set forth herein and any such jurisdictional requirements and standards of practice occur, the more stringent must apply.

C. The Normal Standard of Care - Surveyors should recognize that there may be unwritten local, state, and/or regional standards of care defined by the practice of the "prudent surveyor" in those locales.

D. Boundary - The boundary lines and corners of any property or interest in real property being surveyed (hereafter, the "surveyed property" or "property to be surveyed") as part of an ALTA/NSPS Land Title Survey must be established and/or retraced in accordance with appropriate boundary law principles governed by the set of facts and evidence found in the course of performing the research and fieldwork.

E. Measurement Standards - The following measurement standards address Relative Positional Precision for the monuments or witnesses marking the corners of the surveyed property.

~~**i.** "Relative Positional Precision" means the length of the semi-major axis, expressed in meters or feet, of the error ellipse representing the uncertainty in the position of the monument or witness marking any boundary corner of the surveyed property relative to the position of the monument or witness marking an immediately adjacent boundary corner of the surveyed property resulting from random errors in the measurements made in determining those positions at the 95 percent confidence level. Relative Positional Precision can be estimated by the results of a correctly weighted least squares adjustment of the survey. Alternatively, Relative Positional Precision can be estimated by the standard deviation of the distance between the monument or witness marking any boundary corner of the surveyed property and the monument or witness marking an immediately adjacent boundary corner of the surveyed property (called local accuracy) that can be computed using the full covariance matrix of the coordinate inverse between any given pair of points, understanding that Relative Positional Precision is based on the 95 percent confidence level, or approximately 2 standard deviations.~~

i. "Relative Positional Precision" is the accepted indicator of measurement quality on an ALTA/NSPS Land Title Survey. It is defined as the length of the semi-major axis, expressed in meters or feet, of the error ellipse of the line connecting the monuments or witnesses marking adjacent boundary corners of the surveyed property at the 95 percent confidence level. Relative Positional Precision is most commonly estimated by the results of a correctly weighted least squares adjustment of the survey, or alternatively it can be estimated by the standard deviation of the distance between the monument or witness marking any boundary corner of the surveyed property and the monument or witness marking an immediately adjacent boundary corner of the surveyed property (called local accuracy) that can be computed using the full covariance matrix of the coordinate inverse between any given pair of points, understanding that Relative Positional Precision is based on the 95 percent confidence level.

ii. Any boundary lines and corners established or retraced may have uncertainties in location resulting from (1) the availability, condition, history and integrity of reference or controlling monuments, (2) ambiguities in the record descriptions or plats of the surveyed property or its ~~adjoiners~~adjoining properties, (3) occupation or possession lines as they may differ from the written title lines, or (4) Relative Positional Precision. Of these four sources of uncertainty, only Relative Positional Precision is controllable, although, due to the inherent errors in any measurement, it cannot be eliminated. The magnitude of the

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first three uncertainties can be projected based on evidence; Relative Positional Precision is estimated using statistical means (see Section 3.E.i. above and Section 3.E.v. below).

iii. The first three of these sources of uncertainty must be weighed as part of the evidence in the determination of where, in the surveyor's opinion, the boundary lines and corners of the surveyed property should be located (see Section 3.D. above). Relative Positional Precision is a measure of how precisely the surveyor is able to monument and report those positions; it is not a substitute for the application of proper boundary law principles. A boundary corner or line may have a small Relative Positional Precision because the survey measurements were precise, yet still be in the wrong position (i.e., inaccurate) if it was established or retraced using faulty or improper application of boundary law principles.

iv. For any measurement technology or procedure used on an ALTA/NSPS Land Title Survey, the surveyor must (1) use appropriately trained personnel, (2) compensate for systematic errors, including those associated with instrument calibration, and (3) use appropriate error propagation and measurement design theory (selecting the proper instruments, geometric layouts, and field and computational procedures) to control random errors such that the maximum allowable Relative Positional Precision outlined in Section 3.E.v. below is not exceeded.

v. The maximum allowable Relative Positional Precision for an ALTA/NSPS Land Title Survey is 2 cm (0.07 feet) plus 50 parts per million (based on the direct distance between the two corners being tested). It is recognized that in certain circumstances, the size or configuration of the surveyed property, or the relief, vegetation, or improvements on the surveyed property, will result in survey measurements for which the maximum allowable Relative Positional Precision may be exceeded in which case the reason shall be noted pursuant to Section 6.B.x. below.

4. **Records Research** - It is recognized that for the performance of an ALTA/NSPS Land Title Survey, the surveyor ~~will~~must be provided with appropriate and, when possible, legible data that can be relied upon in the preparation of the survey. In order to complete an ALTA/NSPS Land Title Survey, the surveyor must be provided with the following:

A. Given the purpose of an ALTA/NSPS Land Title Survey, complete copies of the most recent title commitment or, if a title commitment is not available, other title evidence satisfactory to the title insurer (if a recent title commitment is not provided, in some cases, additional title research may be required on the part of and by the insurer or on the part of the surveyor due to state law); ~~Complete copies of the most recent title commitment or, if a title commitment is not available, other title evidence satisfactory to the title insurer;~~

B. The current record description of the real property to be surveyed or, in the case of an original survey prepared for purposes of locating and describing real property that has not been previously separately described in documents conveying an interest in the real property, the current record description of the parent parcel that contains the property to be surveyed;

C. The following documents from records established under state statutes for the purpose of imparting constructive notice of matters relating to real property (public records):

~~i. The current record descriptions of any adjoiners to the property to be surveyed, except where such adjoiners are lots in platted, recorded subdivisions;~~

~~ii~~**i.** Any recorded easements benefitting (i.e., appurtenant to) the property to be surveyed; and

~~iii.~~**ii.** Any recorded easements, servitudes, or covenants burdening the property to be surveyed; ~~and~~

D. If desired by the client, any unrecorded documents affecting the property to be surveyed and

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containing information to which the survey shall make reference.

Except, however, if the documents outlined in B and C of this section are not provided to the surveyor or if non-public or quasi-public documents (e.g., highway or railroad plans) are otherwise required to complete the survey, the surveyor must conduct that research which is required pursuant to the statutory or administrative requirements of the jurisdiction where the surveyed property is located and that research (if any) which is negotiated and outlined in the terms of the contract between the surveyor and the client.

5. **Fieldwork** - The ~~survey~~fieldwork must be performed ~~on~~using practices generally recognized as acceptable by the ~~ground (except as may be otherwise negotiated pursuant to Table A, Item 15 below).~~surveying profession for purposes of an ALTA/NSPS Land Title Survey. Except as related to the precision of the boundary, which is addressed in Section 3.E. above, features located during the fieldwork shall be located to what is, in the surveyor's professional opinion, the appropriate degree of precision based on (a) the planned use of the surveyed property, if reported in writing to the surveyor by the client, lender, or insurer, or (b) the existing use, if the planned use is not so reported. The fieldwork shall include the following:

A. Monuments

- **i.** The location, size, character~~,~~ (including relationship to surface of the ground), and type of any monuments found during the fieldwork.
- **ii.** The location, size, character~~,~~ (including relationship to surface of the ground), and type of any monuments set during the fieldwork, if item 1 of Table A was selected or if otherwise required by applicable jurisdictional requirements and/or standards of practice.
- **iii.** The location, description, and character of any lines that control the boundaries of the surveyed property.

B. Rights of Way and Access

- **i.** The distance from the appropriate corner or corners of the surveyed property to the nearest right of way line, if the surveyed property does not abut a right of way.
- **ii.** The name of any street, highway, or other public or private way abutting the surveyed property, together with the width of the travelled way and the location of each edge of the travelled way including on divided streets and highways. If the documents provided to or obtained by the surveyor pursuant to Section 4 indicate no access from the surveyed property to the abutting street or highway, the width and location of the travelled way need not be located.
- **iii.** ~~Visible e~~Evidence of physical access (~~e.g.,~~including vehicular access such as curb cuts~~,~~ and driveways) to any abutting streets, highways, or other public or private ways observed in the process of conducting the fieldwork.
- **iv.** The location and character of vehicular, pedestrian, or other forms of access by other than the apparent occupants of the surveyed property to or across the surveyed property observed in the process of conducting the fieldwork (e.g., driveways, alleys, private roads, railroads, railroad sidings and spurs, sidewalks, footpaths).
- **v.** Without expressing a legal opinion as to ownership or nature, the location and extent of any potentially encroaching driveways, alleys, and other ways of access from adjoining properties onto the surveyed property observed in the process of conducting the fieldwork.
- **vi.** Where documentation of the location of any street, road, or highway right of way abutting, on, or crossing the surveyed property was not disclosed in documents provided to or obtained by the surveyor, or was not otherwise available from the controlling jurisdiction (see Section 6.C.iv. below), the evidence and location of parcel corners on the same side of the street as the surveyed property recovered in the process of conducting the

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fieldwork which may indicate the location of such right of way lines (e.g., lines of occupation, survey monuments).

vii. Evidence of access to and from waters adjoining the surveyed property observed in the process of conducting the fieldwork (e.g., paths, boat slips, launches, piers, docks).

C. Lines of Possession and Improvements along the Boundaries

i. The character and location of evidence of possession or occupation along the perimeter of the surveyed property, both by the occupants of the surveyed property and by ~~adjoiners~~adjoining properties, observed in the process of conducting the fieldwork regardless of proximity to the perimeter boundary lines.

ii. Unless physical access is restricted, the character and location of all walls, buildings, fences, and other improvements within five feet of each side of the boundary lines observed in the process of conducting the fieldwork (see Section 5.E.iv. regarding the location of utility ~~poles~~features). Trees, bushes, shrubs, and other vegetation need not be located other than as specified in the contract, unless they are deemed by the surveyor to be evidence of possession or occupation pursuant to Section 5.C.i.

iii. Without expressing a legal opinion as to the ownership or nature of the potential encroachment, the evidence, location, and extent of potentially encroaching structural appurtenances and projections observed in the process of conducting the fieldwork (e.g., fire escapes, bay windows, windows and doors that open out, flue pipes, stoops, eaves, cornices, areaways, steps, trim) by or onto adjoining ~~property~~properties, or onto rights of way, easements, or setback lines disclosed in documents provided to or obtained by the surveyor.

D. Buildings

The location of buildings on the surveyed property observed in the process of conducting the fieldwork.

E. Easements and Servitudes

i. Evidence of Documented Easements: Evidence of any easements or servitudes burdening the surveyed property as disclosed in the documents provided to or obtained by the surveyor pursuant to Section 4 and observed in the process of conducting the fieldwork.

ii. Evidence of Undocumented Use (Prescriptive Easements): Evidence of easements, servitudes, or other uses by other than the apparent occupants of the surveyed property not disclosed in the documents provided to or obtained by the surveyor pursuant to Section 4, but observed in the process of conducting the fieldwork if they are on or across the surveyed property (e.g., roads, drives, sidewalks, paths and other ways of access, utility service lines, utility locate markings (including the source of the markings, with a note if unknown), water courses, ditches, drains, telephone lines, fiber optic lines, electric lines, water lines, sewer lines, oil pipelines, gas pipelines).

iii. Indication of Underground Easements: Surface indications of underground easements or servitudes on or across the surveyed property observed in the process of conducting the fieldwork (e.g., utility cuts, vent pipes, filler pipes, utility locate markings (including the source of the markings, with a note if unknown)).

iv. Evidence of Utilities: Evidence on or above the surface of the surveyed property observed in the process of conducting the fieldwork, which evidence may indicate utilities located on, ~~over~~above, or beneath the surveyed property. Examples of such evidence include pipeline markers, utility locate markings (including the source of the markings, with a note if unknown), manholes, valves, meters, transformers, pedestals, clean-outs, overhead lines, and guy wires on and within five feet of the surveyed property, and utility poles on ~~or~~ and within ten feet of the surveyed property. Without expressing a legal opinion as to the ownership or nature of the potential encroachment, the extent of all

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potential encroaching utility pole crossmembers or overhangs.

F. Cemeteries
As accurately as the evidence permits, the perimeter of cemeteries and burial grounds, and the location of isolated gravesites not within a cemetery or burial ground, (i) disclosed in the documents provided to or obtained by the surveyor, or (ii) observed in the process of conducting the fieldwork.

G. Water Features

i. The location of springs, ponds, lakes, streams, rivers, canals, ditches, marshes, and swamps on, running through, or outside, but within five feet of, the perimeter boundary of the surveyed property and observed during the process of conducting the fieldwork.

ii. The location of any water feature forming a boundary of the surveyed property. The attribute(s) of the water feature located (e.g., top of bank, edge of water, high water mark) should be congruent with the boundary as described in the record description or, in the case of an original survey, in the new description (see Section 6.B.vi. below).

6. Plat or Map - A plat or map of an ALTA/NSPS Land Title Survey must be prepared using practices generally recognized as acceptable by the surveying profession for purposes of an ALTA/NSPS Land Title Survey and shall show the following information. Where dimensioning is appropriate, dimensions shall be annotated to what is, in the surveyor's professional opinion, the appropriate degree of precision based on (a) the planned use of the surveyed property, if reported in writing to the surveyor by the client, lender, or insurer, or (b) existing use, if the planned use is not so reported.

A. Field Locations. The evidence and locations gathered, and the monuments and lines located during the fieldwork pursuant to Section 5 above, with accompanying notes if deemed necessary by the surveyor or as otherwise required as specified below.

B. Boundary, Descriptions, Dimensions, and Closures

i. (a) The current record description of the surveyed property, or
(b) In the case of an original survey, the current record document number of the parent tract that contains the surveyed property.

ii. Any new description of the surveyed property that was prepared in conjunction with the survey, including a statement explaining why the new description was prepared. Except in the case of an original survey, preparation of a new description should be avoided unless deemed necessary or appropriate by the surveyor and insurer. Preparation of a new description should also generally be avoided when the record description is a lot or block in a platted, recorded subdivision. Except in the case of an original survey, if a new description is prepared, a note must be provided stating (a) that the new description describes the same real estate as the record description or, (b) if it does not, how the new description differs from the record description.

iii. The point of beginning, the remote point of beginning or point of commencement (if applicable) and all distances and directions identified in the record description of the surveyed property (and in the new description, if one was prepared). Where a measured or calculated dimension differs from the record by an amount deemed significant by the surveyor, such dimension must be shown in addition to, and differentiated from, the corresponding record dimension. All dimensions shown on the survey and contained in any new description must be horizontal ground dimensions unless otherwise noted.

iv. The direction, distance, and curve data necessary to compute a mathematical closure of the surveyed boundary. A note if the record description does not mathematically close. The basis of bearings and, where it differs from the record basis, the difference.

v. The remainder of any recorded lot or existing parcel, when the surveyed property is composed of only a portion of such lot or parcel, shall be graphically depicted. Such

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remainder need not be included as part of the actual survey, except to the extent necessary to locate the lines and corners of the surveyed property, and it need not be fully dimensioned or drawn at the same scale as the surveyed property.

vi. When the surveyed property includes a title line defined by a water boundary, a note on the face of the plat or map noting the date the boundary was measured, which attribute(s) of the water feature was/were located, and the caveat that the boundary is subject to change due to natural causes and that it may or may not represent the actual location of the limit of title. When the surveyor is aware of natural or artificial realignments or changes in such boundaries, the extent of those changes and facts shall be shown or explained.

vii. The relationship of the boundaries of the surveyed property to its ~~adjoiners~~adjoining properties (e.g., contiguity, gaps, overlaps) where ascertainable from documents provided to or obtained by the surveyor ~~pursuant to Section 4~~ and/or from field evidence gathered during the process of conducting the fieldwork. If the surveyed property is composed of multiple parcels, the extent of any gaps or overlaps between those parcels must be identified. Where gaps or overlaps are identified, the surveyor must, prior to or upon delivery of the final plat or map, disclose this to the insurer and client.

viii. When, in the opinion of the surveyor, the results of the survey differ significantly from the record, or if a fundamental decision related to the boundary resolution is not clearly reflected on the plat or map, the surveyor must explain this information with notes on the face of the plat or map.

ix. The location of buildings on the surveyed property dimensioned perpendicular to those perimeter boundary lines that the surveyor deems appropriate (i.e., where potentially impacted by a setback line) and/or as requested by the client, lender or insurer.

x. A note on the face of the plat or map explaining the site conditions that resulted in a Relative Positional Precision that exceeds the maximum allowed pursuant to Section 3.E.v.

xi. A note on the face of the plat or map identifying areas, if any, on the boundaries of the surveyed property, to which physical access within five feet was restricted (see Section 5.C.ii.).

xii. A note on the face of the plat or map identifying the source of the title commitment or other title evidence provided pursuant to Section 4, and the effective date and the name of the insurer of same.

C. Easements, Servitudes, Rights of Way, Access, and Documents

i. The location, width, and recording information of all plottable rights of way, easements, and servitudes burdening and benefitting (i.e., appurtenant to) the surveyed property, as evidenced by documents provided to or obtained by the surveyor pursuant to Section 4.

ii. A summary of all rights of way, easements, and other survey-related matters burdening the surveyed property and identified in the title evidence provided to or obtained by the surveyor pursuant to Section 4. Such summary must include the record information of each such right of way, easement, or other survey-related matter, a statement indicating whether it lies within or crosses the surveyed property, and a related note ~~if:~~for each of the following conditions, if present:

(a) its location is shown;
(b) its location cannot be determined from the record document;
(c) there was no observed evidence at the time of the fieldwork;
(d) it is a blanket easement;
(e) it is not on, does not touch, and/or – based on the description contained in the record document – does not affect, the surveyed property;
(f) it limits access to an otherwise abutting right of way;

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(g) the documents are illegible; or
(h) the surveyor has information indicating that it may have been released or otherwise terminated.

In cases where the surveyed property is composed of multiple parcels, indicate which of such parcels the various rights of way, easements, and other survey-related matters cross or touch.

iii. A note if no physical access to an abutting street, highway, or other public or private way was observed in the process of conducting the fieldwork.

iv. The locations and widths of rights of way abutting or crossing the surveyed property and the source of such information (a) where available from the controlling jurisdiction, or (b) where disclosed in documents provided to or obtained by the surveyor pursuant to Section 4.

v. The identifying titles of all recorded plats, filed maps, right of way maps, or similar documents that the survey represents, wholly or in part, with their recording or filing data.

vi. For non-platted adjoining ~~land~~properties, recording data and~~, where available,~~ tax parcel number, identifying adjoining ~~tracts~~properties according to current ~~public~~tax records~~.~~, where available. For platted adjoining ~~land~~properties, the recording data of the subdivision plat.

vii. Platted setback or building restriction lines that appear on recorded subdivision plats or that were disclosed in documents provided to, or obtained by, the surveyor.

viii. If in the process of preparing the survey the surveyor becomes aware of a recorded easement not otherwise listed in the title evidence provided, the surveyor must advise the insurer prior to delivery of the plat or map and, unless the insurer provides evidence ~~of a release of~~ that the easement has been terminated or extinguished, show or otherwise explain it on the face of the plat or map, with a note that the insurer has been advised.

D. Presentation

i. The plat or map must be drawn on a sheet of not less than 8 ½ by 11 inches in size at a legible, standard engineering scale, with that scale clearly indicated in words or numbers and with a graphic scale.

ii. The plat or map must include:

(a) The boundary of the surveyed property drawn in a manner that distinguishes it from other lines on the plat or map.
(b) If no buildings were observed on the surveyed property in the process of conducting the fieldwork, a note stating *"No buildings observed."*
(c) A north arrow (with north to the top of the drawing when practicable).
(d) A legend of symbols and abbreviations.
(e) A vicinity map showing the surveyed property in reference to nearby highway(s) or major street intersection(s).
(f) Supplementary or detail diagrams when necessary.
(g) Notes explaining any modifications to Table A items and the nature of any additional Table A items (e.g., ~~20~~21(a), ~~20~~21(b), ~~20~~21(c)) that were negotiated between the surveyor and client.
(h) The surveyor's project number (if any), and the name, registration or license number, signature, seal, street address, telephone number, company website, and email address (if any) of the surveyor who performed the survey.
(i) The date(s) of any revisions made by the surveyor who performed the survey.
(j) Sheet numbers where the plat or map is composed of more than one sheet.
(k) The caption "ALTA/NSPS Land Title Survey."
(l) Notation of any parol statements by interested landowners or occupants as to title or boundary issues relating to the surveyed property.

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iii. When recordation or filing of a plat or map is required by state ~~statutes~~statute, administrative rule or local ~~ordinances~~ordinance, such plat or map shall be produced in the required form and at a legible scale.

7. Certification -

A. The plat or map of an ALTA/NSPS Land Title Survey must bear only the following unaltered certification except as may be required pursuant to Section 3.B. above:

"To (name of insured, if known), (name of lender, if known), (name of insurer, if known), (names of others as negotiated with the client):

This is to certify that this map or plat and the survey on which it is based were made in accordance with the ~~2021~~2026 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes Items _____ of Table A thereof. The fieldwork was completed on _____ *[date].*

Date of Plat or Map: _____ *(Surveyor's signature, printed name and seal with Registration/License Number)*"

B. Certification may be extended to successors and assigns of the lender if requested.

8. Deliverables - The surveyor shall furnish copies of the plat or map of survey to the insurer and client and as otherwise negotiated with the client. Hard copies shall be on durable and dimensionally stable material of a quality standard acceptable to the insurer. A digital image of the plat or map may be provided in addition to, or in lieu of, hard copies pursuant to the terms of the contract. If the surveyor is required to record or file a plat or map pursuant to state statute, administrative rule or local ordinance it ~~shall~~must be so recorded or filed.

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Redline Comparison of ALTA/NSPS 2026 vs 2021 Survey Standards

TABLE A

OPTIONAL SURVEY RESPONSIBILITIES AND SPECIFICATIONS

NOTE: ~~Whether~~When any of the ~~nineteen (19~~first twenty (20) items of Table A are ~~to be~~ selected, ~~and~~ the exact wording of and fee for any selected item~~,~~ may be negotiated between the surveyor and client. Note that some items may be required by state statute, administrative rule or local ordinance in which case they must be included pursuant to Section 3.B. Any additional items negotiated between the surveyor and client must be identified as ~~20~~21(a), ~~20~~21(b), etc. Any additional items negotiated between the surveyor and client, and any negotiated changes to the wording of a Table A item, must be explained pursuant to Section 6.D.ii.(g). Notwithstanding Table A Items 5 and 11, if an engineering design survey is desired as part of an ALTA/NSPS Land Title Survey, such services should be negotiated under Table A, Item ~~20~~21.

If checked, the following optional items are to be included in the ALTA/NSPS LAND TITLE SURVEY, except as otherwise qualified (see note above):

1. _____ *Monuments placed (or a reference monument or witness to the corner) at all major corners of the boundary of the surveyed property, unless already marked or referenced by existing monuments or witnesses in close proximity to the corner.*
2. _____ *Address(es) of the surveyed property if disclosed in documents provided to or obtained by the surveyor, or observed while conducting the fieldwork.*
3. _____ *Flood zone classification (with proper annotation based on federal Flood Insurance Rate Maps or the state or local equivalent) depicted by scaled map location and graphic plotting only.*
4. _____ *Gross land area (and other areas if specified by the client).*
5. _____ *Vertical relief with the source of information (e.g., ground survey, aerial map), contour interval, datum, with originating benchmark, when appropriate.*
6. _____ *(a) If the current zoning classification, setback requirements, the height and floor space area restrictions, and parking requirements specific to the surveyed property are set forth in a zoning report or letter provided to the surveyor by the client or the client's designated representative, list the above items on the plat or map and identify the date and source of the report or letter.*

   _____ *(b) If the zoning setback requirements specific to the surveyed property are set forth in a zoning report or letter provided to the surveyor by the client or the client's designated representative, and if those requirements do not require an interpretation by the surveyor, graphically depict those requirements on the plat or map and identify the date and source of the report or letter.*
7. _____ *(a) Exterior dimensions of all buildings at ground level.*

   (b) Square footage of:

   _____ *(1) exterior footprint of all buildings at ground level.*

   _____ *(2) other areas as specified by the client.*

   _____ *(c) Measured height of all buildings above grade at a location specified by the client. If no location is specified, the point of measurement shall be identified.*

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Redline Comparison of ALTA/NSPS 2026 vs 2021 Survey Standards

8. _____ *Substantial features observed in the process of conducting the fieldwork (in addition to the improvements and features required pursuant to Section 5 above) (e.g., parking lots, billboards, signs, swimming pools, landscaped areas, substantial areas of refuse).*

9. _____ *Number and type (e.g., disabled, motorcycle, regular, and other marked specialized types) of clearly identifiable parking spaces on surface parking areas, lots, and in parking structures. Striping of clearly identifiable parking spaces on surface parking areas and lots.*

10. _____ *As designated by the client, a determination of the relationship and location of certain division or party walls with respect to adjoining properties.*

11. *Evidence of underground utilities existing on or serving the surveyed property (in addition to the observed evidence of utilities required pursuant to Section 5.E.iv.) as determined by:*

_____ *(a) plans and/or reports provided by client (with reference as to the sources of information)*

_____ *(b) markings coordinated by the surveyor or client pursuant to a private utility locate request.*

Note to the client, insurer, and lender – With regard to Table A, item 11, information from the sources checked above will be combined with observed evidence of utilities pursuant to Section 5.E.iv. to develop a view of the underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response, in which case the surveyor shall note on the plat or map how this affected the surveyor's assessment of the location of the utilities. Where additional or more detailed information is required, the client is advised that excavation may be necessary.

12. _____ *As specified by the client, Governmental Agency survey-related requirements (e.g., HUD surveys, surveys for leases on Bureau of Land Management managed lands). The relevant survey requirements are to be provided by the client or client's designated representative.*

13. _____ *Names of owners of adjoining ~~owners~~properties according to current tax records. If more than one owner, identify the first owner's name listed in the tax records followed by "et al."*

14. _____ *~~As specified by the client, distance~~Distance to the nearest intersecting street.*

15. _____ *Features, other than the boundary survey portion of an ALTA/NSPS Land Title Survey and the location of features in close proximity to a boundary or other title or relevant setback line, may be shown using imagery; however, the surveyor must:*

(a) agree with the client in writing on imagery to utilize, including source, date and/or version of imagery, and licensing costs and requirements,

(b) discuss the ramifications of such practices (e.g., the potential accuracy, precision and completeness of the imagery gathered thereby) with the insurer, lender, and client prior to the performance of the survey, and

(c) place a note on the face of the survey explaining the source, date, precision, and other relevant qualifications of any such imagery.

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~~15. _____ Rectified orthophotography, photogrammetric mapping, remote sensing, airborne/mobile laser scanning and other similar products, tools or technologies as the basis for showing the location of certain features (excluding boundaries) where ground measurements are not otherwise necessary to locate those features to an appropriate and acceptable accuracy relative to a nearby boundary. The surveyor must (a) discuss the ramifications of such methodologies (e.g., the potential precision and completeness of the data gathered thereby) with the insurer, lender, and client prior to the performance of the survey, and (b) place a note on the face of the survey explaining the source, date, precision, and other relevant qualifications of any such data.~~

16. _____ *Evidence of recent earth moving work, building construction, or building additions observed in the process of conducting the fieldwork.*

17. _____ *Proposed changes in street right of way lines, if such information is made available to the surveyor by the controlling jurisdiction. Evidence of recent street or sidewalk construction or repairs observed in the process of conducting the fieldwork.*

18. _____ *Pursuant to Sections 5 and 6 (and applicable selected Table A items, excluding Table A item 1), include as part of the survey any plottable offsite (i.e., appurtenant) easements disclosed in documents provided to or obtained by the surveyor.*

19. _____ *Professional liability insurance policy obtained by the surveyor in the minimum amount of $_____ to be in effect throughout the contract term. Certificate of insurance to be furnished upon request, but this item shall not be addressed on the face of the plat or map, unless required by the jurisdiction.*

~~20. _____ _____~~

20. _____ When observed in the process of conducting the fieldwork or otherwise identified in the process of preparing the survey the following conditions and potential encroachments must be summarized in a table and indicated on the face of the plat or map. Without expressing a statement of legal opinion or an opinion as to ownership, the table must identify the physical conditions, and provide a means by which the conditions can be readily located on the face of the plat or map by a reviewer; however, this table may not be a comprehensive list of all concerns shown on the plat or map of the survey.

- *Potential encroachments over boundary lines onto the surveyed property from adjoining property and onto adjoining property from the surveyed property.*
- *Potential encroachments into rights of way and easements for which written documentation of the existence of such rights of way and easements was provided to or obtained by the surveyor pursuant to Section 4.*
- *Potential encroachments of front, side or rear setbacks, but only when the setback requirements specific to the surveyed property were provided to the surveyor pursuant to Table A item 6(a) or 6(b) or provided in recorded documents.*
- *Physical access between adjoining parcels without benefit of an easement for which written documentation of the existence of such easement was provided to or obtained by the surveyor pursuant to Section 4.*
- *Use of adjoining parcels by apparent occupants of the surveyed property without*

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benefit of an easement for which written documentation of the existence of such easement was provided to or obtained by the surveyor pursuant to Section 4.

21. _____

Adopted by the American Land Title Association on October ~~1, 2020~~8, 2025. More at: www.alta.org.
Adopted by the National Society of Professional Surveyors on October ~~30, 2020~~17, 2025. More at: www.nsps.us.com.

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Frequently Asked Questions
And other guidance on
ALTA/NSPS Land Title Surveys including the 2026 Standards

(01-05-2026 version)

Section 1 - Specific Section Notes as to the 2026 revision of the ALTA-NSPS Survey Standards

The following provides an overview of some key changes in the 2026 version of the ALTA-NSPS Survey Standards:

1. Revised definition of Relative Positional Precision (RPP): The standards now include a refined definition of Relative Positional Precision, and continues to align with accepted measurement practices. This does not change the measurement practices, but does clarify the explanation for those not familiar with RPP.

2. In the 2026 Standards, what had previously been referred to as "adjoiners" has been more clearly stated as "adjoining properties."

3. Additional guidance on the sourcing of title evidence where a recent title commitment is not available.

4. Examples of the types of documents that constitute quasi-public documents which may require additional surveyor research.

5. Specifying that the fieldwork may be completed using "practices generally recognized as acceptable" for the purposes of an ALTA/NSPS Land Title Survey

6. Specifying that the "relationship to the ground" is an element of the characteristics of monuments.

7. Specifying that evidence of possession or occupation along the perimeter of the surveyed property should be noted, regardless of their proximity to the boundary lines.

8. In documenting evidence of utility poles, clarifying that those either on or within 10 feet of the surveyed property should be identified.

9. Notation is required in instances where verbal ("parol") statements are made by interested landowners or occupants as to title or boundary.

10. Acknowledgement that administrative rules may be a basis for requiring recording of the plat or map.

11. An explanation that the certification of the plat or map may be extended to successors and assigns of the lender if requested.

12. In recognition of the rapidly changing technical environment (e.g., drones, AI, LiDAR) Section 5 and 6 of the 2026 Standards reference "practices generally recognized as acceptable by the surveying profession for purposes of an ALTA/NSPS Land Title Survey." This eliminates the need for the Standards to address specific procedures and tools that surveyors might want to employ when conducting an ALTA/NSPS Land Title Survey. This issue is addressed more fully below in the discussions of sections 5 and 6.

13. As a functional note, when deemed appropriate, surveyors might want to consider suggesting to their clients that the advice of a wetlands, flood plain, environmental, archeological or other appropriate expert might be beneficial.

Table A of the standard continues to contain the optional elements of an ALTA/NSPS Land Survey. The following elements have been refined:

1. A note in the introduction to the section that if any of the optional items are required by law, they must be included.

2. Further explanation that features may be shown using imagery, but that the specific details of the sourcing of the imagery must be clarified in writing before use.

3. Table A – Item 15 has been rewritten to clarify intent.

4. A newly included optional Item 20, that if selected, will appear as a table on the face of plat or map and contain a summary of the designated conditions and potential encroachments that are to be included, as well as references to their location on the map.

5. A numbering revision to make the **former "Table A – Item 20"**, which provided a place for items negotiated between the surveyor and the client to be listed and selected, to now be found as **Table A – Item 21**.

Section 2 - General Comments

Changing Scope: The surveying community needs to remember that often the ALTA/NSPS Land Title Survey is ordered by the buyer or seller whereas the primary consumer of the survey will be the lender and title insurer. As a result, surveyors should recognize the likelihood that requirements may change through the process — even after the initial delivery. It is advisable to have a written contract in place specifying scope, Table A items (with any qualifications), names of certified parties, etc. This will put the surveyor in a much stronger position to negotiate any later changes to scope.

Notification: The client is obviously going to be aware that the survey will be performed, but in some states, that client is routinely the buyer. Providing notification to other parties like the owner, a property manager, or lessee before conducting the fieldwork, if not required by law, is not necessarily the responsibility of the surveyor.

Section 2 - What do I do if the client requests a Land Title Survey on a condominium unit?

Reference is made here to Section 2 of the 2026 Standards:

> "*Certain properties or interests in real properties may present issues outside those normally encountered on an ALTA/NSPS Land Title Survey (e.g., marinas, campgrounds, mobile home parks, easements, leases, mineral interests, other non-fee simple interests). The scope of work related to surveys of such properties or interests in real properties should be discussed with the client, lender, and insurer, and agreed upon in writing prior to commencing work on the survey.*"

Generally, requests for Land Title Surveys of condominium units are rooted in someone not understanding what they are dealing with, and therefore asking for something that is not actually needed.

If you ask the right person at the title company, they will probably say that the survey is unnecessary and they will cancel the survey order. After all, when someone buys a condo, what they are normally buying is the airspace inside the unit (between the unfinished walls, floors and ceilings). Of course, they are also buying a small percentage of ownership in the common areas of the development, but that is not normally a big concern because the lion's share of the value is in the unit itself.

The surveyor should get the lender, client and title company together in an email thread or on a conference call, tell them that a Land Title Survey of a condo unit really does not make much sense and ask what they actually need. Someone may very well say "*Forget it, that should never have been ordered.*"

But if they do actually want the survey, those sentences above out of Section 2 apply; the parties need to tell the surveyor what they need in the way of a survey and drawing. Do not let them simply tell you "*You should know.*" The surveyor's response should be, "*No, you are asking for a survey of empty air space, so you need to tell me what you need shown on the survey."* That's what Section 2 of the Standards requires.

In the end, if they do want the survey, the most logical approach might be to stick a PDF of the condo unit as-built plans into a drawing, and tell them this is a copy of the recorded as-built plans that were recorded. But even this should be part of the discussion with the parties.

Section 3.A. - What about the transition period leading up to and immediately after February 23, 2026?

*If a contract to perform a Land Title Survey is executed on or after February 23, 2026, the survey must be performed pursuant to the 2026 Standards, w*ith a couple of possible exceptions explained below.

During the transition period, surveyors may encounter situations whereby they have entered into a contract to perform an ALTA/NSPS Land Title Survey prior to the effective date of the 2026 Standards (February 23, 2026), but the survey is not anticipated to be completed until after February 23, 2026. In such cases, the surveyor may discuss this with the client, title company

and lender and include an appropriate clause in the contract as needed, viz., "*This survey will be prepared using the 2021 Minimum Standard Detail Requirements for Land Title Surveys as established by ALTA and NSPS since said standards are still currently in effect at the time of this contract. It is understood and accepted by all parties involved that said standards may no longer be current upon completion of the survey, but will still be used for the purpose of this survey."*

Section 3.A. - What about the transition period as related to "updates" of previous surveys?

As an aside, notwithstanding the innocuous-sounding word "update," there is actually no such thing as an "update." An "update" is a new survey – the surveyor is certifying that the survey reflects the current conditions on the property and that it was performed pursuant to all of the requirements in the current standards. The only difference is that the surveyor happens to have surveyed the property previously, so the client *might* realize a reduced fee or quicker turnaround depending on a number of factors (e.g., how long has it been since the initial survey? How many changes have affected the property since?).

In any event, if the contract to conduct the "update" is executed after February 23, 2026, that "update" must be performed pursuant to the 2026 Standards. However, if the "update" is simply a follow-up on a survey *related to a conveyance that had been anticipated to close before February 23rd, but was perhaps unexpectedly delayed for a fairly short time until after February 23rd*, the surveyor could arguably conduct the "update" pursuant to the 2021 Standards. This premise, however, does not extend to "updates" *unrelated to the initial conveyance* or "updates" that take place substantially after February 23rd.

Some lenders are wanting the surveyor to not "update" an old survey, but merely change the names of the certified parties and provide a current certification. Surveyors must understand that they may be taking on liability to new parties when they do this, even though they did not "update" the survey.

In addition, issuing a survey with a current certification using out-of-date standards may be a problem if a complaint is made and the surveyor is defending him or herself in front of their Board of Licensure.

Section 3.E. - Changes to the measurement standards

In the 2026 ALTA/NSPS Standards the definition of Relative Positional Precision (RPP) has been slightly modified and simplified, and the way in which RPP is addressed is restated.

The redefinition ("*the length of the semi-major axis, expressed in meters or feet, of the error ellipse of the line connecting the monuments or witnesses marking adjacent boundary corners of the surveyed property at the 95 percent confidence level.*") eliminates a technical concern that had been identified in the previous definition but should not impact how RPP is typically addressed.

The manner in which RPP can be addressed is restated to simply explain that a least squares adjustment is the most common way to estimate RPP with an alternative of computing the full covariance matrix of the coordinate inverse between any given pair of points.

Section 4 - What if the required research information is not provided to the surveyor?

The 2026 ALTA-NSPS Standards have eliminated the requirement that the title insurer provide copies of the deeds of adjoining properties. This was a function of (1) the fact that - at least in suburban and urban areas - title companies typically did not provide those deeds anyway, and (2) in virtually every state that has survey standards, the surveyor is charged with determining the relationship of the surveyed properties with its adjoining properties, so surveyors must obtain those deeds anyway.

Aside from that, the Section 4 research requirements were reformatted and restated for 2026.

One major change resulting from that reformatting is - given the purpose of an ALTA/NSPS Land Title Survey - it is now clear that the surveyor *must* be provided with a copy of the most recent title commitment or other title evidence satisfactory to the insurer.

In the unusual, but not unheard of, situation where an ALTA/NSPS Land Title Survey is requested, but there is no new title insurance policy being issued, there will not be a new commitment prepared. Surveyors are *not* in a position to demand that the client order new title work, but they *are* required to conduct the survey pursuant to "the most recent title commitment or, if a title commitment is not available, other title evidence satisfactory to the title insurer."

Perhaps the client could be persuaded, for their own benefit and protection, to order a title search covering only the time since the date of the last commitment. If there is no title insurer as a part of the transaction, the surveyor may be able to lay hands on the most recent title policy or commitment, or even an abstract of title, any of which is perfectly fine to rely on.

It should be noted that in some states surveyors, either by law or normal standard of care, may need to conduct their own easement research. (See Sections 3.B. and 3.C. of the 2026 ALTA/ NSPS Standards).

No matter what title evidence is relied upon, the surveyor should note what evidence was provided.

Surveyors may also encounter rare situations in which the title company is unable or unwilling to provide the research otherwise required pursuant to Sections 4.B. and 4.C., or perhaps the surveyor requires other research in order to properly complete the survey (the standards give the examples of highway and railroad plans which are typically not in the public records).

In such cases, the surveyor must conduct that research which is required pursuant to the statutory or administrative requirements of the jurisdiction where the surveyed property is located (and

any research that may have been negotiated pursuant to the contract between the surveyor and the client).

Some may argue that this is an additional burden on surveyors, but *nothing in the ALTA/NSPS Standards or otherwise can relieve surveyors of conducting whatever research is necessary in order to complete a proper survey*. If by virtue of the ALTA/NSPS Standards or otherwise, surveyors are able to convince another party (e.g., the title insurer) to provide the research, that would be good for the surveyor. But if not, surveyors will need to do it themselves.

Section 4 - What constitutes "other title evidence"? Why not simply require a title commitment?

Starting in 2016, the ALTA/NSPS Standards stated that the surveyor needs to be provided with the most recent title commitment or "other title evidence satisfactory to the title insurer."

Title companies have other products that are sometimes requested by clients that are short of title commitments and policies, but that - for a variety of reasons - are acceptable to clients in some circumstances.

In some cases, even though a title company may be involved, a title policy may not be issued as a part of the transaction. For example, some governmental agencies do not buy title insurance - they self-insure - but they may obtain an "owner and encumbrance report" from the title company.

Also, the U.S. Department of Housing and Urban Development may or may not require title insurance; in some cases, an attorney's title opinion may be acceptable (which could be based on, for example, an abstract of title).

Section 5 - Introduction: Why is reference made to, and what does the phrase "practices generally accepted by the surveying profession" mean?

In recognition of the rapidly changing technical environment (e.g., drones, AI, LiDAR) the introduction to Section 5 (and Section 6, see below) in the 2026 Standards reference "*practices generally recognized as acceptable by the surveying profession for purposes of an ALTA/NSPS Land Title Survey.*"

The reason this wording was chosen is to eliminate the need for the ALTA/NSPS Standards to address which specific procedures and tools surveyors might want to employ are acceptable and which are not. Doing that would obviously result in conflicts and confusion as new procedures and tools are developed. This new phrase allows for the profession to collectively define what is acceptable rather than being defined within the ALTA/NSPS Standards.

Section 5.B.ii. - How do we treat sidewalks and trails along the street/road

It is not unusual that streets and roads are found to have sidewalks or trails running adjacent to them or with a grass strip between the two. Likewise, walking/biking trails are sometimes found adjacent to the street/road - even as part of the paved way in some cases. Section 5.B.ii. calls for locating the "travelled way" to be located and, of course, shown on the survey.

The question of whether such sidewalks/trails should also be located and shown is answered by Section 5.B.iv. which requires that "*The location and character of vehicular, pedestrian, or other forms of access by other than the apparent occupants of the surveyed property to or across the surveyed property observed in the process of conducting the fieldwork (e.g., driveways, alleys, private roads, railroads, railroad sidings and spurs, sidewalks, footpaths)"* be located and shown.

Note that there is no requirement for the surveyor to identify a street or road as private or public except as revealed in documents provided to the surveyor.

Section 5.B.iii. - What is mean by the changes in this "physical access" section?

This section was the only one left in the 2021 ALTA/NSPS Standards that placed a higher burden on surveyors with the phrase "Visible evidence" rather than everywhere else that required only "Evidence observed in the process of conducting the fieldwork." This change eliminates that higher requirement of "Visible Evidence."

Also, in order to provide better clarity, the item now specifies what was always the intent: that "vehicular access" is, in fact, to be addressed.

Section 5.C.i. - Why was "Regardless of proximity to perimeter boundary lines" added? This would seem to increase the surveyor's liability on this issue

Previously there was an incorrect belief that pursuant to Section 5.C.ii., perhaps evidence of possession of occupation needed to be shown only if it was within 5 feet of the perimeter boundary. That is not what the standards said, but this item now addresses that confusion.

Some may remember reading about the court case in which Curtis Brown served as an expert where a surveyor was held liable for not providing detail on a line of occupation that was 230 feet from the perimeter boundary.

Title companies, lenders and clients must know about potential claims against the property regardless of how far they are located from the perimeter of the property. There could be a situation where a line of possession or occupation is so far from the perimeter boundary or, for example, hidden from view in thick woods, that the surveyor misses it. The defense in that case might well be the normal standard of care: Would the competent surveyor, surveying in that same area and under similar circumstances, have observed that line or not?

Section 5.E. - Why the new headings for the subsections in this section?

The ALTA/NSPS Workgroup felt like it would be helpful to all involved if the intent of each item in this section was more clearly expressed.

Section 5.E.iii. - Is the surveyor responsible for showing underground easements?

No, not unless information is provided on an underground easement. Otherwise, the standards merely require that the surveyor note observed evidence of potential underground easements.

Section 5.E.iv. - Why the changes in 2016, 2021 and 2026 regarding this item?

The 2016 change was made to address a conundrum. Prior to the 2016 Standards, if a client did not request Table A item 11(a) or 11(b), the surveyor had no responsibility to locate and show evidence of utilities. But if that utility evidence could be considered evidence of an easement, the surveyor *did* need to locate and show it pursuant to Sections 5.E.i. through iv.

The ALTA/NSPS workgroup felt that in most instances where there is evidence of utilities, it could also be considered evidence of easements, so to eliminate future problems and questions in that regard, locating and showing observed evidence of utilities was made mandatory starting in 2016.

Starting with the 2021 ALTA/NSPS Standards, utility locate markings (typically paint or wire flags) must be located and shown as evidence of easements and utilities. The ALTA/NSPS Work Group felt that utility locate markings should be treated as evidence of utilities just like vales, manholes, etc. NOTE that this item *does not* require a utility locate request.

For those surveyors concerned about locating and showing what may or may not be actual utility locate markings because they do not have any information regarding the locate request or source of the markings, they might consider developing an appropriate note such as "*Paint markings found on the ground and shown hereon as evidence of possible (or probable) underground utilities are consistent with typical utility markings. However, no utility report was provided to authenticate these markings - their source is unknown. The user of this plat/map should rely upon such markings at their own risk.*"

The 2026 Standards addressed confusion over wording of Section 5.E.iv. in the 2021 ALTA/NSPS Standards regarding how far from the boundary line evidence of utilities needed to be located. Was it 5 feet or 10 feet? This has now been clarified to say the 10 feet requirement applies only to utility poles.

Section 6 - Introduction: Why is reference made to, and what does the phrase "practices generally accepted by the surveying profession" mean?

As noted above under the *Section 5 - Introduction* comments, in recognition of the rapidly changing technical environment the 2026 Standards reference "*practices generally recognized as acceptable by the surveying profession for purposes of an ALTA/NSPS Land Title Survey.*"

The reason this wording was chosen is to eliminate the need for the ALTA/NSPS Standards to address which specific procedures and tools surveyors might want to employ are acceptable and which are not. Doing that would obviously result in conflicts and confusion as new procedures and tools are developed. This new phrase allows for the profession to collectively define what is acceptable rather than the ALTA/NSPS Standards specifying which approaches are accepted at a given point in time.

Section 6.B.i.a. - What if the record description does not match the Schedule A description?

This section requires that on a survey of an existing parcel, the record description of the parcel being surveyed shall appear on the face of the plat/map.

The description of the real property being insured (contained in Schedule A of the title commitment) is typically (and ideally) identical to the record description. In cases where the two descriptions differ, the surveyor may wish to inquire of the title company as to the origin of the Schedule A description. In cases where the title company insists that it will be insuring the description in Schedule A even though it does not match the record, the surveyor may need to show both descriptions on the face of the plat/map.

It is certain that the parties will require that the description being insured appear on the face of the plat/map, and 6.B.i.(a) requires that the record description be shown. The surveyor might consider providing a note explaining how the two descriptions differ.

Section 6.B.vi. - Water boundaries and caveat

This section calls for a caveat to be noted regarding the nature of water boundaries. Surveyors might consider developing their own such note, which could be formulated on the order of, "Where *the property being surveyed includes a water boundary, the parties relying on the survey should be aware that, (1) laws regarding the delineation between the ownership of the bed of navigable waters and the upland owner differ from state to state, (2) water boundaries are typically subject to change due to natural causes, and (3) as a result, the boundary shown hereon may or may not represent the actual location of the limit of title. The [e.g., bank, edge of water, high-water mark, ordinary high-water mark, low-water mark, ordinary low-water mark, center of stream] shown hereon [was/were] located on [Date]*."

Section 6.B.vii. - Contiguity, gaps and overlaps

This section requires that the surveyor disclose any gaps or overlaps with adjoining properties or between interior parcels where the property being surveyed is comprised of multiple parcels. This can be done not only with notes on the graphic portion of the plat/map, but also with textual notes drawing attention to the condition(s). Such information is critically important to the title company so that such issues can be disclosed to the parties and appropriate exceptions to coverage can be written.

Where no gaps or overlaps exist, surveyors should consider assuring that the parties understand that fact by providing an affirmative statement to that effect.

Section 6.C.i. - Dealing with easements that burden vs. easements that benefit the property

Offsite easements that benefit the surveyed property (specifically and properly identified in the 2026 ALTA/NSPS Standards as *appurtenant easements*) are typically identified as insured parcels in Schedule A of the title commitment. Such easements may be included as part of the survey - treating them as a fee parcel rather than simply graphically showing them - pursuant to optional Table A item 18. But be wary of, for example, cross-parking and access easements that may cover large areas.

Easements that *burden* the surveyed property are identified as exceptions to title insurance coverage in Schedule B II of the title commitment.

It is possible that an easement could *both* benefit *and* burden a property in which case, it might be listed both in Schedule A and Schedule B II. In addition, sometimes a title company may inadvertently list a beneficial easement in Schedule B II as an *exception* to coverage, rather than identifying it in Schedule A as one that *benefits* the surveyed property - or vice versa.

Surveyors should communicate with the title company when they believe there is a discrepancy between their opinion as to the effect of an easement and how the title commitment reports it.

Section 6.C.ii. - What about the "summary of all rights of way, easements and other survey-related matters burdening the surveyed property?"

This requirement was added in 2016 because it was frequently requested as an aid to those reviewing the survey. It required a summary, including notes if they are applicable, to any specific item.

The subsection 6.C.II.(e)was modified in 2021 to allow for and clarify the use of the phrase "*does not affect*" as specifically applying only to where the easement plots, not as to its legal effect.

Section 6.C.iii. - Does the surveyor need to now identify if streets are public or private?

At times people read more into the standards than what they actually say.

This particular item was modified slightly in 2021 because in the 2016 standards, as it was written the surveyor needed to note lack of access only if it was a public street.

There were two problems with that:
1. The surveyor needed to determine if a street was public, and, more importantly,
2. Title companies and others need to know about access whether it is a public or private street.

Thus the item was modified accordingly. If you read it carefully, however, it does not say anything about the surveyor determining if the street is public or private, only that there needs to be a note if there is lack of access to *either* a public or private street.

Having written that, let's answer this question more specifically.

The standards never required surveyors to identify streets as public or private other than perhaps as may have been reported on, for example, a subdivision plat or in a grant of easement listed in Schedule B II.

These types of requests routinely come from lenders as part of the litany of things they want surveyors to tell them. Those requests *very frequently* have the surveyor providing more information than the standards require. Surveyors should strive to be helpful and cooperative, but not to their detriment (i.e., incuring additional liability), so each request should be carefully weighed.

Most of the time, surveyors can probably determine, with some confidence, if a street is public or private - assuming the documentation was provided or is readily available.

But - aside from the items of Schedule B II and other research that surveyors need to do based on their state laws or the normal standard of care - under the ALTA/NSPS Standards they do not need to independently make such a determination. If it's not obvious from the documentation, they may wish to decline to opine on the issue pending someone providing definitive documentation.

Section 6.C.viii. - How does the surveyor address easements found, but not listed in title commitment? What if the title commitment is updated and eliminates an easement that was previously listed?

This situation will most commonly occur when the surveyor, (a) by some means becomes aware of an easement not listed in the title commitment or (b) an easement that appeared in an earlier version of the commitment has been removed from a subsequent version.

In this event, typically one of three things has occurred. (1) the title company simply inadvertently missed an easement, (2) the title company is aware - but the surveyor is not - that the easement has been released, vacated or abandoned, or (3) the title company has made a business decision to insure over the easement.

Section 6.C.viii. in the ALTA/NSPS 2026 Standards clarify the requirement by a slight modification in wording, viz. (with the change tracked and highlighted), "*If in the process of preparing the survey the surveyor becomes aware of a recorded easement not otherwise listed in the title evidence provided, the surveyor must advise the insurer prior to delivery of the plat or map and, unless the insurer provides evidence that the easement has been* ~~***released***~~ ***terminated or extinguished****, show or otherwise explain it on the face of the plat or map, with a note that the insurer has been advised."*

Such a note might be formatted similar to:

> *"The 20 foot gas-line easement recorded as Instrument number 64-12345 and shown hereon is not listed in the title commitment; however, no evidence of a release, vacation or abandonment has been provided. The title company has been advised."*

Section 6.D. - Drawing Scale

This section (and logic) requires that the scale of the drawing be at an appropriate, standard scale that is also legible to the reader. Often, the drawing scale may be adequate for the most part, but where details at a larger scale are required for clarity, the surveyor should consider those.

Section 7 - Where does the surveyor's signature and seal belong?

The ALTA/NSPS Standards do not address where the signature and seal must be placed. Some companies have a title block format that would confine the surveyor's signature and seal confined to that area. While it would be most helpful if the signature and seal be placed right below the certification or at least in its general vicinity, the law in some states may require otherwise.

Section 7 - Certified parties?

Surveyors are often told they need to certify to multiple parties above and beyond the client, lender and insurer as identified in Section 7 and they need to recognize that more certified parties may equate to more liability. They may wish to consider specifically listing in the contract those parties that they will certify to and that "*additional parties may be certified to for an additional fee.*" If the specific parties are not yet known, they could specify that they will certify to the lender, client and insurer.

A new subsection of Section 7 was added with the 2026 ALTA/NSPS Standards to address one of the most common requests of surveyors.

Often a request is made, or specific instructions given, for the surveyor to certify to "ATIMA" and/or "ISAOA." These are acronyms that mean "*as their interests may appear*" and "*its successors and/or assigns.*" The loan policy defines "insured" in a way that should remove the need for such wording, but if the lender demands that the title company put those in the policy, the title company will likely want to surveyor to certify to the same.

Surveyors should seek guidance from their attorneys on the desirability of certifying in this matter; however, in any event, they may want to avoid certifying to successors and assigns of the client/buyer.

Section 7 - The date of the fieldwork is obvious, but what is the date of the Plat or Map?

That is the date by which the survey will be identified. Many surveyors date the plat or map as of the date they signed it. Others backdate it to the date of the fieldwork. The committees feel this decision is best left to the surveyor. In some states, the date of the plat/map may need to be the same as the date of the fieldwork.

Section 7 - New certified parties and current date, but without an "Update"

Some lenders are wanting the surveyor to not "update" an old survey, but merely change the names of the certified parties and provide a current certification. Surveyors need to understand that they may be taking on liability to new parties when they do this, even though they did not "update" the survey. In addition, sending out a survey with a current certification using out-of-date standards may — and probably should — be a problem for your Board of Licensure.

Table A - Introduction: What can I modify in Table A?

The introductory paragraph to Table A was revised in 2021 to make its original intent (from the 1988 Standards) clear that not only is the very selection of a Table A item negotiable, but *the exact wording of the item is also negotiable*, as is - of course - the fee. It is permissible for the surveyor and client/lender to negotiate a modification to the wording of any item, but those parties should recognize that the lender or underwriter may or may not agree with those changes.

Any such modification, however, must be explained in a note placed on the face of the plat/map pursuant to Section 6.D.ii.(g). Of course, surveyors need to decide for themselves what fee to attach to any given Table A item.

Table A - Introduction: What's up with the new sentence regarding state laws?

The ALTA/NSPS Workgroup felt that it was worth reminding all parties involved that the law must be followed. For example, in a number of states, monumenting a boundary is required, therefore Table A item 1 is not optional in those states. The same could apply to other Table A items.

Table A - What if the client does not provide required information pursuant to a Table A item?

It is not too unusual that a client may request, for example, Table A item 6, but not provide the required zoning information. Surveyors can find themselves in a conundrum: Do they certify to the item with a note explaining that the required information was not provided, or do they exclude the item from the certification?

One could argue that the surveyor did not actually perform the item, so it should not be included in the certification.

Likewise, one could argue that the surveyor did perform the item, but since the client did not provide the necessary information, there was nothing for the surveyor to do.

The ALTA/NSPS Standards do not address this. It is a decision left to the surveyor, but if such an item is included in the certification, there should be a note clearly explaining what was done, or not done, and why.

Table A, Item 3 - Flood Zone Classification

FEMA has changed some requirements related to elevation certificates and treatment of flood zones. Surveyors should be cognizant of lender requirements that may dictate how they need to address — or perhaps modify — this item.

Table A, item 11 - What about underground utilities?

Item 11 has been modified in most if not every set of standards since it first appeared in 1988. It was re-written in the 2021 ALTA/NSPS Standards and was not modified in 2026 other than to provide for either the surveyor or the client to coordinate the hiring of a private company to locate utilities.

In order to better address the realities of underground utility locations, the best thing surveyors can do to help manage expectations in this regard is to reiterate the intent and risks in a "Note" following this item in Table A, viz.,

> *"Note to the client, insurer, and lender – With regard to Table A, item 11, information from the sources checked above will be combined with observed evidence of utilities pursuant to Section 5.E.iv. to develop a view of the underground utilities. However, lacking excavation, the exact location of underground features cannot be accurately, completely, and reliably depicted. In addition, in some jurisdictions, 811 or other similar utility locate requests from surveyors may be ignored or result in an incomplete response, in which case the surveyor shall note on the plat or map how this affected the surveyor's assessment of the location of the utilities. Where additional or more detailed information is required, the client is advised that excavation may be necessary."*

Table A, item 11(b) - Does this item require an 811 locate request or a Level B SUE investigation?

No, it requires neither! Because in many, if not most, parts of the country an 811 locate request from a surveyor is an exercise in frustration and futility, the ALTA/NSPS Work Group dropped reference to 811 locate requests and added the "private locate request" as 11(b) with the 2021 ALTA/NSPS Standards.

The intent of 11(b) is to hire a private locator, rather than making an 811 locate request or hiring someone to do a Level B SUE investigation.

If item 11(b) is checked, the surveyor needs to discuss with the client who will make the locate request and who will pay for it. Obviously, if the surveyor is paying, the associated fee would be added to the survey costs.

Keep in mind, however, that the wording of Table A items is always negotiable, so if in your area, an 811 locate request is actually fruitful - or if the client insists on a Level B SUE investigation - the wording of 11(b) can be negotiated, modified and the word "private" replaced with "811" or "Level B SUE investigation."

Table A item 12 - What about HUD survey requirements with respect to the 2026 ALTA/NSPS Standards?

HUD maintains two sets of survey standards, one for multifamily projects and one for so-called LEAN 232 projects, which are related to senior housing like nursing homes.

On March 25, 2021, HUD's *Office of Multifamily Production Technical Support Division* issued "Interim Instructions for Surveyors for Form 91073M Pending HUD Revision of the Form" which recognized, explained the application, and allowed use of the 2021 ALTA/NSPS Survey Standards. Those interim instructions were later revised and reissued. Based on discussions with HUD in 2021, it was expected that the final instructions might differ somewhat from the interim instructions, but to our knowledge no final instructions were ever issued.

ALTA and NSPS are hopeful that HUD will eventually issue interim and final instructions based on the 2026 ALTA/NSPS Standards, but that remains to be seen.

Table A item 15 - Why the changes in 2026?

This Table A items was modified in 2026 to revert back to its original intent and that was to provide for the use of imagery rather than ground surveying as the basis for showing some features on an ALTA/NSPS Land Title Survey.

The limitations (the boundary and features in close proximity to a boundary or other title or relevant setback line are not included) and the requirements (written agreement with the client, lender and title insurer) and appropriate notes on the face of the plat/map) should be carefully reviewed before agreeing to this item.

Table A item 18 - What does this mean?

If this item is checked, the surveyor is, for purposes of the ALTA/NSPS Land Title Survey, to treat offsite (appurtenant easements) as if they were fee parcels. All requirements of Section 5 in the field, Section 6 in preparing the plat/map, and optional Table items that were selected are to be followed with the exception of monumenting those easements.

Discussions should be undertaken with the client when an offsite easement is geographically extensive or if it involves, for example, offsite parking or access easements across an entire mall, which could drastically increase the fee involved. This item is a popular one for clients to request, but likely no one is thinking about the ramifications in such cases.

Table A item 19 - "What does '*This item shall not be addressed on the face of the plat or map*' refer to? The minimum amount of insurance to be in effect throughout the contract term *and/or* the certificate of insurance?

In that phrase, "This item" refers to the totality of Item 19 and that, by implication, means everything associated with the item.

The intent of the requirement is that nothing related to Item 19 should be reflected on the plat/map. The item does not even need to be mentioned in the certificate as a Table A item. If proof of

insurance has been provided (typically a certificate of insurance), there is no reason for anything regarding insurance to appear on the plat/map.

Table A item 20 - What is this about? Does it not increase the surveyor's liability?

The ALTA/NSPS Workgroup recognized two important trends.

One is that those reviewing surveys are often, if not usually, not well-versed in doing so. They could use assistance in their review, and surveyors want to provide a benefit to their clients in that regard.

Second is that across the country, such a table is widely used by surveyors, especially those routinely involved in large, geographically broad transactions.

Given those trends and the fact that the workgroup (comprised of both surveyors and title attorneys) agreed that surveyors should provide benefit to their clients, not just deliver a survey and walk away.

The bulleted items required to be included in the table are lifted directly from Section 5 and 6 of the ALTA-NSPS Standards. In other words, t*hese items are already required to be located and shown on a Land Title Survey*. Table A item 20 merely has the surveyor tabulating that information. Importantly, however, (1) it also includes multiple qualifications and limitations, and (2) as an optional item, its exact usage can and should be negotiated.

Due to the limitations and qualifications included as part of this item, the primary concern of the surveyor would appear to be in not locating or showing the condition in the first place, not in forgetting to list one of those conditions in the table.

Table A - Item 21

This item is available for special requests. It could also be used to accommodate specific requirements in state or local law or state-specific considerations like geologic hazards on the west coast. It could also be used to specify that the survey — in addition to its intended use in conjunction with a conveyance — is to be used for engineering design. Any use of this item needs to be explained with a note pursuant to Section 6.D.ii.g.