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The New ALTA/ACSM Survey Standards

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The 2005 standards for ALTA/ACSM Title Surveys became effective on January 1, 2006. The survey standards were adopted by the American Land Title Association and the National Society of Professional Surveyors (“NSPS”) (which is a member organization of the American Congress on Surveying and Mapping (“ACSM”)) in October 2005. The survey standards are still called ALTA/ACSM survey standards despite the fact that NSPS adopted the standards on behalf of ACSM.

The survey standards have been periodically revised when changes in the title and survey industries required changes to the standards, with survey standards being established in 1962, 1986, 1988, 1992, 1997, 1999, and most recently in 2005. There is no set time period for when the surveys are updated. Therefore one should make a practice to check what are the current survey standards if one has not recently ordered a survey before starting a project which will involve ordering a survey. The current survey standards are attached as Attachment A and an annotated copy showing the changes from the 1999 survey standards are attached as Attachment B.

It is not enough when updating surveys requirements for mortgage loans or acquisitions to merely update the year of the survey standards, one must review the current standards and make the necessary modifications. For instance, the categories of surveys of urban, suburban and rural surveys were abandoned prior to 1999 standards, nevertheless many people still request “urban surveys” and one may be confronted with the contractual duty in a purchase agreement or loan agreement to obtain a survey that is not available. But, although those categories of surveys have been eliminated, there are certain requirements which are only applicable in urban or suburban areas – see Standard 5(c) for example.

Statistical requirements for the accuracy of the survey remain to be within (i) a 700th of a foot and (ii) 50 parts per million and the accuracy requirements appear at the end of the survey standards. Greater error is permitted on larger parcels as a nod that longer distance creates more error. The Accuracy Standards are no longer specifically referenced as part of the short form surveyor’s certificate included in the standards, but those requirements are being met when the surveyor’s certificate states the survey is in accordance with these standards. Please be aware that surveyors are also required to meet any statutory or regulatory requirements for surveys in the particular state. With multi-state transactions, this local compliance requirement can cause there to be distinctions among the surveys obtained.

Significant changes to the survey standards which particularly merit mention include:

Standard 5(c) – Width of existing right-of-ways (as opposed to streets and highways) are to be shown only when such information is available from the controlling jurisdiction.

As before, title documents are to be provided by the client to the surveyor, the surveyor is not obligated to research title (Standard 1), but now it is clear in Standard 5(k) that except when field work triggers observance of cemeteries and burial grounds, the survey is only required to show cemeteries and burial grounds disclosed by recorded documents provided by the client.

Survey Standard 6 requires the survey to include on the face of the survey a legal description and also to include a note if the legal description included differs from record title. The difference can be considerable if the record description was a bounding description or if a large parcel is involved using a description dating back to the late 1800's or early 1900's with more accuracy now available.

The survey standards include a short form certification at Standard 8, but some purchasers, and many lenders, may have a much longer certification that they desire of the surveyor and those certifications may include warranties (such as warranties of no zoning setback violation, all utilities are available for operation of the property or no encroachments as opposed to no visible encroachments) which the surveyor may refuse to give. It is important to include the form of certification to be required when initially ordering the survey. A compromise certificate is attached in Attachment C which was provided by Richard Bales of Chicago Title Insurance Company as part of the eCLE presented by the ABA Center for Continuing Legal Education and the ABA Section of Real Property, Probate and Trust Law on these survey standards in April of this year. Not all surveyors will give this compromise certificate, but it is worth considering if more than the short-term certificate is mandated.

Although no significant change has been made to Standard 5(d), I wish to point out that that standard has different requirements for "platted" or "non-platted" adjoining land. The term "platted" refers to land for which a subdivision plan has been recorded or which is part of the Torrens system for which an official certificate showing the state of the title and the owner of the property. When the adjoining land has a recorded subdivision, then the adjoining land is described by the recording data from that recorded subdivision. But, if there is no recorded subdivision for the adjoining land, then the names and recording date identifying adjoining owners as they appear of record are shown.

The survey standards 1 through 8 are mandatory, minimum standards, applicable to all ALTA/ACSM surveys, but in addition there are optional items, which may be selected as set forth in Table A. A survey can meet the ALTA/ACSM survey standards without including any Table A items. Therefore if one party is to provide a survey for another party in a transaction, what type of survey is desired should be described with specificity. It is best to determine what each party to the deal needs and the cost responsibility may be

allocated.

However, one should not merely select all Table A items, instead each of the optional items should be considered whether the item is needed and inclusion will not delay the project before being selected.

Table A [Optional Items]

Item 1 – Survey to depict monuments at all major corners which are of critical concern, particularly when improvements are located near property lines or zoning setback lines.

Item 3 – Survey to depict flood zone designation. This may require topographical contours if an exact location is necessary, which may be more than what a lender or purchaser truly needs if no buildings are near the possible flood zone area as flood insurance is only required for buildings within an area of special flood hazard.

Item 5 – Survey to depict elevations. Please consider that too much information may make the survey difficult to read, unless included on a separate sheet of a multiple sheet survey. If topographical contours are selected on a hilly parcel, then one may no longer be able to read the easement and title information hidden among the contours, unless only the contours are provided on a particular survey sheet. However, elevations may be vital information to a buyer considering future development of the property.

Item 6 - Zoning requirements now may be merely listed on the survey and it is not mandatory to depict zoning requirements on the survey, unless setback lines appear in recorded subdivision plans according to Survey Standard 5(d). The American Land Title Association agreed to the zoning information merely being provided as a list because a separate analysis is performed by the relevant title insurance company before issuing the zoning endorsement for a title insurance policy. The question therefore is: is it sufficient for the transaction to just get the zoning endorsement, or do you need to determine compliance for zoning setback lines. If a zoning opinion is being required by a lender instead of the zoning endorsement, or a purchaser must consider setback compliance, then the attorney will want the survey to depict (to the extent practicable) the zoning requirements on the survey, but a surveyor may refuse if the zoning requirements have provisions that are difficult to interpret for a particular parcel.

Item 7 - Survey to indicate building dimensions as selected. Item 7 has many options: (a) exterior dimensions of buildings at ground level, (b) square footage of: (1) exterior footprint of buildings at ground level, (2) gross floor area of all buildings or (3) gross floor area of other areas to be defined by client [such as mezzanines or basements which may be excluded in certain calculations for zoning compliance or restrictive agreement compliance], or (3) measured height of buildings above grade at a defined location, or if not defined, the measurement point is to be shown. If an architect's certification of floor area of the building and a particular tenant's leased premises is to be used, then is this Item necessary? This Item involves considerable field work that would not otherwise be done by the surveyor and so will be reflected in the cost, especially if requiring a second

site visit.

Item 9 – Survey to depict number of parking spaces, striping of parking areas and indicate type of parking provided, whether handicap, motorcycle, regular, etc.

Item 11 – This Item has two very different options which can have distinct time and cost implications. Item 11(a) requires the location of utilities from observed evidence whereas Item 11(b) requires location of utilities from observed evidence but also from plans provided by utility companies. It is a considerable effort to locate where the utility lines were installed, but not recorded. This optional selection must be distinguished from Section 5(h) where all easements must be shown, and if an easement cannot be located, a note must so state. There is not always an easement for all utilities servicing a parcel and there could be physical utilities benefiting other parcels for which no recorded easement exists. Also, please be aware that utility companies are reluctant to provide utility plans in light of terrorism risks. The selection of 11(b) can be a delay in time and a great expense when faced with blanket easements.

When dealing with an existing development and no planned expansion, the title insurance company may be willing to give affirmative coverage with the lender's policy against forced removal of the improvements or that the existence of the easement will not diminish the security of the insured loan.

Item 15 – New technologies exist for aerial photography when ground mapping is not needed and accuracy is not the issue, but are not for setting the boundary of the property. Such a survey would note the method under which it is developed. Due to the methods used, such a survey would include lesser observation of easements, overhangs and encroachments. But this type of survey can be useful for large tracks of land or to create a site plan for a large development for a restrictive easement agreement or large ranch.

Item 18 – This item is unchanged, but I must caution that a surveyor stating whether there is any evidence of site use as a solid waste dump, sump or sanitary landfill is a far cry from a site assessment report, and I wonder why one would select this item.

In summary, read the survey standards and Table A items carefully. Review and negotiate any surveys or survey certificate requirements before placing the order for the survey and remember in the snow belt, snow does not fall during several months of the year and often a snow note will appear and will require additional field work to remove it after the snow melts.

The survey standards are available at www.acsm.net/alta.html.

ATTACHMENT A – CURRENT STANDARDS

2005 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS

as adopted by

American Land Title Association

and

National Society of Professional Surveyors

(a member organization of the American Congress on Surveying and Mapping)

It is recognized that members of the American Land Title Association (ALTA) have specific needs, peculiar to title insurance matters, which require particular information for acceptance by title insurance companies when said companies are asked to insure title to land without exception as to the many matters which might be discoverable from survey and inspection and not be evidenced by the public records. In the general interest of the public, the surveying profession, title insurers and abstracters, ALTA and the National Society of Professional Surveyors, Inc. (NSPS) jointly promulgate and set forth such details and criteria for standards. It is recognized and understood that local and state standards or standards of care, which surveyors in those respective jurisdictions are bound by, may augment, or even require variations to the standards outlined herein. Where conflicts between the standards outlined herein and any jurisdictional statutes or regulations occur, the more restrictive requirement shall apply. It is also recognized that title insurance companies are entitled to rely on the survey furnished to them to be of an appropriate professional quality, both as to completeness and as to accuracy. It is equally recognized that for the performance of a survey, the surveyor will be provided with appropriate data which can be relied upon in the preparation of the survey.

For a survey of real property and the plat or map of the survey to be acceptable to a title insurance company for purposes 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 shall be presented for the distinct and clear understanding between the client (insured), the title insurance company (insurer), and the surveyor (the person professionally responsible for the survey). These requirements are:

1. The client shall request the survey or arrange for the survey to be requested and shall provide a written authorization to proceed with the survey from the person 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 shall specify that an "**ALTA/ACSM LAND TITLE SURVEY**" is required and shall designate which of the optional items listed in Table A are to be incorporated. The request shall set forth the record description of the property to be surveyed or, in the case of an original survey, the record description of the parent parcel that contains the property to be surveyed. Complete copies of the record description of the property (or, in the case of an original survey, the parent parcel), any record easements benefiting the property; the record easements or servitudes and covenants burdening the property ("Record Documents"); documents of record referred to in the Record Documents; and any other documents containing desired appropriate information affecting the property being surveyed and to which the survey shall make reference shall be provided to the surveyor for notation on the plat or map of survey.

2. The plat or map of such survey shall bear the name, address, telephone number, and signature of the professional land surveyor who performed the survey, his or her official seal and registration number, the date the survey was completed, the dates of all of the surveyor's revisions and the caption "**ALTA/ACSM Land Title Survey**" with the certification set forth in paragraph 8.

3. An "**ALTA/ACSM LAND TITLE SURVEY**" shall be in accordance with the then-current "Accuracy Standards for Land Title Surveys" ("Accuracy Standards") as adopted, from time to time by the National Society of Professional Surveyors and the American Land Title Association and incorporated herein by reference.

4. On the plat or map of an "**ALTA/ACSM LAND TITLE SURVEY**," the survey boundary shall be drawn to a convenient scale, with that scale clearly indicated. A graphic scale, shown in feet or meters or both, shall be included. A north arrow shall be shown and when practicable, the plat or map of survey shall be oriented so that north is at the top of the drawing. Symbols or abbreviations used shall be identified on the face of the plat or map by use of a legend or other means. If necessary for clarity, supplementary or exaggerated diagrams shall be presented accurately on the plat or map. The plat or map shall be a minimum size of 8½ by 11 inches.

5. The survey shall be performed on the ground and the plat or map of an "**ALTA/ACSM LAND TITLE SURVEY**" shall contain, in addition to the required items already specified above, the following applicable information:

(a) All data necessary to indicate the mathematical dimensions and relationships of the boundary represented, with angles given directly or by bearings, and with the length and radius of each curve, together with elements necessary to mathematically define each curve. The point of beginning of the surveyor's description shall be shown as well as the remote point of beginning if different. A bearing base shall refer to some well-fixed line, so that the bearings may be easily re-established.

The North arrow shall be referenced to its bearing base and should that bearing base differ from record title, that difference shall be noted.

- (b) When record bearings or angles or distances differ from measured bearings, angles or distances, both the record and measured bearings, angles, and distances shall be clearly indicated. If the record description fails to form a mathematically closed figure, the surveyor shall so indicate.
- (c) Measured and record distances from corners of parcels surveyed to the nearest right-of-way lines of streets in urban or suburban areas, together with recovered lot corners and evidence of lot corners, shall be noted. -For streets and highways abutting the property surveyed, the name, the width and location of pavement relative to the nearest boundary line of the surveyed tract, and the width of existing rights of way, where available from the controlling jurisdiction, shall be shown. Observable evidence of access (or lack thereof) to such abutting streets or highways shall be indicated. Observable evidence of private roads shall be so indicated. Streets abutting the premises, which have been described in Record Documents, but not physically opened, shall be shown and so noted.
- (d) The identifying titles of all recorded plats, filed maps, right of way maps, or similar documents which the survey represents, wholly or in part, shall be shown with their appropriate recording data, filing dates and map numbers, and the lot, block, and section numbers or letters of the surveyed premises. For non-platted adjoining land, names, and recording data identifying adjoining owners as they appear of record shall be shown. For platted adjoining land, the recording data of the subdivision plat shall be shown. The survey shall indicate platted setback or building restriction lines which have been recorded in subdivision plats or which appear in Record Documents which have been delivered to the surveyor. Contiguity, gores, and overlaps along the exterior boundaries of the surveyed premises, where ascertainable from field evidence or Record Documents, or interior to those exterior boundaries, shall be clearly indicated or noted. Where only a part of a recorded lot or parcel is included in the survey, the balance of the lot or parcel shall be indicated.
- (e) All evidence of monuments shall be shown and noted to indicate which were found and which were placed. All evidence of monuments found beyond the surveyed premises on which establishment of the corners of the surveyed premises are dependent, and their application related to the survey shall be indicated.
- (f) The character of any and all evidence of possession shall be stated and the location of such evidence carefully given in relation to both the measured boundary lines and those established by the record. An absence of notation on the survey shall be presumptive of no observable evidence of possession.
- (g) The location of all buildings upon the plot or parcel shall be shown and their locations defined by measurements perpendicular to the nearest perimeter boundaries. The precision of these measurements shall be commensurate with the Relative Positional Accuracy of the survey as specified in the current Accuracy Standards for ALTA/ACSM Land Title Surveys. If there are no buildings erected on the property being surveyed, the plat or map shall bear the statement, "No buildings." Proper street numbers shall be shown where available.
- (h) All easements evidenced by Record Documents which have been delivered to the surveyor shall be shown, both those burdening and those benefiting the property surveyed, indicating recording information. If such an easement cannot be located, a note to this effect shall be included. Observable evidence of easements and/or servitudes of all kinds, such as those created by roads; rights-of-way; water courses; drains; telephone, telegraph, or electric lines; water, sewer, oil or gas pipelines on or across the surveyed property and on adjoining properties if they appear to affect the surveyed property, shall be located and noted. If the surveyor has knowledge of any such easements and/or servitudes, not observable at the time the present survey is made, such lack of observable evidence shall be noted. Surface indications, if any, of underground easements and/or servitudes shall also be shown.
- (i) The character and location of all walls, buildings, fences, and other visible improvements within five feet of each side of the boundary lines shall be noted. Without expressing a legal opinion, physical evidence of all encroaching structural appurtenances and projections, such as fire escapes, bay windows, windows and doors that open out, flue pipes, stoops, eaves, cornices, areaways, steps, trim, etc., by or on adjoining property or on abutting streets, on any easement or over setback lines shown by Record Documents shall be indicated with the extent of such encroachment or projection. If the client wishes to have additional information with regard to appurtenances such as whether or not such appurtenances are independent, division, or party walls and are plumb, the client will assume the responsibility of obtaining such permissions as are necessary for the surveyor to enter upon the properties to make such determinations.
- (j) Driveways, alleys and other ways of access on or crossing the property must be shown. Where there is evidence of use by other than the occupants of the property, the surveyor must so indicate on the plat or map. Where driveways or alleys on adjoining properties encroach, in whole or in part, on the property being surveyed, the surveyor must so indicate on the plat or map with appropriate measurements.
- (k) As accurately as the evidence permits, the location of cemeteries and burial grounds (i) disclosed in the Record Documents provided by client or (ii) observed in the process of performing the field work for the survey, shall be shown.
- (l) Ponds, lakes, springs, or rivers bordering on or running through the premises being surveyed shall be shown.

6. As a minimum requirement, the surveyor shall furnish two sets of prints of the plat or map of survey to the title insurance company or the client. If the plat or map of survey consists of more than one sheet, the sheets shall be numbered, the total number of sheets indicated and match lines be shown on each sheet. The prints shall be on durable and dimensionally stable material

of a quality standard acceptable to the title insurance company. The record title description of the surveyed tract, or the description provided by the client, and any new description prepared by the surveyor must appear on the face of the plat or map or otherwise accompany the survey. 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 may explain this information with notes on the face of the plat or map or in accompanying attachments. If the relative positional accuracy of the survey exceeds that allowable, the surveyor shall explain the site conditions that resulted in that outcome with a note on the face of the map or plat.

7. Water boundaries necessarily are subject to change due to erosion or accretion by tidal action or the flow of rivers and streams. A realignment of water bodies may also occur due to many reasons such as deliberate cutting and filling of bordering lands or by avulsion. Recorded surveys of natural water boundaries are not relied upon by title insurers for location of title.

When a property to be surveyed for title insurance purposes contains a natural water boundary, the surveyor shall measure the location of the boundary according to appropriate surveying methods and note on the plat or map the date of the measurement 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 changes in such boundaries, the extent of those changes shall be identified.

8. When the surveyor has met all of the minimum standard detail requirements for an ALTA/ACSM Land Title Survey, the following certification shall be made on the plat:

To (name of client), (name of lender, if known), (name of title insurance company, if known), (name of others as instructed by client):

This is to certify that this map or plat and the survey on which it is based were made in accordance with the "Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys," jointly established and adopted by ALTA and NSPS in 2005, and includes Items _____ of Table A thereof. Pursuant to the Accuracy Standards as adopted by ALTA and NSPS and in effect on the date of this certification, undersigned further certifies that in my professional opinion, as a land surveyor registered in the State of _____, the Relative Positional Accuracy of this survey does not exceed that which is specified therein.

Date: _____ (signed) _____ (seal)
Registration No.

NOTE: If, as otherwise allowed in the Accuracy Standards, the Relative Positional Accuracy exceeds that which is specified therein, the following certification shall be made on the plat:

To (name of client), (name of lender, if known), (name of title insurance company, if known), (name of others as instructed by client):

This is to certify that this map or plat and the survey on which it is based were made in accordance with the "Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys," jointly established and adopted by ALTA and NSPS in 2005, and includes Items _____ of Table A thereof. Pursuant to the Accuracy Standards as adopted by ALTA and NSPS and in effect on the date of this certification, undersigned further certifies that in my professional opinion, as a land surveyor registered in the State of _____, the maximum Relative Positional Accuracy is _____ feet.

Date: _____ (signed) _____ (seal)
Registration No.

The 2005 Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys are effective January 1, 2006. As of that date, all previous versions of the Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys are superseded by these 2005 standards.

*Adopted by the American Land Title Association on October 5, 2005.
Adopted by the Board of Directors, National Society of Professional Surveyors on October 24, 2005.
American Land Title Association, 1828 L St., N.W., Suite 705, Washington, D.C. 20036.
National Society of Professional Surveyors, Inc., 6 Montgomery Village Avenue, Suite 403, Gaithersburg, MD 20879*

TABLE A

OPTIONAL SURVEY RESPONSIBILITIES AND SPECIFICATIONS

NOTE: The items of Table A must be negotiated between the surveyor and client. It may be necessary for the surveyor to qualify or expand upon the description of these items, e.g., in reference to Item 6, there may be a need for an interpretation of a restriction. The surveyor cannot make a certification on the basis of an interpretation or opinion of another party. Items 16, 17 and 18 are only for use on projects for the U.S. Department of Housing and Urban Development (HUD).

If checked, the following optional items are to be included in the ALTA/ACSM LAND TITLE SURVEY, except as otherwise negotiated:

1. _____ Monuments placed (or a reference monument or witness to the corner) at all major corners of the boundary of the property, unless already marked or referenced by an existing monument or witness to the corner.
2. _____ Vicinity map showing the property surveyed in reference to nearby highway(s) or major street intersection(s).
3. _____ Flood zone designation (with proper annotation based on federal Flood Insurance Rate Maps or the state or local equivalent, by scaled map location and graphic plotting only.)
4. _____ Gross land area (and other areas if specified by the client).
5. _____ Contours and the datum of the elevations.
6. _____ List setback, height, and floor space area restrictions disclosed by applicable zoning or building codes (beyond those required under paragraph 5d of these standards). If none, so state. The source of such information must be disclosed. See "Note" above.
7. _____ (a) Exterior dimensions of all buildings at ground level
_____ (b) Square footage of:
_____ (1) exterior footprint of all buildings at ground level
_____ (2) gross floor area of all buildings; or
_____ (3) other areas to be defined by the client
_____ (c) Measured height of all buildings above grade at a defined location. If no defined location is provided, the point of measurement shall be shown.
8. _____ Substantial, visible improvements (in addition to buildings) such as billboards, signs, parking structures, swimming pools, etc.
9. _____ Parking areas and, if striped, the striping and the type (e.g. handicapped, motorcycle, regular, etc.) and number of parking spaces.
10. _____ Indication of access to a public way on land such as curb cuts and driveways, and to and from waters adjoining the surveyed tract, such as boat slips, launches, piers and docks..
11. _____ Location of utilities (representative examples of which are shown below) existing on or serving the surveyed property as determined by:
_____ (a) Observed evidence
_____ (b) Observed evidence together with evidence from plans obtained from utility companies or provided by client, and markings by utility companies and other appropriate sources (with reference as to the source of information)
 - railroad tracks and sidings;
 - manholes, catch basins, valve vaults or other surface indications of subterranean uses;
 - wires and cables (including their function, if readily identifiable) crossing the surveyed premises, all poles on or within ten feet of the surveyed premises, and the dimensions of all crossmembers or overhangs affecting the surveyed premises; and
 - utility company installations on the surveyed premises.
12. _____ Governmental Agency survey-related requirements as specified by the client.
13. _____ Names of adjoining owners of platted lands.
14. _____ The distance to the nearest intersecting street as designated by the client

15. _____ *Rectified orthophotography, photogrammetric mapping, laser scanning and other similar products, tools or technologies may be utilized as the basis for 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 shall (a) discuss the ramifications of such methodologies (e.g. the potential accuracy and completeness of the data gathered thereby) with the title company, 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, relative accuracy and other relevant qualifications of any such data.*
16. _____ *Observable evidence of earth moving work, building construction or building additions within recent months.*
17. _____ *Any changes in street right of way lines either completed or proposed, and available from the controlling jurisdiction. Observable evidence of recent street or sidewalk construction or repairs.*
18. _____ *Observable evidence of site use as a solid waste dump, sump or sanitary landfill.*
19. _____

Accuracy Standards for ALTA/ACSM Land Title Surveys

Introduction

These Accuracy Standards address Relative Positional Accuracies for measurements that control land boundaries on ALTA/ACSM Land Title Surveys.

In order to meet these standards, the surveyor must assure and certify that the Relative Positional Accuracies resulting from the measurements made on the survey do not exceed that which is allowable.

If the size or configuration of the property to be surveyed, or the relief, vegetation or improvements on the property will result in survey measurements for which the allowable Relative Positional Accuracies will be exceeded, the surveyor must alternatively certify as to the Relative Positional Accuracy that was otherwise achieved on the survey.

Definition:

“Relative Positional Accuracy” means the value expressed in feet or meters that represents the uncertainty due to random errors in measurements in the location of any point on a survey relative to any other point on the same survey at the 95 percent confidence level.

Background

The lines and corners on any property survey have uncertainty in location which is the result of (1) availability and condition of reference monuments, (2) occupation or possession lines as they may differ from record lines, (3) clarity or ambiguity of the record descriptions or plats of the surveyed tracts and its adjoiners and (4) Relative Positional Accuracy.

The first three sources of uncertainty must be weighed as evidence in the determination of where, in the professional surveyor’s opinion, the boundary lines and corners should be placed. Relative Positional Accuracy is related to how accurately the surveyor is able to monument or report those positions.

Of these four sources of uncertainty, only Relative Positional Accuracy is controllable, although due

to the inherent error in any measurement, it cannot be eliminated. The first three can be estimated based on evidence; Relative Positional Accuracy can be estimated using statistical means.

The surveyor shall, to the extent necessary to achieve the standard contained herein, (1) compensate or correct for systematic errors, including those associated with instrument calibration, (2) select the appropriate equipment and methods, and use trained personnel and (3) use appropriate error propagation and other measurement design theory to select the proper instruments, field procedures, geometric layouts and computational procedures to control random errors.

If radial survey methods, GPS or other acceptable technologies or procedures are used to locate or establish points on the survey, the surveyor shall apply appropriate procedures in order to assure that the allowable Relative Positional Accuracy of such points is not exceeded.

Computation of Relative Positional Accuracy

Relative Positional Accuracy may be tested by: (1) comparing the relative location of points in a survey as measured by an independent survey of higher accuracy or (2) the results of a minimally constrained, correctly weighted least square adjustment of the survey.

Allowable Relative Positional Accuracy for Measurements Controlling Land Boundaries on ALTA/ACSM Land Title Surveys

0.07 feet (or 20 mm) + 50 ppm

ATTACHMENT B – CHANGES FROM 1999 STANDARDS

MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS

as adopted by
American Land Title Association
~~American Congress on Surveying & Mapping~~
and
National Society of Professional Surveyors
~~(a member organization of the American Congress on Surveying and Mapping)~~

It is recognized that members of the American Land Title Association (ALTA) have specific needs, peculiar to title insurance matters, which require particular information for acceptance by title insurance companies when said companies are asked to insure title to land without exceptions as to the many matters which might be discoverable from survey and inspection and not be evidenced by the public records. In the general interest of the public, the surveying profession, title insurers and abstractors, ALTA, ~~the American Congress on Surveying and Mapping (ACSM)~~ and the National Society of Professional Surveyors, Inc. (NSPS) jointly promulgate and set forth such details and criteria for standards. It is ~~recognized and~~ understood that local ~~and state standards or standards of care, which surveyors in those respective jurisdictions are bound by, variations may augment, or even require variations to the standards outlined herein. Where conflicts between the standards outlined herein and any jurisdictional statutes or regulations occur, the more restrictive requirement shall apply. Local adjustments to suit local situations, and often must be applied.~~ It is also recognized that title insurance companies are entitled to rely on the survey furnished to them ~~to be of an being of the~~ appropriate professional quality, both as to completeness and as to accuracy. It is equally recognized that for the performance of a survey, the surveyor will be provided with appropriate data which can be relied upon in the preparation of the survey.

For a survey of real property and the plat or map of the survey to be acceptable to a title insurance company for purposes 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 shall be presented for the distinct and clear understanding between the client (insured), the title insurance company (insurer), and the surveyor (the person professionally responsible for the survey). These requirements are:

1. The client shall request the survey or arrange for the survey to be requested and shall provide a written authorization to proceed with the survey from the person 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 shall specify that an "ALTA/ACSM LAND TITLE SURVEY" is required and ~~meeting the then-current accuracy standards jointly adopted by ALTA, ACSM and NSPS. The request shall also designate which of the optional items listed in Table A are to be incorporated. The request shall set forth the record description of the property to be surveyed or, in the case of an original survey, the record description of the parent parcel that contains the property to be surveyed.~~ Complete copies of the record description of the property ~~(or, in the case of an original survey, the parent parcel), any record easements benefiting the property, the record easements or servitudes and covenants burdening affecting the property ("Record Documents"), documents of record referred to in the Record Documents, and any other documents containing desired appropriate information affecting the property being surveyed and to which the survey shall make reference shall be provided to the surveyor for notation on the plat or map of survey.~~

2. The plat or map of such survey shall bear the name, address, telephone number, and signature of the professional land surveyor who ~~performed~~ made the survey, his or her official seal and registration number, the date the survey was completed ~~and~~, the dates of all ~~of the surveyor's~~ revisions, and the caption "ALTA/ACSM Land Title Survey" with the certification set forth in paragraph 8.

3. An "ALTA/ACSM LAND TITLE SURVEY" shall be in accordance with the then-current "Accuracy Standards for Land Title Surveys" ("Accuracy Standards") as adopted, from time to time, ~~by the American Congress on Surveying and Mapping, the National Society of Professional Surveyors and the American Land Title Association and incorporated herein by reference.~~

4. On the plat or map of an "ALTA/ACSM LAND TITLE SURVEY," the survey boundary shall be drawn to a convenient scale, with that scale clearly indicated. A graphic scale, shown in feet or meters or both, shall be included. A north arrow shall be shown and when practicable, the plat or map of survey shall be oriented so that north is at the top of the drawing. Symbols or abbreviations used shall be identified on the face of the plat or map by use of a legend or other means. If necessary for clarity, supplementary or exaggerated diagrams shall be presented accurately on the plat or map. The plat or map shall be a minimum size of 8½ by 11 inches.

5. The survey shall be performed ~~and located~~ on the ground and the plat or map of an "ALTA/ACSM LAND TITLE SURVEY" shall contain, in addition to the required items already specified above, the following applicable information:

- (a) All data necessary to indicate the mathematical dimensions and relationships of the boundary represented, with angles given directly or by bearings, and with the length and radius of each curve, together with elements

necessary to mathematically define each curve. The point of beginning of the surveyor's description shall be shown as well as the remote point of beginning if different. A bearing base shall refer to some well-fixed bearing line, so that the bearings may be easily re-established. ~~All bearings around the boundary shall read in a clockwise direction wherever possible.~~ The North arrow shall be referenced to its bearing base and should that bearing base differ from record title, that difference shall be noted.

- (b) When record bearings or angles or distances differ from measured bearings, angles or distances, both the record and measured bearings, angles, and distances shall be clearly indicated. If the record description fails to form a mathematically closed figure, the surveyor shall so indicate.
- (c) Measured and record distances from corners of parcels surveyed to the nearest right-of-way lines of streets in urban or suburban areas, together with recovered lot corners and evidence of lot corners, shall be noted. ~~The distances to the nearest intersecting street shall be indicated and verified. Names and width of For~~ streets and highways abutting the property surveyed, ~~the name, the width and location of pavement relative to the nearest boundary line of the surveyed tract, and the width of existing and widths of rights of way, where available from the controlling jurisdiction, shall be shown given. Any use contrary to the above shall be noted.~~ Observable evidence of access (or lack thereof) to such abutting streets or highways shall be indicated. Observable evidence of private roads shall be so indicated. Streets abutting the premises, which have been described in Record Documents, but not physically opened, shall be shown and so noted.
- (d) The identifying titles of all recorded plats, filed maps, right of way maps, or similar documents which the survey represents, wholly or in part, shall be shown with their appropriate recording data, filing dates and map numbers, and the lot, block, and section numbers or letters of the surveyed premises. For non-platted adjoining land, names, and recording data identifying adjoining owners as they appear of record shall be shown. For platted adjoining land, the recording data of the subdivision plat shall be shown. The survey shall indicate platted setback or building restriction lines which have been recorded in subdivision plats or which appear in a Record Documents which ~~have has~~ been delivered to the surveyor. Contiguity, gores, and overlaps along the exterior boundaries of the surveyed premises, where ascertainable from field evidence or Record Documents, or interior to those exterior boundaries, shall be clearly indicated or noted. Where only a part of a recorded lot or parcel is included in the survey, the balance of the lot or parcel shall be indicated.
- (e) All evidence of monuments shall be shown and noted to indicate which were found and which were placed. All evidence of monuments found beyond the surveyed premises on which establishment of the corners of the surveyed premises are dependent, and their application related to the survey shall be indicated.
- (f) The character of any and all evidence of possession shall be stated and the location of such evidence carefully given in relation to both the measured boundary lines and those established by the record. An absence of notation on the survey shall be presumptive of no observable evidence of possession.
- (g) The location of all buildings upon the plot or parcel shall be shown and their locations defined by measurements perpendicular to the ~~nearest perimeter~~ boundaries. ~~The precision of these measurements shall be commensurate with the Relative Positional Accuracy of the survey as specified in the current Accuracy Standards for ALTA/ACSM Land Title Surveys.~~ If there are no buildings erected on the property being surveyed, the plat or map shall bear the statement, "No buildings." Proper street numbers shall be shown where available.
- (h) All easements evidenced by ~~a~~ Record Documents which have been delivered to the surveyor shall be shown, both those burdening and those benefiting the property surveyed, indicating recording information. If such an easement cannot be located, a note to this effect shall be included. Observable evidence of easements and/or servitudes of all kinds, such as those created by roads; rights-of-way; water courses; drains; telephone, telegraph, or electric lines; water, sewer, oil or gas pipelines on or across the surveyed property and on adjoining properties if they appear to affect the surveyed property, shall be located and noted. If the surveyor has knowledge of any such easements and/or servitudes, not observable at the time the present survey is made, such lack of observable evidence shall be noted. Surface indications, if any, of underground easements and/or servitudes shall also be shown.
- (i) The character and location of all walls, buildings, fences, and other visible improvements within five feet of each side of the boundary lines shall be noted. Without expressing a legal opinion, physical evidence of all encroaching structural appurtenances and projections, such as fire escapes, bay windows, windows and doors that open out, flue pipes, stoops, eaves, cornices, areaways, steps, trim, etc., by or on adjoining property or on abutting streets, on any easement or over setback lines shown by Record Documents shall be indicated with the extent of such encroachment or projection. If the client wishes to have additional information with regard to appurtenances such as whether or not such appurtenances are independent, division, or party walls and are plumb, the client will assume the responsibility of obtaining such permissions as are necessary for the surveyor to enter upon the properties to make such determinations.
- (j) Driveways, ~~and~~ alleys ~~and other ways of access~~ on or crossing the property must be shown. Where there is evidence of use by other than the occupants of the property, the surveyor must so indicate on the plat or map. Where driveways or alleys on adjoining properties encroach, in whole or in part, on the property being surveyed, the surveyor must so indicate on the plat or map with appropriate measurements.

- (k) As accurately as the evidence permits, the location of cemeteries and burial grounds (i) disclosed in the Record Documents provided by client ~~process of researching title to the premises~~ or (ii) observed in the process of performing the field work for the survey, shall be shown.
- (l) Ponds, lakes, springs, or rivers bordering on or running through the premises being surveyed shall be shown.

6. As a minimum requirement, the surveyor shall furnish two sets of prints of the plat or map of survey to the title insurance company or the client. If the plat or map of survey consists of more than one sheet, the sheets shall be numbered, the total number of sheets indicated and match lines be shown on each sheet. The prints shall be on durable and dimensionally stable material of a quality standard acceptable to the title insurance company. ~~The record title description of the surveyed tract, or the description provided by the client, and any new description prepared by the surveyor must appear on the face of the plat or map or otherwise accompany the survey. 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 may explain this information with notes on the face of the plat or map or in accompanying attachments. If the relative positional accuracy of the survey exceeds that allowable, the surveyor shall explain the site conditions that resulted in that outcome with a note on the face of the map or plat. At least two copies of the boundary description prepared from the survey shall be similarly furnished by the surveyor and shall be on the face of the plat or map of survey, if practicable, or otherwise attached to and incorporated in the plat or map. Reference to date of the "ALTA/ACSM LAND TITLE SURVEY," surveyor's file number (if any), political subdivision, section, township and range, along with appropriate aliquot parts thereof, and similar information shown on the plat or map of survey shall be included with the boundary description.~~

7. Water boundaries necessarily are subject to change due to erosion or accretion by tidal action or the flow of rivers and streams. A realignment of water bodies may also occur due to many reasons such as deliberate cutting and filling of bordering lands or by avulsion. Recorded surveys of natural water boundaries are not relied upon by title insurers for location of title.

When a property to be surveyed for title insurance purposes contains a natural water boundary, the surveyor shall measure the location of the boundary according to appropriate surveying methods and note on the plat or map the date of the measurement 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 changes in such boundaries, the extent of those changes shall be identified.

8. When the surveyor has met all of the minimum standard detail requirements for an ALTA/ACSM Land Title Survey, the following certification shall be made on the plat:

To (name of client), (name of lender, if known), (name of title insurance company, if known), (name of others as instructed by client):

This is to certify that this map or plat and the survey on which it is based were made in accordance with the "Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys," jointly established and adopted by ALTA, ~~ACSM~~ and NSPS in ~~1999~~2005, and includes Items _____ of Table A thereof. Pursuant to the Accuracy Standards as adopted by ALTA ~~and~~ NSPS, ~~and ACSM~~ and in effect on the date of this certification, undersigned further certifies that in my professional opinion, as a land surveyor registered in the State of _____, ~~Surveyor to complete certificate with the appropriate ONE of the following three phrases the Relative Positional Accuracy of this survey Uncertainty resulting from the survey measurements made on the survey does not exceed that which is specified therein 0.07 feet plus 50 parts per million the allowable Positional Tolerance.~~

- ~~the survey measurements were made in accordance with the "Minimum Angle, Distance, and Closure Requirements for Survey Measurements Which Control Land Boundaries for ALTA/ACSM Land Title Surveys."~~
- ~~proper field procedures, instrumentation, and adequate survey personnel were employed in order to achieve results comparable to those outlined in the "Minimum Angle, Distance, and Closure Requirements for Survey Measurements Which Control Land Boundaries for ALTA/ACSM Land Title Surveys."~~

Date: (signed) _____ (seal) _____
Registration No. _____

NOTE: If, as otherwise allowed in the Accuracy Standards, the Relative Positional Accuracy exceeds that which is specified therein, the following certification shall be made on the plat:

To (name of client), (name of lender, if known), (name of title insurance company, if known), (name of others as instructed by client):

This is to certify that this map or plat and the survey on which it is based were made in accordance with the "Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys," jointly established and adopted by ALTA and NSPS in 2005, and includes Items _____ of Table A thereof. Pursuant to the Accuracy Standards as

adopted by ALTA and NSPS and in effect on the date of this certification, undersigned further certifies that in my professional opinion, as a land surveyor registered in the State of _____, the maximum Relative Positional Accuracy is _____ feet.

Date: _____ (signed) _____ Registration No. _____ (seal)

The 2005 Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys are effective January 1, 2006. As of that date, all previous versions of the Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys are superseded by these 2005 standards.

Adopted by the American Land Title Association on _____.
Adopted by the Board of Directors, National Society of Professional Surveyors on _____.
American Land Title Association, 1828 L St., N.W., Suite 705, Washington, D.C. 20036.
National Society of Professional Surveyors, Inc., 6 Montgomery Village Avenue, Suite 403, Gaithersburg, MD 20879

TABLE A

OPTIONAL SURVEY RESPONSIBILITIES AND SPECIFICATIONS

NOTE: The items of Table A must be negotiated between the surveyor and client. It may be necessary for the surveyor to qualify or expand upon the description of these items, e.g., in reference to item 6, there may be a need for an interpretation of a restriction. The surveyor cannot make a certification on the basis of an interpretation or opinion of another party. Items 16, 17 and 18 are only for use on projects for the U.S. Department of Housing and Urban Development (HUD).

If checked, the following optional items are to be included in the ALTA/ACSM LAND TITLE SURVEY, except as otherwise negotiated:

1. _____ Monuments placed (or a reference monument or witness to the corner) at all major corners of the boundary of the property, unless already marked or referenced by an existing monument or witness to the corner.
2. _____ Vicinity map showing the property surveyed in reference to nearby highway(s) or major street intersection(s).
3. _____ Flood zone designation (with proper annotation based on Federal Flood Insurance Rate Maps or the state or local equivalent, by scaled map location and graphic plotting only.)
4. _____ Gross Land area (and other areas if as specified by the client).
5. _____ Contours and the datum of the elevations.
6. _____ List, identify and show if possible, setback, height, and floor space area restrictions of record or disclosed by applicable zoning or building codes (in addition to those recorded in subdivision maps), (beyond those required under paragraph 5d of these standards). If none, so state. The source of such information must be disclosed. See "Note" above.
7. _____ (a) Exterior dimensions of all buildings at ground level
_____ (b) Square footage of:
_____ (1) exterior footprint of all buildings at ground level
_____ (2) gross floor area of all buildings; or
_____ (3) other areas to be defined by the client
_____ (c) Measured height of all buildings above grade at a defined location. If no defined location is provided, the point of measurement shall be shown.
8. _____ Substantial, visible improvements (in addition to buildings) such as billboards, signs, parking areas or structures, swimming pools, etc.
9. _____ Parking areas and, if striped, the striping and the type (e.g. handicapped, motorcycle, regular, etc.) and number of parking spaces.
10. _____ Indication of access to a public way on land such as curb cuts and driveways, and to and from waters adjoining the surveyed tract, such as boat slips, launches, piers and docks.
11. _____ Location of utilities (representative examples of which are shown below) existing on or serving the surveyed property as determined by:
_____ (a) Observed evidence
_____ (b) Observed evidence together with evidence from plans obtained from utility companies or provided by client, and markings by provided by client, utility companies, and other appropriate sources (with reference as to the source of information)
 - railroad tracks and sidings;
 - manholes, catch basins, valve vaults or other surface indications of subterranean uses;
 - wires and cables (including their function, if readily identifiable) crossing the surveyed premises, all poles on or within ten feet of the surveyed premises, and the dimensions of all crossmembers or overhangs affecting the surveyed premises; and
 - utility company installations on the surveyed premises.
12. _____ Governmental Agency survey-related requirements as specified by the client.

13. _____ Names of adjoining owners of platted lands.
14. _____ The distance to the nearest intersecting street as designated by the client
15. _____ Rectified orthophotography, photogrammetric mapping, laser scanning and other similar products, tools or technologies may be utilized as the basis for 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 shall (a) discuss the ramifications of such methodologies (e.g. the potential accuracy and completeness of the data gathered thereby) with the title company, 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, relative accuracy and other relevant qualifications of any such data.
16. _____ Observable evidence of earth moving work, building construction or building additions within recent months.
17. _____ Any changes in street right of way lines either completed or proposed, and available from the controlling jurisdiction. Observable evidence of recent street or sidewalk construction or repairs.
18. _____ Observable evidence of site use as a solid waste dump, sump or sanitary landfill.
19. _____

Accuracy Standards for ALTA/ACSM Land Title Surveys

Introduction

These Accuracy Standards address Relative Positional Accuracy and Minimum Angle, Distance and Closure Requirements for measurements that control land boundaries on ALTA/ACSM Land Title Surveys.

In order to meet these standards, the surveyor must assure and certify that the Relative Positional Accuracy resulting from the survey measurements made on the survey do not exceed that which is the allowable Positional Tolerance.

If the size or configuration of the property to be surveyed, or the relief, vegetation or improvements on the property will result in survey measurements for which the allowable Relative Positional Accuracy will be exceeded ed the allowable Positional Tolerance, the surveyor must alternatively certify as to the Relative Positional Accuracy that was otherwise achieved on the survey apply the within table of "Minimum Angle, Distance and Closure Requirements for Survey Measurements Which Control Land Boundaries for ALTA-ACSM Land Title Surveys" to the measurements made on the survey or employ, in his or her judgment, proper field procedures, instrumentation and adequate survey personnel in order to achieve comparable results.

Definitions:

"Positional Uncertainty" is the uncertainty in location, due to random errors in measurement, of any physical point on a property survey, based on the 95% confidence level.

"Positional Tolerance" is the maximum acceptable amount of Positional Uncertainty for any physical point on a property survey relative to any other physical point on the survey, including lead-in courses.

"Relative Positional Accuracy" means the value expressed in feet or meters that represents the uncertainty due to random errors in measurements in the location of any point on a survey relative to any other point on the same survey at the 95 percent confidence level.

Background

The lines and corners on any property survey have uncertainty in location which is the result of (1) availability and condition of reference monuments, (2) occupation or possession lines as they may differ from record lines, (3) clarity or ambiguity of the record descriptions or plats of the surveyed tracts and its adjoiners and (4) Relative Positional Accuracy.

The first three sources of uncertainty must be weighed as evidence in the determination of where, in the professional surveyor's opinion, the boundary lines and corners should be placed. Relative Positional Accuracy is related to how accurately the surveyor is able to monument or report those positions.

Of these four sources of uncertainty, only Relative Positional Accuracy is controllable, although due to the inherent error in any measurement, it cannot be eliminated. The first three can be estimated based on evidence; Relative Positional Accuracy can be estimated using statistical means.

The surveyor should shall, to the extent necessary to achieve the standards contained herein, (1) compensate or correct for systematic errors, including those associated with instrument calibration, (2) select the appropriate equipment and methods, and use trained personnel and (3) The surveyor shall use appropriate error propagation and other measurement design theory to select the proper instruments, field procedures, geometric layouts and computational procedures to control and adjust random errors in order to achieve the allowable Positional Tolerance or required traverse closure.

If radial survey methods, GPS or other acceptable technologies or procedures are used to locate or establish points on the survey, the surveyor shall apply appropriate procedures in order to assure that the allowable Relative Positional Accuracy of such points is not exceeded.

Computation of Relative Positional Accuracy Uncertainty

Relative Positional Accuracy may be tested by:

(1) comparing the relative location of points in a survey as measured by an independent survey of higher accuracy or
(2) the results of a minimally constrained, correctly weighted least square adjustment of the survey.

The Positional Uncertainty of any physical survey monument on a survey, whether the location of that point was established using GPS or conventional surveying methods, may be computed using a minimally constrained, correctly weighted least squares adjustment of the points on the survey.

Application of Minimum Angle, Distance and Closure Requirements

The combined precision of a survey can be statistically assured by dictating a combination of survey closure and specified procedures for an ALTA/ACSM Land Title Survey. ACSM, NSPS and ALTA have adopted the following specific procedures in order to assure the combined precision of an ALTA/ACSM Land Title Survey. The statistical base for these specifications is on file at ACSM and available for inspection.

Allowable Relative Positional Accuracy Tolerances for Measurements Controlling Land Boundaries on ALTA/ACSM Land Title Surveys

0.07 feet (or 20 mm) + 50 ppm

**Minimum Angle, Distance and Closure Requirements for Survey Measurements
Which Control Land Boundaries for ALTA-ACSM Land Title Surveys (Note 1)**

Direct Reading of Instrument (Note 2)	Instrument Reading Estimated (Note 3)	Number of Observations Per Station (Note 4)	Spread from Mean of D&R Not To Exceed (Note 5)	Angle Closure (Where N = No. of Stations) Not to Exceed	Linear Closure (Note 6)	Distance Measurement (Note 7)	Minimum of Measure (Notes 8, 10)
20" <1> 40"	5" <0.1> NA	2 D&R	5" <0.1> 5"	40" times square root of N	1:15,000	EDM or Doubletape with Steel Tape	(8) 81m, (4) 153m, (4)

Note (1) The use of a more precise instrument does not change the other requirements, such as number of angles turned, etc.

Note (2) Instrument must have a direct reading of at least the amount specified (not an estimated reading), i.e.: 20" = Micrometer reading theodolite, <1> = Scale reading theodolite, 10" (boldface) = Electronic reading theodolite.

Note (3) Instrument must have the capability of allowing an estimated reading below the direct reading to the specified reading.

Note (4) D&R means the Direct and Reverse positions of the instrument telescope, i.e., two angles in the direct and two angles in the reverse position be measured and meaned.

Note (5) Any angle measured that exceeds the specified amount from the mean must be rejected and the set of angles re-measured.

Note (6) Ratio of closure after angles are balanced and closure calculated.

Note (7) All distance measurements must be made with a properly calibrated EDM or Steel tape, applying atmospheric, temperature, sag, tension, slope, scale factor and sea level corrections as necessary.

Note (8) EDM having an error of 5mm, independent of distance measured (Manufacturer's specifications).

Note (9) EDM having an error of 10mm, independent of distance measured (Manufacturer's specifications).

Note (10) Calibrated steel tape.

ATTACHMENT C – ALTERNATIVE CERTIFICATE

SURVEYOR'S CERTIFICATE

This survey was made on the ground and was made (i) in accordance with the 2005 Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys, jointly established and adopted by ALTA and NSPS in 2005, and, (ii) pursuant to the Accuracy Standards (as adopted by ALTA and NSPS and in effect on the date of this certification) shows, to the accuracy requirements of this survey standard, (iii) the boundaries and areas of the subject property and the size, location, and type of buildings and improvements thereon (if any) and the distance therefrom to the nearest property line of the subject property; (iv) the location of those rights-of-way and easements set forth as Schedule B exceptions _____ in the title insurance commitment of _____ Title Insurance Company, dated _____, order number _____; (v) the location of the parking areas on the subject property, including the number of parking spaces; (vi) all physically open abutting streets providing access to the subject property, together with the width and common names thereof;

Except as shown on the survey, there are no (i) visible encroachments upon the subject property by improvements on adjacent property, (ii) visible encroachments onto easements or onto adjacent property, streets, or alleys by any improvements on the subject property, (iii); visible evidence of party walls;

The subject property is contiguous to Barrington Road and Lakewood Boulevard, the same being physically open rights-of-way;

All building setback lines, as set forth as Schedule B exceptions in the title insurance commitment of _____ Title Insurance Company, dated _____, order number _____, are shown hereon, and;

According to the Federal Emergency Management Agency Map number _____, dated _____, the subject property, unless otherwise noted, is not situated within a flood hazard area, as defined in said map.