

LAND SURVEYORS SECTION MEETING AGENDA

May 11, 2022

11:00 a.m.

Department of Professional & Occupational Regulation

9960 Mayland Drive

Richmond, Virginia 23233

(804) 367-8514

1. Call to Order
2. Approval of Agenda
3. Public Comment Period*
4. Regulation 18VAC10-20-370
5. Regulation 18VAC10-20-380
6. Regulation 18VAC10-20-382
7. Conflict of Interest Forms / Travel Vouchers
8. Adjourn

*Five-minute public comment, per person, with the exception of any open disciplinary or application files. Persons desiring to participate in the meeting and requiring special accommodations or interpretative services should contact the Department at (804) 367-8514 at least ten days prior to the meeting so that suitable arrangements can be made for an appropriate accommodation. The Department fully complies with the Americans with Disabilities Act.

PART V

QUALIFICATIONS FOR LICENSING AND STANDARDS OF PROCEDURE FOR LAND SURVEYORS

18VAC10-20-280. Fee schedule.

All fees are nonrefundable and shall not be prorated.

Application for Surveyor-in-Training Designation	\$60
Application for Initial Land Surveyor License	\$90
Application for Initial Surveyor Photogrammetrist License	\$90
Application for Initial Land Surveyor B License	\$90
Application for License by Comity	\$90
Renewal	\$90

Historical Notes:

Derived from VR130-01-2 § 5.1, eff. October 18, 1985; amended, Virginia Register Volume 4, Issue 8, eff. March 1, 1988; Volume 6, Issue 20, eff. September 1, 1990; Volume 7, Issue 14, eff. May 8, 1991; Volume 8, Issue 7, eff. February 1, 1992; Volume 10, Issue 15, eff. May 19, 1994; Volume 13, Issue 23, eff. October 1, 1997; Volume 15, Issue 24, eff. October 1, 1999; Volume 16, Issue 3, eff. December 1, 1999; Volume 18, Issue 7, eff. March 1, 2002; Errata, 18:10 V.A.R. 1342 January 28, 2002; amended, Virginia Register Volume 21, Issue 3, eff. December 1, 2004; Volume 23, Issue 1, eff. February 1, 2007; Volume 25, Issue 3, eff. December 1, 2008; Volume 32, Issue 6, eff. January 1, 2016.

18VAC10-20-290. [Repealed]

18VAC10-20-295. Definitions.

"Absolute horizontal positional accuracy" means the value expressed in feet or meters that represents the uncertainty due to systematic and random errors in measurements in the location of any point on a survey relative to the defined datum at the 95% confidence level.

"Approved land surveying experience" means progressive and diversified office and field training and experience under the direct control and personal supervision of a licensed land surveyor. This experience shall have been acquired in positions requiring the exercise of independent judgment, initiative, and professional skill. Written verification of such work experience shall be on forms provided by the board. Experience may be gained either prior to or after education is obtained. Notwithstanding the definition of "approved land surveying experience," the requirements set forth in 18VAC10-20-310 shall not be waived.

"Approved photogrammetric surveying or similar remote sensing technology experience" means progressive and diversified office and field training and experience in photogrammetric surveying or similar remote sensing technology under the direct control and personal supervision of a licensed land surveyor or licensed surveyor photogrammetrist. This experience shall have been acquired in positions requiring the exercise of independent judgment, initiative, and professional skill. Written verification of such work experience shall be on forms provided by the board. Experience may be gained either prior to or after education is obtained. Notwithstanding the definition of "approved photogrammetric surveying or similar remote sensing technology experience," the requirements set forth in 18VAC10-20-310 shall not be waived.

"Relative horizontal 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% confidence level.

Historical Notes:

Derived from Virginia Register Volume 18, Issue 7, eff. March 1, 2002; amended, Virginia Register Volume 23, Issue 1, eff. February 1, 2007; Volume 25, Issue 3, eff. December 1, 2008; Volume 32, Issue 6, eff. January 1, 2016; Volume 37, Issue 24, eff. September 2, 2021.

18VAC10-20-300. Requirements for surveyor-in-training (SIT) designation.

- A. Applicants shall apply directly with NCEES for the FS exam. All applicants shall receive the SIT designation upon passing the FS exam, receiving approval from a board reviewed application, and meeting all other board requirements. All applicants must satisfy one of the following conditions in numbers 1 through 8 (inclusive) as listed below. Applicants who do not complete their applications and receive their designations within the three years from the date that they apply must reapply and satisfy one of the following:
1. Be enrolled in an EAC/ABET-accredited surveying or surveying technology program acceptable to the board, have 12 months or less remaining before completion of degree requirements, and provide a certificate of good standing from the dean of the school or the dean's designee;
 2. Have earned an undergraduate degree from an EAC/ABET-accredited surveying or surveying technology program acceptable to the board;
 3. Have earned an undergraduate degree related to surveying acceptable to the board and possess a minimum of one year of approved land surveying experience;
 4. Have earned an undergraduate degree in a field unrelated to surveying in conjunction with an additional 30 credit hours in an approved surveying program acceptable to the board and possess a minimum of two years of approved land surveying experience;

~~5. Have earned a board-approved undergraduate degree in a field unrelated to surveying and possess a minimum of two years of approved land surveying experience;~~

~~6-5. Have earned a board-approved associate's degree related to surveying and possess a minimum of four-two years of approved land surveying experience;~~

~~6. Have earned a certificate (or diploma) in a surveying curriculum of a minimum of 30 credit hours (1) in a surveying program acceptable to the board and possess a minimum of three years of approved land surveying experience;~~

~~8-7. Have successfully completed a board-approved survey apprenticeship program. The apprenticeship program shall include a minimum of 480 hours of surveying-related classroom instruction with a minimum of six-three years of approved land surveying experience; or~~

~~9-8. Have graduated from high school with evidence of successful completion of courses in algebra, geometry, and trigonometry and possess a minimum of eight-six years of approved land surveying experience.~~

B. Applicants seeking approval to sit for the Fundamentals of Surveying (FS) exam pursuant to subdivisions A 3 through A 8 of this section may apply board-approved college credits ~~to help meet~~ toward the experience requirement. The maximum rate of college credit substitution for experience shall be one year of experience credit for each ~~40-30~~ credit hours of board-approved college credits completed. College credits applicable toward the completion of any degree used to satisfy a requirement of subsection A of this section shall not be eligible for experience substitution.

~~C. All applicants shall receive the SIT designation upon passing the FS exam, receiving approval from a board reviewed application, and meeting all other board requirements.~~

Historical Notes:

Derived from VR130-01-2 § 5.3, eff. October 18, 1985; amended, Virginia Register Volume 4, Issue 8, eff. March 1, 1988; Volume 6, Issue 20, eff. September 1, 1990; Volume 7, Issue 14, eff. May 8, 1991; Volume 8, Issue 7, eff. February 1, 1992; Volume 10, Issue 15, eff. May 19, 1994; Volume 16, Issue 3, eff. December 1, 1999; Volume 18, Issue 7, eff. March 1, 2002; Volume 23, Issue 1, eff. February 1, 2007; Volume 32, Issue 6, eff. January 1, 2016; Volume 37, Issue 24, eff. September 2, 2021.

18VAC10-20-310. Requirements for the land surveyor and surveyor photogrammetrist licenses.

A. Land surveyor license.

1. A surveyor-in-training (SIT) who has met the requirements of 18VAC10-20-300 and has a minimum of four years of approved land surveying experience shall be approved to sit for:

a. The Principles and Practice of Land Surveying exam;

- b. The Virginia-specific land surveying exam; and
 - c. The board supplied exam on regulations.
2. A qualified applicant shall be granted a license to practice land surveying upon passing all three exams and meeting all other board requirements.

B. Surveyor photogrammetrist license.

1. An SIT who has met the requirements of 18VAC10-20-300 and has a minimum of four years of approved photogrammetric surveying or similar remote sensing technology experience shall be approved to sit for the following board-approved exams:
 - a. The ~~board-approved Surveyor Photogrammetrist exam Principles and Practice of Land Surveying;~~ and
 - b. ~~The Virginia specific land surveying exam; and~~
 - e-b. The board supplied exam on regulations.
2. A qualified applicant shall be granted a license to practice photogrammetric surveying upon passing all three exams and meeting all other board requirements.

Historical Notes:

Derived from VR130-01-2 § 5.4, eff. October 18, 1985; amended, Virginia Register Volume 4, Issue 8, eff. March 1, 1988; Volume 6, Issue 20, eff. September 1, 1990; Volume 7, Issue 14, eff. May 8, 1991; Volume 8, Issue 7, eff. February 1, 1992; Volume 10, Issue 15, eff. May 19, 1994; Volume 16, Issue 3, eff. December 1, 1999; Volume 18, Issue 7, eff. March 1, 2002; Volume 23, Issue 1, eff. February 1, 2007; Volume 25, Issue 3, eff. December 1, 2008; Errata, 25:7 V.A.R. 1451 December 8, 2008; amended, Virginia Register Volume 32, Issue 6, eff. January 1, 2016; Volume 37, Issue 24, eff. September 2, 2021.

18VAC10-20-320. Requirements for the land surveyor B license.

- A. An applicant shall:
1. Hold a valid Virginia license as a land surveyor;
 2. Present satisfactory evidence of a minimum of two years of land surveying experience that is progressive in complexity in land surveyor B land surveying, as provided in § 54.1-408 of the Code of Virginia, under the direct control and personal supervision of a licensed land surveyor B or professional engineer;

3. Present satisfactory evidence of having passed college-level courses in hydrology and hydraulics that are acceptable to the board; and
4. Pass an exam developed by the board.

B. A qualified applicant shall be issued a land surveyor B license upon passing the board-developed exam.

Historical Notes:

Derived from VR130-01-2 § 5.5, eff. October 18, 1985; amended, Virginia Register Volume 4, Issue 8, eff. March 1, 1988; Volume 6, Issue 20, eff. September 1, 1990; Volume 7, Issue 14, eff. May 8, 1991; Volume 8, Issue 7, eff. February 1, 1992; Volume 10, Issue 15, eff. May 19, 1994; Volume 16, Issue 3, eff. December 1, 1999; Volume 18, Issue 7, eff. March 1, 2002; Volume 23, Issue 1, eff. February 1, 2007; Volume 32, Issue 6, eff. January 1, 2016; Volume 37, Issue 24, eff. September 2, 2021.

18VAC10-20-330. Education.

An applicant who is seeking credit for a degree earned from an institution outside of the United States shall have his degree authenticated and evaluated by an education evaluation service approved by the board. The board reserves the right to reject any evaluation submitted by the applicant. Any cost of evaluation shall be borne by the applicant.

Historical Notes:

Derived from VR130-01-2 § 5.6, eff. October 18, 1985; amended, Virginia Register Volume 4, Issue 8, eff. March 1, 1988; Volume 6, Issue 20, eff. September 1, 1990; Volume 7, Issue 14, eff. May 8, 1991; Volume 8, Issue 7, eff. February 1, 1992; Volume 10, Issue 15, eff. May 19, 1994; Volume 16, Issue 3, eff. December 1, 1999; Volume 23, Issue 1, eff. February 1, 2007; Volume 32, Issue 6, eff. January 1, 2016; Volume 37, Issue 24, eff. September 2, 2021.

18VAC10-20-340. Experience standards.

In order to demonstrate meeting the experience requirements of 18VAC10-20-300, 18VAC-10-20-310, and 18VAC10-20-320, applicants shall document experience that has been gained under the direct control and personal supervision of a licensed land surveyor or licensed surveyor photogrammetrist on the appropriate board-provided forms. Experience shall be verified by a licensed land surveyor or licensed surveyor photogrammetrist in an organization with a surveying practice and will be evaluated by the board in accordance with 18VAC10-20-35.

Historical Notes:

Derived from VR130-01-2 § 5.7, eff. October 18, 1985; amended, Virginia Register Volume 4, Issue 8, eff. March 1, 1988; Volume 6, Issue 20, eff. September 1, 1990; Volume 7, Issue 14, eff. May 8, 1991; Volume 8, Issue 7, eff. February 1, 1992; Volume 10, Issue 15, eff. May 19, 1994; Volume 18, Issue 7, eff. March 1, 2002; Volume 23, Issue 1, eff. February 1, 2007; Volume 25, Issue 3, eff. December 1, 2008; Volume 32, Issue 6, eff. January 1, 2016; Volume 37, Issue 24, eff. September 2, 2021.

18VAC10-20-345. References.

Applicants shall submit three references on a board-approved form with the application, all of which shall be from currently licensed land surveyors in a state or other jurisdiction of the United States. In addition to the requirements found in 18VAC10-20-25, the applicant shall only submit references from licensed land surveyors who have personal knowledge of the applicant's surveying experience that demonstrates the applicant's competence and integrity.

Historical Notes: Derived from Virginia Register Volume 37, Issue 24, eff. September 2, 2021.

18VAC10-20-350. Examinations.

- A. Applications for initial licensure shall be received by the board in accordance with the following deadlines:
 - 1. Applicants for the surveyor-in-training designation submitted pursuant to 18VAC10-20-300 A are eligible to sit for the Fundamentals of Surveying (FS) exam.
 - 2. Upon successful completion of the FS exam, applicants who qualify may apply to sit for the other surveying exams.
 - 3. All applications for the Virginia-specific exam shall be received in the board's office no later than 130 days prior to the scheduled exam.
- B. The board is a member board of the National Council of Examiners for Engineering and Surveying (NCEES) and authorizes NCEES to administer the national surveying related exam. Applicants sitting for the exam shall follow NCEES procedures.
- C. The exams for Virginia board regulations, the Virginia-specific, the surveyor photogrammetrist, and the land surveyor B shall be given at times designated by the board.
- D. Unless otherwise stated, applicants approved to sit for an exam must register and submit the required exam fee to be received by the board or the board's designee at a time designated by the board. Applicants not properly registered will not be allowed to sit for the exam.
- E. The exam shall not be reviewed by applicants. Unless authorized by NCEES rules and procedures, exam scores are final and are not subject to change.

- F. Applicants approved to sit for the exam shall be eligible for a period of three years from the date of their initial approval. Applicants who do not pass the exam during their eligibility period are no longer eligible to sit for the exam. To become exam-eligible again, applicants shall reapply to the board, meet all current entry requirements, and demonstrate successful completion of 16 hours of educational activities that meet the requirements of 18VAC10-20-683 E and F.

Historical Notes:

Derived from VR130-01-2 § 5.8, eff. October 18, 1985; amended, Virginia Register Volume 4, Issue 8, eff. March 1, 1988; Volume 6, Issue 20, eff. September 1, 1990; Volume 7, Issue 14, eff. May 8, 1991; Volume 8, Issue 7, eff. February 1, 1992; Volume 10, Issue 15, eff. May 19, 1994; Volume 16, Issue 3, eff. December 1, 1999; Volume 18, Issue 7, eff. March 1, 2002; Volume 23, Issue 1, eff. February 1, 2007; Volume 25, Issue 3, eff. December 1, 2008; Volume 32, Issue 6, eff. January 1, 2016; Volume 37, Issue 24, eff. September 2, 2021.

18VAC10-20-360. Licensure by comity.

- A. Applicants holding a valid license to practice land surveying in another state or other jurisdiction of the United States may be licensed as a land surveyor in Virginia. To become licensed, applicants shall:
1. Submit to the board verifiable documentation that the education, experience, and exam requirements by which they were first licensed in the original jurisdiction were substantially equivalent to the requirements in Virginia at the same time;
 2. Have passed an exam in another jurisdiction that was substantially equivalent to that approved by the board at the time of the original licensure;
 3. Be in good standing in all jurisdictions where licensed;
 4. Pass the Virginia-specific exam; and
 5. Satisfy all other applicable requirements of this chapter.
- B. Applicants who do not meet the requirements for licensure in Virginia that were in effect at the time of their original licensure shall be required to meet the entry requirements current at the time the completed application for comity is received in the board's office;
- C. Applicants holding a current license to practice land surveying or photogrammetric surveying issued by another state or other jurisdiction of the United States may be licensed in Virginia as a surveyor photogrammetrist provided they meet one of the following criteria:

1. Applicants who were originally licensed prior to December 1, 2009, shall meet the requirements of the board's regulations effective December 1, 2008, and pass the Virginia-specific exam; or
2. Applicants who were originally licensed on or after December 1, 2009, shall meet the requirements of the board's regulations effective at the time of original licensure and pass the Virginia-specific exam.

Historical Notes:

Derived from VR130-01-2 § 5.9, eff. October 18, 1985; amended, Virginia Register Volume 4, Issue 8, eff. March 1, 1988; Volume 6, Issue 20, eff. September 1, 1990; Volume 7, Issue 14, eff. May 8, 1991; Volume 8, Issue 7, eff. February 1, 1992; Volume 10, Issue 15, eff. May 19, 1994; Volume 16, Issue 3, eff. December 1, 1999; Volume 18, Issue 7, eff. March 1, 2002; Volume 23, Issue 1, eff. February 1, 2007; Volume 25, Issue 3, eff. December 1, 2008; Volume 32, Issue 6, eff. January 1, 2016; Volume 37, Issue 24, eff. September 2, 2021.

18VAC10-20-370. Minimum standards and procedures for land boundary surveying practice.

- A. The minimum standards and procedures set forth in this section are to be used for land boundary surveys performed in the Commonwealth of Virginia. The application of the professional's seal, signature, and date as required by these regulations shall be evidence that the land boundary survey is correct to the best of the professional's knowledge, information, and belief and complies with the minimum standards and procedures set forth in this chapter.
- B. Research procedure. The professional shall search the land records for the proper description of the land to be surveyed and obtain the description of adjoining land as it pertains to the common boundaries. The professional shall have the additional responsibility to utilize such other available data pertinent to the survey being performed from any other known sources. Evidence found from all known sources, including evidence found in the field, shall be carefully compared in order to aid in the establishment of the correct boundaries of the land being surveyed. The professional shall clearly identify on the plats, maps, and reports inconsistencies found in the research of common boundaries between the land being surveyed and the adjoining land. It is not the intent of this regulation to require the professional to research the question of title or encumbrances on the land involved.
- C. Minimum field procedures.
 1. Angular measurement. Angle measurements made for traverse or land boundary survey lines will be made by using a properly adjusted transit-type [total-station](#) or [scan-station](#) instrument that allows a direct reading to a minimum accuracy of 20 seconds of arc or equivalent. The number of angles turned at a given station or corner will be the number that, in the judgment of the professional, can be used to substantiate the

average true angle considering the condition of the instrument being used and the existing field conditions.

2. Linear measurement. Distance measurement for the lines of traverse or lines of the land boundary survey shall be made ~~(i) with metal tapes that have been checked and are properly calibrated as to incremental distances or (ii) with properly calibrated electronic distance measuring equipment preferably included within the properly adjusted transit-type total-station or scan-station instrument~~-following instructions and procedures established by the manufacturer of such equipment. All linear measurements shall be reduced to the horizontal plane, and other necessary corrections shall be performed before using such linear measurements for computing purposes.
3. Field traverse and land boundary closure and accuracy standards. For a land boundary survey located in a rural area, the maximum permissible error of closure for a field traverse shall be one part in 10,000 (1/10,000). The attendant angular closure shall be that which will sustain the one part in 10,000 (1/10,000) maximum error of closure. For a land boundary survey located in an urban area, the maximum permissible error of closure for a traverse shall be one part in 20,000 (1/20,000). The attendant angular closure shall be that which will sustain the one part in 20,000 (1/20,000) maximum error of closure.

The maximum permissible positional uncertainty based on the 95% confidence level of any independent boundary corner or independent point located on a boundary that has been established by utilizing global positioning systems shall not exceed the positional tolerance of 0.07 feet (or 20 mm ~~±42~~ 50 ppm).

4. Monumentation. As a requisite for completion of the work product, each land boundary survey of a tract or parcel of land shall be monumented with objects made of permanent material at all corners and changes of direction on the land boundary with the exceptions of meanders, such as meanders of streams, tidelands, lakes, swamps and prescriptive rights-of-way, and each such monument, other than a natural monument, shall, when physically feasible, be identified by a temporary witness marker. Where it is not physically feasible to set actual corners, appropriate reference monuments shall be set, preferably on the boundary line, and the location of each shall be shown on the plat or map of the land boundary.

All boundaries, both exterior and interior, of the original survey for any division or partition of land shall be monumented in accordance with the provisions of this subdivision, when such monumentation is not otherwise regulated by the provisions of a local subdivision ordinance.

5. For land boundary surveys providing for a division when only the division, in lieu of the entire parcel, is being surveyed, any new corners established along existing property lines shall require that those existing property lines be established through their entire length. This shall include the recovery or reestablishment of the existing corners for each end of the existing property lines.

Commented [AVM1]: Find out if anyone is using tapes exclusively.

D. Office procedures.

1. Computations. The computation of field work data shall be accomplished by using the mathematical routines that produce closures and mathematical results that can be compared with descriptions and data of record. Such computations shall be used to determine the final land boundary of the land involved.
2. Plats and maps. The following information shall be shown on all plats and maps used to depict the results of the land boundary survey:
 - a. The title of the land boundary plat identifying the land surveyed and showing the district, town, and county or city in which the land is located and scale of drawing.
 - b. The name of the owner of record and recording references.
 - c. Names of all adjoining owners of record with recording references, or with subdivision name and lot designations and recording references.
 - d. Inconsistencies found in the research of common boundaries between the land being surveyed and the adjoining land. The inconsistencies shall be clearly noted by the professional.
 - e. Names of highways and roads with route number and widths of right-of-way or distance to the center of the physical pavement and pavement width, name of railroads, streams adjoining, crossing, or in close proximity to the boundary and other prominent or well-known objects that are informative as to the location of the land boundary.
 - f. A distance to the nearest road intersection or prominent or well-known object. In cases of remote areas, as a minimum, a scaled position with the latitude and longitude must be provided, however a higher quality location such as GPS may be shown.
 - g. Items crossing any property lines such as, but not limited to, physical encroachments and evidence of easements such as utilities and other physical features pertinent to the boundary of the property.
 - h. Bearings of all property lines and meanders to nearest one second of arc or equivalent. Distances of all property lines and meanders to the nearest one hundredth (.01) of a foot or equivalent. Meanders is defined as lines of convenience used to close the figure along an irregular geometry of natural boundary course such as a river or shoreline, or along a boundary at the center of a roadway-

- i. Adequate curve data to accomplish mathematical closures.
- ~~j. Distances of all property lines and meanders to the nearest one hundredth (.01) of a foot or equivalent.~~
- ~~k-j.~~ Pursuant to subdivision C 5 of this section, the bearing and distances from the new corners to the existing corners on each end of the existing property lines.
- ~~l-k.~~ For property located in rural areas, area to the nearest hundredth (.01) of an acre or equivalent.
- ~~m-l.~~ For property located in urban areas, area to the nearest square foot or thousandth (0.001) of an acre or equivalent.
- ~~n-m.~~ North arrow and source of meridian used for the survey.
- ~~o-n.~~ For interior surveys (~~partitions entirely surrounded by the parent tract~~), a reference bearing and distance to a property corner of an adjoining owner or other prominent object, including intersecting streets or roads.
- ~~p-o.~~ Tax map designation or geographic parcel identification number if available, for surveyed parcel and adjoining parcels.
- ~~q-p.~~ Description of each monument found and each monument set by the professional.
- ~~r-q.~~ A statement that the land boundary survey shown is based on a current field survey or a compilation from deeds, plats, surveys by others, or combination thereof. If the land boundary shown is a compilation from deeds or plats, or a survey by others, the title of the plat shall clearly depict that the plat does not represent a current land boundary survey.
- ~~s-r.~~ A statement as to whether a current title report has been furnished to the professional.
- ~~t-s.~~ A statement as to whether any or all easements, encroachments, and improvements are shown on the plat.
- ~~u-t.~~ Name, address, and contact information for the land surveyor or the registered business.
- ~~v-u.~~ The professional's seal, signature and date.

3. Metes and bounds description. The professional shall prepare a metes and bounds description in narrative form, if requested by the client or the client's agent, for completion of any newly performed land boundary survey. The description shall reflect all metes and bounds, the area of the property described, all pertinent monumentation, names of record owners or other appropriate identification of all adjoining, and any other data or information deemed as warranted to properly describe the property. Customarily, the metes and bounds shall be recited in a clockwise direction around the property. The professional shall clearly identify in the metes and bounds description any inconsistencies found in the research of common boundaries between land being surveyed and the adjoining land. For subdivisions, the professional shall prepare a metes and bounds description in narrative form for only the exterior boundaries of the property.

No metes and bounds description shall be required for the verification or resetting of the corners of a lot or other parcel of land in accordance with a previously performed land boundary survey, such as a lot in a subdivision where it is unnecessary to revise the record boundaries of the lot.

Historical Notes:

Derived from VR130-01-2 § 5.10, eff. October 18, 1985; amended, Virginia Register Volume 4, Issue 8, eff. March 1, 1988; Volume 6, Issue 20, eff. September 1, 1990; Volume 7, Issue 14, eff. May 8, 1991; Volume 8, Issue 7, eff. February 1, 1992; Volume 10, Issue 15, eff. May 19, 1994; Volume 13, Issue 23, eff. October 1, 1997; Volume 18, Issue 7, eff. March 1, 2002; Errata, 18:10 V.A.R. 1342 January 28, 2002; amended, Virginia Register Volume 23, Issue 1, eff. February 1, 2007; Volume 32, Issue 6, eff. January 1, 2016; Volume 37, Issue 24, eff. September 2, 2021.

18VAC10-20-380. Minimum standards and procedures for surveys determining the location of physical improvements; field procedures; office procedures.

- A. The following minimum standards and procedures are to be used for surveys determining the location of physical improvements on any parcel of land or lot ~~containing less than two acres or equivalent~~ (sometimes also known as "building location survey," "house location surveys," "physical surveys," etc.) in the Commonwealth of Virginia. The application of the professional's seal, signature, and date as required by this chapter shall be evidence that the survey determining the location of physical improvements is correct to the best of the professional's knowledge, information, and belief and complies with the minimum standards and procedures set forth in this chapter.
- B. The professional shall determine the position of the lot or parcel of land in accordance with the intent of the original survey and shall set or verify permanent monumentation at each corner of the property, consistent with the monumentation provisions of subdivision C 4 of 18VAC10-20-370. All such monumentation, other than natural monumentation shall, when physically feasible, be identified by temporary witness markers.

When the professional finds discrepancies of sufficient magnitude to warrant, in his opinion, the performance of a land boundary survey (pursuant to the provisions of 18VAC10-20-370),

he shall so inform the client or the client's agent that such land boundary survey is deemed warranted as a requisite to completion of the physical improvements survey.

The location of the following shall be determined in the field:

1. Fences in near proximity to the land boundary lines and other fences that may reflect lines of occupancy or possession.
 2. Other physical improvements on the property and all man-made or installed structures, including buildings, stoops, porches, chimneys, visible evidence of underground features (such as manholes, catch basins, telephone pedestals, power transformers, etc.), utility lines, and poles.
 3. Cemeteries, if known or disclosed in the process of performing the survey; roads or traveled ways crossing the property that serve other properties; and streams, creeks, and other defined drainage ways.
 4. Other visible evidence of physical encroachment on the property.
- C. The plat reflecting the work product shall be drawn to scale and shall show the following, unless requested otherwise by the client and so noted on the plat:
1. The bearings and distances for the boundaries and the area of the lot or parcel of land shall be shown in accordance with record data, unless a current, new land boundary survey has been performed in conjunction with the physical improvements survey. If needed to produce a closed polygon, the meander lines necessary to verify locations of streams, tidelands, lakes, and swamps shall be shown. All bearings shall be shown in a clockwise direction, unless otherwise indicated.
 2. North arrow, in accordance with record data, [or true north and source of meridian stated thereon.](#)
 3. Fences in the near proximity to the land boundary lines and other fences that may reflect lines of occupancy or possession.
 4. Improvements and other pertinent features on the property as located in the field pursuant to subsection B of this section.
 5. Physical encroachment, including fences, across a property line shall be identified and dimensioned with respect to the property line.
 6. The closest dimension (to the nearest 0.1 foot or equivalent) from the front property line, side property line, and if pertinent, rear property line to the principal walls of each building. Also, all principal building dimensions (to the nearest 0.1 foot or equivalent).

7. Building street address numbers, as displayed on the premises, or ~~so noted~~ if no numbers are displayed, [address as shown on the locality geographic information system](#).
8. Stoops, decks, porches, chimneys, balconies, floor projections, and other similar type features.
9. Street names, as posted or currently identified and as per record data if different from posted name.
10. Distance to nearest [road](#) intersection from a property corner, based upon record data. If not available from record data, distance to nearest intersection may be determined from best available data, and so qualified.
11. Building restriction or setback lines per restrictive covenants if shown or noted on the record subdivision plat.
12. The caption or title of the plat shall include the type of survey performed; lot number, block number, section number, and name of subdivision, as appropriate, or if not in a subdivision, the names of the record owner; town, county, or city; date of survey; and scale of drawing.
13. Adjoining property identification.
14. Easements and other encumbrances set forth on the record ~~subdivision~~ plat, and those otherwise known to the professional.
15. A statement as to whether or not a current title report has been furnished to the professional.
16. Inconsistencies found in the research or field work of common boundaries between the land being surveyed and the adjoining land shall be clearly noted.
17. Name, address, and contact information for the individual or entity for whom the survey is being performed.
18. Professional's seal, signature, and date.
19. Name, address, and contact information for the land surveyor or registered business.

D. In performing a physical improvements survey, a professional shall not be required to set corner monumentation on any property when:

1. It is otherwise required to be set pursuant to the provisions of a local subdivision ordinance as mandated by § 15.2-2240 of the Code of Virginia or by subdivision A 7 of § 15.2-2241 of the Code of Virginia;
 2. Eventual placement is covered by a surety bond, cash escrow, set-aside letter, letter of credit, or other performance guaranty;
 3. Exempt by § 54.1-407 of the Code of Virginia.
- E. A professional performing a physical improvements survey when monumentation is not required as stated in subsection D of this section shall clearly note on the plat "no corner markers set," the reason why it is not required, and the name of guarantors [providing the performance guaranty](#).

Historical Notes:

Derived from VR130-01-2 § 5.11, eff. October 18, 1985; amended, Virginia Register Volume 4, Issue 8, eff. March 1, 1988; Volume 6, Issue 20, eff. September 1, 1990; Volume 7, Issue 14, eff. May 8, 1991; Volume 8, Issue 7, eff. February 1, 1992; Volume 10, Issue 15, eff. May 19, 1994; Volume 13, Issue 23, eff. October 1, 1997; Volume 18, Issue 7, eff. March 1, 2002; Volume 23, Issue 1, eff. February 1, 2007; Volume 25, Issue 3, eff. December 1, 2008; Volume 32, Issue 6, eff. January 1, 2016; Volume 37, Issue 24, eff. September 2, 2021.

18VAC10-20-382. Minimum standards and procedures for surveys determining topography; field procedures; office procedures.

- A. The minimum standards and procedures set forth in this section are to be used for topographic surveys performed in the Commonwealth of Virginia pursuant to Chapter 4 (§ 54.1-400 et seq.) of Title 54.1 of the Code of Virginia. The application of the professional's seal, signature, and date as required by this chapter shall be evidence that the topographic survey is correct to the best of the professional's knowledge and belief and complies with the minimum standards and procedures.
- B. Minimum field and office procedures. The following information shall be shown on, or contained in, all plats, maps, or digital geospatial data including metadata used to depict the results of the topographic survey:
 1. Physical improvements on the property, all man-made or installed structures, as well as visible evidence of underground features (such as manholes, catch basins, telephone pedestals, power transformers, etc.), and utility lines and poles shall be shown or depicted when they are visible based on the methodology and scale. If the methodology or scale prevents depiction of the improvements as described in this subdivision, then notice shall be clearly stated on or contained in the map, plat, or digital geospatial data including metadata indicating the improvements that are not depicted.
 2. Elevations shall be provided as spot elevations, contours, or digital terrain models.

3. Onsite, or in close proximity, benchmarks shall be established with reference to vertical datum, preferably ~~North American~~ current accepted National Vertical Datum (~~NAVD~~), and shown in the correct location.
4. The title of the topographic survey identifying the land surveyed and showing the state, county, or city in which property is located.
5. Name, address, and contact information of the individual or entity for whom the survey is being performed.
6. Name, address, and contact information for the land surveyor or registered business.
7. Date, graphic scale, numerical scale, and contour interval of plat, map, or digital geospatial data including metadata.
8. North arrow and source of meridian used for the survey.
9. Names or route numbers of highways, streets and named waterways shall be shown.
10. The horizontal and vertical unit of measurement, coordinate system, and data, including adjustments if applicable.
11. A statement, in the following form, shall be shown on or contained in plats, maps, or digital geospatial data including metadata:

This _____ (provide description of the project) was completed under the direct and responsible charge of _____ (Name of Professional) from an actual Ground/Conventional, RTKGPS (or GNSS), or Remotely Sensed (check the one that is applicable) survey made under my supervision; that the imagery and/or original data was obtained on _____ (Date); and that this plat, map, or digital geospatial data including metadata meets minimum accuracy standards unless otherwise noted.

For the purposes of the certification above, Remotely Sensed data includes photogrammetry, airborne LIDAR, terrestrial and mobile LIDAR, and for hydrographic surveys, sonar or other acoustic type technologies for measurements.

C. Minimum positional accuracies shall be met in accordance with the tables in subdivisions 1, 2, and 3 of this subsection. These tables are not intended to be acceptable in all situations, and the professional shall be responsible to perform the work to the appropriate quality and extent that is prudent or warranted under the existing field conditions and circumstances. Metric or

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other unit of measurements shall meet an equivalent positional accuracy. Map or plat scales, or contour intervals, other than those defined in these tables shall meet an equivalent positional accuracy. The minimum positional accuracy tables are as follows:

1. Scale and contour interval combinations.

Map or Plat Scale	Contour Interval
1" = 20'	1 or 2 feet
1" = 30'	1 or 2 feet
1" = 40'	1 or 2 feet
1" = 50'	1 or 2 feet
1" = 100'	1 or 2 feet
1" = 200'	2, 4, or 5 feet
1" = 400'	4, 5, or 10 feet

2. Vertical accuracy standards.

	Contours - Vertical Positional Accuracy	Spot Elevations - Vertical Positional Accuracy
Contour line 1' interval	± 0.60 feet	± 0.30 feet
Contour line 2' interval	± 1.19 feet	± 0.60 feet
Contour line 4' interval	± 2.38 feet	± 1.19 feet
Contour line 5' interval	± 2.98 feet	± 1.49 feet
Contour line 10' interval	± 5.96 feet	± 2.98 feet

Positional Accuracy is given at the 95% confidence level.

3. Horizontal accuracy standards.

Well defined ground points - Horizontal (Radial) Positional Accuracy		
Map or Plat Scale	Absolute Horizontal Positional Accuracy	Relative Horizontal Positional Accuracy
1" = 20'	± 0.8 feet	± 0.20 feet
1" = 30'	± 1.1 feet	± 0.30 feet
1" = 40'	± 1.5 feet	± 0.40 feet
1" = 50'	± 1.9 feet	± 0.50 feet
1" = 100'	± 3.8 feet	± 1.00 feet
1" = 200'	± 7.6 feet	± 2.00 feet
1" = 400'	± 15.2 feet	± 4.00 feet

Positional Accuracy is given at the 95% confidence level.

Historical Notes:

Derived from Virginia Register Volume 25, Issue 3, eff. December 1, 2008; amended, Virginia Register Volume 32, Issue 6, eff. January 1, 2016.

18VAC10-20-390. Geodetic surveys.

All geodetic surveys including, but not limited to, the determination and publication of horizontal and vertical values utilizing Global Positioning Systems (GPS), which relate to the practice of land surveying as defined in § 54.1-400 of the Code of Virginia, shall be performed under the direct control and personal supervision of a professional as defined in Part I (18VAC10-20-10 et seq.) of this chapter.

Historical Notes:

Derived from VR130-01-2 § 5.12, eff. October 18, 1985; amended, Virginia Register Volume 4, Issue 8, eff. March 1, 1988; Volume 6, Issue 20, eff. September 1, 1990; Volume 7, Issue 14, eff. May 8, 1991; Volume 8, Issue 7, eff. February 1, 1992; Volume 10, Issue 15, eff. May 19, 1994; Volume 23, Issue 1, eff. February 1, 2007; Volume 32, Issue 6, eff. January 1, 2016.

18VAC10-20-392. Photogrammetric surveys.

The use of photogrammetric methods or similar remote sensing technology to perform any part of the practice of land surveying as defined in Chapter 4 (§ 54.1-400 et seq.) of Title 54.1 of the Code of Virginia shall be performed under the direct control and supervision of a licensed land surveyor or a licensed surveyor photogrammetrist.

Historical Notes:

Derived from Virginia Register Volume 25, Issue 3, eff. December 1, 2008; Volume 37, Issue 24, eff. September 2, 2021.

18VAC10-20-395. Standard of care.

In no event may the requirements contained in 18VAC10-20-370 through 18VAC10-20-392 be interpreted or construed to require the professional to perform work of a lesser quality or quantity than that which is prudent or warranted under the existing field conditions and circumstances.

Historical Notes:

Derived from Virginia Register Volume 25, Issue 3, eff. December 1, 2008; amended, Virginia Register Volume 32, Issue 6, eff. January 1, 2016.