

RULES OF THE VERMONT BOARD OF LAND SURVEYORS  
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## **Part 1. General Information**

### **1.1 The Board's Purpose**

The Board of Land Surveyors has been created and given certain powers by Vermont law. The purpose of the Board is to protect the public health, safety, and welfare. This is done by setting standards for issuing licenses, licensing qualified applicants, and regulating licensed land surveyors and their practices.

### **1.2 Definitions**

As used in these rules:

1. "ABET" means the Accreditation Board for Engineering and Technology;
2. "Board" means the Board of Land Surveyors;
3. "Internship" means the period of experience under a supervising land surveyor, as detailed in Section 2.7;
4. "NCEES" means National Council of Examiners for Engineering and Surveying;
5. "Office" means the Office of Professional Regulation within the Office of the Secretary of State;
6. "Supervising land surveyor" means a land surveyor who has been licensed three years or more and who conducts a regular personal review of an applicant's land surveying work during a period of internship.
7. "V.S.A." means Vermont Statutes Annotated; "26 V.S.A. §2501" means section 2501 of Title 26 of Vermont Statutes Annotated.

### **1.3 Business Address**

The mailing address for the Board is the Office of the Secretary of State, Office of Professional Regulation, 81 River Street, Heritage Building, Drawer 09, Montpelier, Vermont 05609-1106. The telephone number is (802) 828-1380. Requests for copies of these rules and questions about the Board and its procedures may be addressed to the Office.

### **1.4 Board Members and Officers**

The Board is made up of five licensed land surveyors and two members of the public who have no financial interest in land surveying except as consumers. One of the land surveyor members must have been licensed by exam within five years preceding appointment. Each member has been appointed by the Governor for a four year term. Board officers are elected annually. Officers' duties are as follows:

Chairperson. Calls Board meetings, presides at Board meetings, signs vouchers and official Board papers and generally supervises the Board's activities.

Vice-Chairperson. Performs the duties of the chairperson when he or she is absent.

Secretary. Takes the minutes of all meetings, handles Board correspondence, certifies transcripts of Board proceedings, keeps the official Board seal and uses it at the direction of the Board, and gives notice of meetings.

Interested persons can get the names and addresses of Board members and officers from the Office.

### **1.5 Meetings**

Regular meetings of the Board are scheduled well in advance. Contact the Office for dates and places. Special or emergency meetings may be called by the chairperson or any two members of the Board. Four members of the Board constitute a quorum. Disciplinary action requires a vote of at least four members, including one public member. A public member must be present for any oral interview of an applicant or action on a disciplinary matter.

### **1.6 Laws that Govern the Board**

The Board is governed by specific state laws that establish responsibilities for setting standards, issuing licenses and regulating the profession. The law is 26 V.S.A. Chapter 45. The Board's actions are also governed by several other state laws such as the Administrative Procedure Act (3 V.S.A. Chapter 25), the Open Meeting Law (1 V.S.A. §312-314) and the Access to Public Records Law (1 V.S.A. 315-320). These laws spell out the rights of an applicant, licensed land surveyor, or member of the public.

## **1.7 Rules of the Board**

The Board is authorized to make these rules under 26 V.S.A. §2544(a). The rules have the effect of law and govern the Board's proceedings. When the Board establishes rules, it follows the Administrative Procedure Act.

### **Part 2. Information for Applicants**

#### **2.1 Need for a License**

Under 26 V.S.A. Chapter 45, Sections 2502, 2503, and 2595(d), no person may purport to be a land surveyor or practice land surveying in Vermont unless that person is currently licensed by the Board.

#### **2.2 How to Get a License**

- (a) An application for a license or more information about applying for licensure may be obtained by writing or calling the Office (See Section 1.3). The application fee is given on the fee schedule included in the application packet. Make checks payable to the State of Vermont and mail the completed application form and required additional information to the Office.
- (b) Under Vermont's land surveying statute, there are four ways of qualifying for a license. They are:
  - (1) Graduation and examination;
  - (2) Education and examination;
  - (3) Experience and examination; and
  - (4) Comity or endorsement.

#### **2.3 Graduation and Examination**

An applicant under this section must have (a) graduated from an ABET-approved surveying curriculum of at least four years; (b) completed a 24 month internship as explained in Section 2.7; and (c) passed all parts of the land surveying examination. An application under this section must be accompanied by:

- (1) Certified transcript showing graduation from a surveying curriculum;
- (2) Internship reports;
- (3) Certificates of supervising land surveyors; and
- (4) Application fee.

#### **2.4 Education and Examination**

An applicant under this section must have (a) earned 30 semester or 45 quarter hours of college credit in land surveying, (b) completed a 36 month internship as explained in Section 2.7, and (c) passed all parts of the land surveying examination. An application under this section must be accompanied by:

- (1) Certified transcript showing the applicant's formal instruction in surveying, from an accredited college or Board-approved school of higher education;
- (2) Internship reports;
- (3) Certificates of supervising land surveyors; and
- (4) Application fee.

The Board accepts education credit as set forth below:

##### **2.4.1. A minimum of 16 semester or 24 quarter credit hours in surveying.**

Surveying - Courses in this area have their roots in mathematics and basic science and carry the knowledge further toward application. Courses are designated to supply the core of technical knowledge needed for the profession. The Board requires course work in basic plane surveying, topographic surveying, boundary location, surveying law, error theory, control surveys, route surveying, surveying drawing, instrument use, and field practice. Additional topics such as photogrammetry, data adjustments, remote sensing, land information systems, and subdivision design will be given credit under this area.

**2.4.2. A maximum of the hours shown in each of the four areas in the table below:**

Education Areas	Credit Hours	
	Semester	Quarter
A. Physical & Natural Sciences	2	3
B. Mathematics	5	7.5
C. Computer Programming & Applications	2	3
D. Related Fields	5	7.5

Explanation and Enhancements of the Table:

A. Physical & Natural Sciences - In a study of a science, the objective is to acquire fundamental knowledge about nature and its phenomena. Toward this end, courses should emphasize the understanding, measurement, and quantitative expression of the phenomena of nature. Typical courses for which the Board would grant credit under this area include dendrology, geology, astronomy, and physics that would include the concepts of electricity, mechanics and optics. Courses in chemistry and biology will not be counted toward the credit in this area.

B. Mathematics - Material in this area provides the tools that the surveyor applies to the science and other educational areas to analyze the problem and draw conclusions. Typical courses for which the Board would grant credit under this area include college algebra, trigonometry, statistics and analytic geometry.

C. Computer Programming and Applications - The computer is one of the most important and versatile tools in the practice of surveying. It is, therefore, essential that prospective surveyors acquire a working knowledge of computer usage in the surveying field and in languages commonly used in the practice of land surveying. The Board would not grant credit for programming in the COBOL language.

D. Related Fields - Overlap exists between the surveying profession and those of civil engineering, forestry, real estate and law. Educational credit may be given for the topics typified by construction surveying, road design, site planning, drainage, forest mensuration, land appraisal and environmental law.

**2.5 Experience and Examination**

An applicant under this section must have (a) completed a 48 month internship as explained in Section 2.7 and (b) passed all parts of the land surveying examination. An application under this section must be accompanied by:

- (1) Internship reports;
- (2) Certificates of supervising land surveyors; and
- (3) Application fee.

**2.6 Comity or Endorsement**

A person holding a land surveying license issued by another jurisdiction may apply under this section. The jurisdiction may be another state, a territory or possession of the United States, the District of Columbia, or a foreign country; the license may be called a certificate of registration or by another name. The jurisdiction must have issued the license on the basis of an examination, and the Board must have determined that the jurisdiction's requirements are at least as exacting as Vermont's. An application under this section must include:

- (1) Verification of current licensing status;
- (2) Verification of successful completion of NCEES Examinations; and
- (3) Application fee.

An applicant under this section must pass the Vermont portion of the land surveying examination.

**2.7 Internship**

**A. General Information**

The applicant in land surveying will combine study with practical work experience as a prerequisite to licensure and should work with his or her supervisor to establish objectives that will lead to licensure. The applicant shall obtain

the current version of the statute, 26 VSA Chapter 45.

The applicant shall file notice with the Board within six months of commencing survey work, within 30 days of making any change in the person supervising the survey work, and within 30 days of completing the survey experience requirements for licensure. In the case of an applicant with experience acquired prior to the effective date of these rules or from another state, the Board shall require that the applicant file notice of the experience according to 26 V.S.A. §2592(d).

The applicant for licensure also may file a notice with the Board after completing six months of survey work in the office of one or more licensed surveyors since the last notice. Each notice under this subsection shall be on forms supplied by the secretary of state and shall be signed by both the applicant and the supervising land surveyor. The applicant shall certify to the nature of the activities completed during that period. The supervisor shall certify that the report is correct to the best of his or her knowledge.

Experience claimed by an applicant under the notice to the Board shall be credited towards the requirements for licensure, unless within 30 days of receiving the notice, the Board gives the applicant notice of intent to reject the credit and an opportunity for a hearing. Following an opportunity for such a hearing, the Board may reject some or all of the claimed experience on grounds that it does not comply with this rule.

The Board strongly encourages the applicant to file a notice every six months so that the experience activities are recorded from recent memory and adequately present the progressive nature of the experience. In evaluating experience, the following will be considered:

1. Experience must be progressive on surveying projects to indicate that it is of increasing quality, complexity and requiring greater responsibility;
2. Only work of a land surveying nature is creditable;
3. Experience as a contractor in the execution of construction surveys or in supervising construction of such work may not be considered as creditable experience.

## **B. Experience Requirements**

The following items have been determined by the Board to be most relevant to the current practice of the surveying profession, although not all inclusive, and will be used as a measure of experience objectives and goals to be accomplished through work experience. Failure to list an item does not necessarily mean that it is not relevant or that it will not be creditable toward the experience requirements.

### **1. Research:**

A surveyor must have knowledge of legal principles and requirements applicable to surveying and land descriptions. A surveyor researches public and private land records (e.g., town clerks' land records and probate court records); federal, state, county, and municipal sources, and records of other surveyors in order to compile boundary evidence and to establish procedures and background information in accordance with prevailing and applicable professional standards and contract requirements. A surveyor must have knowledge of history of local land survey systems and practices and of sources of surveying records and information.

### **2. Reconnaissance:**

A surveyor must have knowledge of and ability to perform field reconnaissance techniques (e.g., parol evidence, questioning knowledgeable persons, use of physical characteristics of areas, and other means of locating markers or monuments). A surveyor performs field reconnaissance for rural and urban surveys in order to locate boundary evidence and to further establish procedures and background information in accordance with prevailing and applicable professional standards and contract requirements.

### **3. Measurement:**

A surveyor must have knowledge of and ability to perform basic survey measurement techniques (e.g., traverse, triangulation, trilateration, leveling, and error reduction techniques). A surveyor measures units of space, water, land, and structures (e.g., boundaries, areas, shapes, evaluations, directions, slopes, distances, angles, heights, locations, and alignments) using the equipment and hardware of the profession (e.g. chains, rules and tapes, electronic distance measuring equipment, total stations, transits, theodolites, compasses, levels, pins, plumb bobs, rods, and other automatic and semi-automatic positioning devices) in accordance with prevailing and applicable professional and regulatory standards.

#### 4. Calculation:

A surveyor must have knowledge of and ability to perform basic survey computational techniques (e.g., traverse, triangulation, leveling, angle and direction, geographic position, state plane coordinates, error adjustment, horizontal and vertical curve, area, mean sea and lake level computation). A surveyor must have knowledge of mathematics including algebra, plane and solid trigonometry, analytical geometry, and statistics.

#### 5. Evaluation and Verification:

A surveyor must have knowledge necessary to recognize and assemble pertinent information and the ability to draw conclusions, set priorities, and otherwise weigh relevant evidence. In order to locate boundaries, a surveyor must have the knowledge and ability to analyze measurement data using the equipment and hardware of the profession (e.g., calculators, preliminary maps and charts, drafting equipment, computer hardware and software, aerial photographs, United States Geological Survey and other source maps, supplementary field notes and records) in accordance with prevailing and applicable professional standards (e.g., federal, state, and local standards, the common law, statistical and mathematical adjustment theory, judgment of associates, professional literature; and other field research).

#### 6. Perpetuation:

A surveyor establishes monuments, verifies or locates monuments, corners, lines, witness points in accordance with available data in order to comply with contracts, other legal requirements, and to protect the public welfare and property. A surveyor monuments, re-monuments and marks property corners and lines to perpetuate their locations. A surveyor establishes permanent records in order to provide evidence for future surveys, satisfy legal requirements, and provide personal and public protection in accordance with prevailing and applicable professional standards.

A surveyor must have knowledge of and the ability to apply written communication techniques (e.g., writing legal descriptions, surveyors' reports, and field notes). A surveyor compiles final notes in order to comply with contract and other legal requirements including documents (e.g., plats, maps, descriptions, surveyor reports, job narratives, affidavits, photographs, and certifications) in accordance with prevailing and applicable professional standards and regulations.

A surveyor communicates with clients to establish the scope of survey services (e.g., boundary, topographic, title insurance, condominium, settlement, plat of subdivision, cemetery survey and plat, retracement, and location) in accordance with client requirements and prevailing and applicable professional standards using available data (e.g., maps, plats, photographs, land descriptions, abstracts, records, affidavits, and other legal documents).

### C. Specific Requirements

#### 1. Graduation and Examination

This pathway to licensing requires a four year surveying curriculum and two years experience. A year of experience means 48 weeks of 40 hours per week, distributed as follows:

	(Minimum Hours)	Total Hours
1. Research		400
2. Reconnaissance (including taking parol evidence)		400
a. Rural	(80)	
b. Urban	(80)	
3. Measurement		370
4. Calculation		240
5. Evaluation and Verification		640
a. Assembles	(160)	
b. Analyzes	(80)	
c. Concludes	(80)	
6. Perpetuation		
a. Monumentation		210
i. Corners	(60)	
ii. Lines	(60)	
b. Records		300
i. Field Notes	(50)	
ii. Plats	(100)	
iii. Descriptions	(25)	
iv. Reports	(25)	

7. Remaining Time - Other Land Surveying		1280
Experience from Sections 1-6		3840
	TOTAL	

N.B. No more than 30% of this time may come from any one area (1-6 above).

## **2. Education and Examination**

This pathway to licensing requires 30 credit hours in surveying and three years experience. A year of experience means 48 weeks of 40 hours per week, distributed as follows:

	(Minimum Hours)	Total Hours
1. Research		500
2. Reconnaissance (including taking parol evidence)		560
a. Rural	(100)	
b. Urban	(100)	
3. Measurement		660
4. Calculation		560
5. Evaluation and Verification		860
a. Assembles	(200)	
b. Analyzes	(100)	
c. Concludes	(100)	
6. Perpetuation		
a. Monumentation		230
i. Corners	(75)	
ii. Lines	(75)	
b. Records		490
i. Field Notes	(75)	
ii. Plats	(150)	
iii. Descriptions	(40)	
iv. Reports	(40)	
7. Remaining Time - Other Land Surveying		1900
Experience from Sections 1-6		5760
	TOTAL	

N.B. No more than 30% of this time may come from any one area (1-6 above).

## **3. Experience and Examination**

This pathway to licensing requires four years experience. A year of experience means 48 weeks of 40 hours per week, distributed as follows:

	(Minimum Hours)	Total Hours
1. Research		600
2. Reconnaissance (including taking parol evidence)		560
a. Rural	(110)	
b. Urban	(110)	
3. Measurement		960
4. Calculation		960
5. Evaluation and Verification		960
a. Assembles	(220)	
b. Analyzes	(110)	
c. Concludes	(100)	
6. Perpetuation		
a. Monumentation		330
i. Corners	(110)	
ii. Lines	(110)	
b. Records		730
i. Field Notes	(115)	
ii. Plats	(230)	
iii. Descriptions	(60)	
iv. Reports	(60)	

7. Remaining Time - Other Land Surveying		
Experience from Sections 1-6		2580
	TOTAL	7680

N.B. No more than 30% of this time may come from any one area (1-6 above).

## **2.8 Taking the Examination**

- (a) The Board offers examinations twice a year. These examination dates are set well in advance by the Board and can be obtained from the Office. Individuals taking the examinations are required to fill out the separate APPLICATION FOR EXAMINATION form and submit it to the Office, with the appropriate fee, by the deadline shown on the application. The Board will use NCEES exams whenever appropriate.
- (b) The applicant may sit for the examination after completing all but the final 12 months of the required internship.
- (c) The Board will send the applicant written notification stating the date, time, location, which part of the exam is being taken, and an examination identification number that admits the applicant to the exam. Applicants must bring a photo identification. The exam procedures and policies will be enclosed with the exam notification.
- (d) In the case where an individual has previously taken the NCEES exams out of state, the Board shall accept only the NCEES recommended passing score on the date on which the individual took the exam.

## **2.9 Examination Results and Notifications**

The Board mails the results of the exam to each candidate within 30 days after the Board receives results from NCEES. Since the examinations are designed to test for minimum competency and are not ranking exams, only a pass or fail notice will be given out. However, any failing candidate may review his or her exam by scheduling a time to review with the Secretary of State's Office.

## **2.10 Failure of Examination**

A candidate may apply to retake failed portions of the examination by submitting a new APPLICATION FOR EXAMINATION form and paying the required examination fee. A candidate may retake a failed portion as many times as he or she chooses. Portions of the exam previously passed do not need to be retaken.

## **2.11 Personal Interview**

The Board may ask the applicant to appear for a personal interview. One of the public members of the Board shall be present at any personal interview. A taped personal interview shall be for the limited purposes of verifying the applicant's educational and experience qualifications. The personal interview shall not serve as an oral examination of the applicant's substantive knowledge of surveying. An applicant who is denied licensure shall be informed in writing of his or her right to have the interview transcribed free of charge.

## **2.12 License Certificate and Seal**

The Board will issue a license to perform land surveying in Vermont to persons meeting the requirements as set forth in the Vermont statutes and these rules. The license should be displayed in the land surveyor's principal place of business or employment. Each land surveyor must have a seal of a character recommended and approved by the Board, as shown in Appendix A. A land surveyor may continue to use a seal which was approved under prior rules of the Board.

## **2.13 Notification of Intent to Deny an Application**

When the Board intends to deny an application, the applicant will be sent a written notice of that decision by



certified mail return receipt requested. The notice shall include specific reasons for the intended denial, and will inform the applicant of the right to petition the Board for review of the decision. The petition must be filed within 30 days after receipt of the notice. If the Board interviewed the applicant, the notice will explain how to request a transcript of the interview free of charge. The Board will schedule a hearing on the petition, at which the applicant will have the burden of demonstrating that a license should be issued. After the hearing, the Board shall affirm or reverse its preliminary denial.

#### **2.14 Temporary License**

A land surveyor licensed in another state or country may apply to the Board for a temporary license. The secretary will grant a temporary license if the applicant holds a current license from a jurisdiction whose requirements are at least comparable to Vermont's. A temporary license is valid for no more than 30 consecutive days in any calendar year.

#### **2.15 Right to Appeal**

An applicant dissatisfied with a final decision of the Board may appeal within 30 days after receiving notice to an appellate officer by sending a written notice to the Director of the Office.

### **Part 3. Information for Licensed Land Surveyors**

#### **3.1 Renewal of License**

A license must be renewed before it expires. The expiration date is stated on the license. Before the expiration date, the Office will mail a renewal application and notice of the fee due.

#### **3.2 Change of Name or Address**

All licensees are responsible for notifying the Office of a change in name or address. Lack of notification may result in a renewal notice not being received. Licensees are responsible for ensuring that a renewal application and fee are returned to the Office prior to license expiration.

#### **3.3 Expired licenses**

- a) If a license has been expired for a period of less than three years, the person seeking renewal must submit:
  - (1) A renewal application.
  - (2) The required fees.
  - (3) Verification of successful completion of one half of the required biennial professional development hours multiplied by the number of years the license has been expired.
  
- b) If a license has been expired for three or more years the person seeking reinstatement must submit the following:
  - (1) A reinstatement application.
  - (2) The required fees.
  - (3) A detailed narrative of any surveying experience gained during the time the license has been expired.
  - (4) Verification of successful completion of the Fundamentals of Land Surveying exam and the Principles and Practice of Land Surveying exam administered by The National Council of Examiners for Engineering and Surveying.
  - (5) Verification of successful completion of the Vermont Land Surveying examination. This exam must have been taken and successfully completed within six months of reinstatement application.
  - (6) Verification of successful completion of one half the required biennial professional development hours multiplied by the number of years the license has been expired.
  - (7) The Board may request a personal interview after review of the required submittals.
  
- c) Exceptions: The Board may, in individual cases involving hardship or extenuating circumstances, grant waivers

or extension of the renewal and reinstatement requirements. No waiver or extension shall be granted unless the applicant makes a written request to the Board stating the reason for such a request along with any relevant documentation.

### **3.4 Inactive Licenses**

- (a) A licensee who is not engaged in the practice of land surveying and does not renew shall be classified as inactive.
- (b) A licensee on inactive status shall not engage in the practice of land surveying or hold himself or herself out as being a licensed land surveyor. The practice of land surveying while on inactive status shall be cause for license revocation.
- (c) An inactive license may be reinstated to active status by following the requirements of 3.3(a) or (b).

### **3.5 Unprofessional Conduct**

(a) Under 26 V.S.A. §2598, the Board may refuse to issue, renew or reinstate a license or may suspend or revoke a license for the following reasons:

- (1) Fraudulent procuring or use of a license;
- (2) Occupational advertising which is intended or has a tendency to deceive the public;
- (3) Exercising undue influence on or taking advantage of a person using professional services, or promoting the sale of professional goods or services in a manner which exploits a person for the financial gain of the licensee or a third party;
- (4) Failing to comply with provisions of federal or state statutes or rules governing the profession; or
- (5) Conviction of a crime related to land surveying.

(b) The Board may discipline a licensee for engaging in the following conduct:

- (1) Willfully making or filing false professional reports or records, willfully impeding or obstructing the proper making or filing of professional reports or records, or willfully failing to file the proper professional report or record;
- (2) Gross negligence in the performance of job-related duties;
- (3) Practicing or offering to practice beyond the scope permitted by law;
- (4) Accepting and performing responsibilities which the licensee knows or has reason to know that he or she is not competent to perform;
- (5) Making any material misrepresentation with respect to the qualifications of or experience of an applicant or otherwise in the practice of the profession, whether by commission or omission;
- (6) Agreeing with any other person or organization, or subscribing to any code of ethics or organizational bylaws, when the intent or primary effect of that agreement, code or bylaw is to restrict or limit the flow of information concerning alleged or suspected unprofessional conduct to the Board.
- (7) Willfully acting, while serving as a Board member, in any way to contravene the provisions of Chapter 45 and thereby artificially restrict the entry of qualified persons into the profession;
- (8) Using the licensee's seal on documents prepared by others not in the licensee's direct employ, or use the seal of another.

## **Part 4. Complaint Procedure**

### **4.1 Complaint Procedure**

The Office maintains procedures for the investigation of complaints, holding hearings and taking disciplinary action. The Board follows that procedure, except in cases where these rules provide otherwise. See Appendix B of these Rules, or contact the Office for a copy of the procedures.

Effective date: January 1, 1996

## **Part 5. Standards for the Practice of Land Surveying**

### **5.1 Authority**

The Vermont Board of Land Surveyors. 26 VSA Section 2544

### **5.2 Purpose and Intent**

A. The purpose of these standards is to establish minimum procedural and technical criteria to govern the performance of land surveyors when more stringent standards are not required. Further, the purpose is to protect the inhabitants and property owners in this state from substandard or incompetent surveying, and generally to safeguard property and the public welfare.

B. These standards are also a guide for land surveyors in their daily practice and for intern surveyors working to enter the profession.

C. The intent of these standards is also to allow land surveyors flexibility in their surveying methods and the collection and interpretation of evidence necessary for boundary determination.

D. If possible, the land surveyor shall locate the corners and boundaries of the property under survey without subtracting from the rights of others. These standards are developed to satisfy that minimum result.

### **5.3 Definitions**

For the purpose of this part:

#### **A. Boundary**

A line of demarcation between adjoining properties and indicating the furthest extent of property.

#### **B. Corner**

A point on a boundary, at which two or more boundaries intersect.

#### **C. Document**

Any instrument which may be used as evidence. A document makes record of letters, figures, marks or any combination thereof. The term document shall be applied broadly to include writings and printed works, maps and plans, photographs and pictures, seals and plates. Documents include record evidence and may be found in a number of locations in addition to the municipal clerks' offices.

#### **D. Inconsistency**

An uncertainty; doubtfulness or a want of clearness and definiteness. Also an ambiguity or that being difficult to comprehend or distinguish. An inconsistency occurs when title to the same property is expressly conveyed to different parties, or when one party has title and another party has possession, or the documents and record evidence contain ambiguities or conflicting terms.

#### **E. Land Surveying**

As defined by 26 VSA Section 2502.

#### **F. Land Surveyor**

A licensed land surveyor, land surveyor or surveyor is any person with a legal right to be in responsible charge of a property survey in this state.

**G. Monument**

A physical structure, mark or object that serves to locate a corner or boundary. Permanence, durability and stability are implied.

**H. Positional Tolerance**

The maximum theoretical uncertainty (at the 95% confidence level) of a measurement between any two points included in a property survey. The positional tolerance allowed is expressed as a constant (base error) plus the indicated ratio (dependent error) applied to the measured distance.

**I. Property**

Property includes land, water, land under water, space, improvements and rights, and easements and servitudes attached thereto.

**J. Survey Abstract**

1. A chronological, condensed history of the title and other record evidence to property including, but not limited to, conveyances and documents which may control the location of the corners and the boundary lines of the property under survey.
2. A survey abstract includes the legal description(s) controlling the location of the corners and boundaries of the property under survey and the abutting properties.
3. A survey abstract includes pertinent documents related to easements or servitudes that may encumber or benefit the property under survey.
4. A survey abstract shall be sufficient, if possible, to enable the land surveyor to locate the corners and boundaries of the property under survey and to meet the requirements of these standards.

**5.4 Procedural Standards**

Whenever a land surveyor conducts a survey of property, the surveyor shall, at a minimum, perform the following:

**A. Research and Field Investigation:**

1. Prepare a abstract.
2. Examine, analyze and test consistency of the record evidence. Investigate and document inconsistencies and form preliminary conclusions as to the completeness of the record evidence.
3. Obtain and document from knowledgeable persons, if necessary, parol evidence which may control the location of the corners and the boundaries of the property under survey.
4. Search for monuments and physical evidence which control the location of the corners and the boundaries of the property under survey. Existing monumentation and physical evidence should not be removed or disturbed.
5. Record and completely describe in detail all physical evidence found or the lack of physical evidence. Descriptions shall include materials, size and shape, identifying marks or numbers, position and stability.
6. Make measurements to locate and perpetuate the location of pertinent physical evidence.
7. Record all measurements and pertinent information.

**B. Computations, Conclusions, Perpetuation and Publication of Results:**

1. Compute, check and compare field measurements and pertinent information with record evidence. The computations shall be consistent with the precision of the field measurements.
2. Investigate, document and, if possible, reconcile inconsistencies.

3. Make additional computations and analyses to determine the location of the corners and boundaries of the property under survey. The surveyor may compute the locations of new subdivision corners and boundaries where required. Legally defensible opinions shall be formed using the best available evidence according to Vermont boundary law.

4. A land surveyor who conducts a survey of property shall set monuments and marks when needed to adequately perpetuate the location of corners and boundaries of the property under survey.

### C. Results

1. When the land surveyor in responsible charge cannot prepare legally defensible opinions on the location of

a corner or boundary, the surveyor shall:

a. Search for and recover additional or missing evidence that will enable the surveyor to make legally defensible opinions on the boundaries; or

b. Issue a report detailing the inconsistency or conflict.

## 5.5 Technical Standards

Two measurement standards shall be concurrently effective upon adoption. Either the accuracy standard or precision standard may be used until December 31, 1997, at which time the precision standard shall expire.

### A. Survey Classes

1. Guidelines for selection of survey classes by land use.

Urban - Surveys of land lying within or adjoining a city or town. This includes the surveys of commercial and industrial properties. Condominiums, town houses, apartments and other multi-unit developments, regardless of geographic location.

Suburban - Surveys of land lying outside urban areas and used almost exclusively for single family residences or residential subdivisions.

Rural - Surveys of lands such as farms and other undeveloped land outside of suburban areas which may have a potential for future development.

Mountain or Marshlands - Surveys of lands which normally lie in remote areas with difficult terrain and usually have limited potential for development.

### B. Accuracy Measurements

1. The degree of accuracy of the survey measurements (horizontal and vertical) is determined by the surveyor, or agreed to by the surveyor.

The minimum positional tolerance of any point on the subject boundary is;

<u>Urban</u>	<u>Suburban</u>	<u>Rural</u>	<u>Mountain/Marshlands</u>
0.03 ft	0.05 ft	0.25 ft	1.0 ft
plus	plus	plus	plus
1:10000	1:5000	1:5000	1:500

2. The surveyor shall select and employ proper field procedures, instrumentation and personnel to achieve accuracies selected as appropriate.

### C. Precision Measurements

1. The degree of precision of survey measurements (horizontal and vertical) is determined by the surveyor, or agreed to by the surveyor.

Minimum traverse precision ratio after angles are balanced and closure is calculated;

<u>Urban</u>	<u>Suburban</u>	<u>Rural</u>	<u>Mountain/Marshlands</u>
1:10000	1:10000	1:5000	1:500

2. The surveyor shall select and employ proper field procedures, instrumentation and personnel to achieve the precision ratio selected as appropriate.

## **2. Survey Plats**

A land surveyor who conducts a survey shall, when requested by the client, prepare a plat showing the results of the survey and shall furnish a copy to the client. The plat shall be prepared in accordance with the latest adopted version of 27 VSA 1403(b)(2)-(8) Filing of Survey Plats and shall also include the following information:

1. A description of natural and artificial monuments, and noted as found or set. Descriptions shall include materials, size and shape, identifying marks or numbers, position and stability. Cylindrical sizes shall be reported as inside or outside diameter. Position reported shall include the distance above or below ground.
2. A delineation of inconsistencies between the survey and the record description and the source of information used as the basis of the survey.
3. The name and deed references of the title holder and the adjoining parties at the time of survey.
4. Visible encroachments onto or from adjoining property or streets and the extent of such encroachments.
5. Public and private rights-of-way, easements and/or servitudes which are known or observed that encumber or benefit the land surveyed.
6. Sufficient boundary survey data to provide a closed geometric figure.
7. Inscriptions noting the specific evidence used to locate the corners and land boundaries.

## **C. Monuments**

1. Monuments shall be durable and stable.
2. Monumentation set shall be identified with the license number of the surveyor in responsible charge.
3. Monuments set replacing inadequate monuments shall conform to this standard, be documented, and the document be recorded in the public land records.

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Adopted Rule Number 99 P15

## **Part 6. Continuing Education**

### **6.0 General Provisions**

In accordance with 26 V.S.A. Chapter 45, all licensees are required to fulfill certain minimum continuing educational requirements as defined herein.

### **6.1 Definitions**

- (a) "Continuing Education" - Any educational activity that reinforces, maintains or adds to the skills, knowledge and ability required by a land surveyor to adequately practice land surveying and to maintain minimum competency.
- (b) "Professional Development Hour" (PDH) - not less than 50 minutes of approved continuing education. The common denominator for other units of credit.
- (c) "Sponsor" - An individual, organization, association, institution or other entity which provides an educational activity for the purpose of this rule.

### **6.2 Requirements**

- (a) For the renewal period beginning October 1, 1996, as a condition of license renewal for the practice of land surveying, all licensees must complete and document 10 PDH of continuing education within the preceding biennium.
- (b) For the renewal periods beginning October 1, 1998, and thereafter, as a condition of license renewal for the practice of land surveying, all licensees must complete and document 20 PDH of continuing education within the preceding biennium.
- (c) If a licensee exceeds the biennial requirement in any renewal period, a maximum of one-half the required PDH may be carried forward into the next renewal period.

### **6.3 Acceptable Units of Credits**

- (a) Professional Development Hours shall be credited for successful completion of Board approved educational activities as follows:

Educational Activity - 1 PDH of credit for each 50 minutes of attendance.

College or equivalent continuing education courses which are awarded continuing educational units (CEU) - 10 PDH for each CEU.

College Courses - 45 PDH for each college semester credit hour. 30 PDH for each college quarter credit hour.

- (b) Professional Development Hour: Credits for other types of educational activities will be considered by the Board when written requests are submitted to the Board in accordance with Section 6.9 or 6.10. The Board has final authority with respect to approval of courses, PDH value, and credit for courses and other methods of earning credit.

### **6.4 Acceptable Educational Activities**

- (a) All courses, presentations, instruction, and other educational activities described in Section 6.3 above must be relevant to the practice of land surveying and must meet the following criteria:

1)Have a clear purpose and objective for each educational activity which will improve or expand skills and knowledge obtained prior to initial licensure or to develop new and relevant skills.

2)Contribute meaningfully to the licensee's ability to better serve and meet the needs of the general public.

3)Be planned, well organized and presented in a sequential manner.

4)Engage presenters who are well qualified by education or experience or both and, if applicable, include the opportunity for active participation by the attendees.

5)Include a procedure for controlling and verifying attendance.

- (b) Acceptable educational activities shall be at least 50 minutes in duration.
- (c) PDH credit shall be given only for satisfactory completion of an educational activity in its entirety.

### **6.5 Reports and Records**

- (a) With each biennial renewal, the licensee will be required to complete and submit a continuing education form supplied by the Board. Incomplete continuing education forms will be returned to the licensee.

- (b) Each licensee is responsible for acquiring and maintaining the necessary documents and records to support credits claimed. Records must be maintained for a period of four years after the biennial report on which the credits were claimed, and must be available to the Board for audit if requested.

### **6.6 Audits**

(a) Each biennium, the Board shall audit no fewer than ten percent (10%) of the licensees applying for renewal. The audit list shall be selected at random.

(b) When a licensee appears on the audit list, the Board shall request documentation from the licensee showing a detailed account of the various credits claimed. The Board shall review the documentation and determine if continuing education requirements have been satisfied.

## **6.7 Noncompliance**

(a) Following each audit, the Board shall send a notice to each noncomplying licensee explaining the nature of the noncompliance. Upon receiving a notice of noncompliance, the licensee must respond within 15 days by:

(1) Filing documentation demonstrating compliance; or

(2) Filing a make-up plan as described in b) below; or

(3) Filing a written answer to the Board's notice of noncompliance, denying each specific item contained in the notice.

b)(1) Documentation demonstrating compliance will be treated in the same way as similar documentation filed before a notice of noncompliance.

(2) Make-up plans must contain a specific plan for correcting the licensee's noncompliance within 180 days from the date of filing. The plan shall be deemed accepted by the Board unless within 30 days after its receipt the Board notifies the licensee to the contrary. The licensee shall report full completion of the plan to the Board within 15 days following the 180-day period.

(3) If the licensee files an answer that does not admit noncompliance, the Board shall promptly schedule a hearing on the issue of compliance, and send the licensee notice of the date, time and place of the hearing at least 14 days in advance. At the hearing, the licensee shall have the burden of establishing compliance.

(c) If the Board determines that the licensee is not in compliance with the continuing education requirement, the active status of the license involved shall terminate, and the license shall be treated for all purposes as expired.

## **6.8 Exceptions**

(a) Land surveyors whose initial license was issued more than 12 months before the next renewal date shall be required to obtain one-half the required PDH for that biennium.

(b) Land surveyors whose initial license was issued within 12 months of the next renewal date shall not be required to meet the continuing education requirement for that biennium.

## **6.9 Pre-Approval of Educational Activity**

(a) If a sponsor or licensee desires to have an educational activity considered for pre-approval, a written request for pre-approval shall be submitted to the Board at least 45 days prior to the desired effective date of approval. The written request for pre-approval shall be submitted on application forms furnished by or in a format prescribed by the Board. Failure to meet the prescribed due date for submission may result in delayed consideration of the request for pre-approval.

(b) The application shall include, but not be limited to;

1) The name and address of the sponsor and the licensee, if applicable

2) The title or name of the educational activity and the date and location.

3) A list of presenters and their qualifications.

4) A description of the educational activity program content and proposed length of presentation.



5) A synopsis of materials.

(c) Immediately after the Board has reviewed and acted upon a written request for pre-approval, the Board shall advise the sponsor or licensee, in writing, of approval or denial of the application. If approval is granted, the Board shall assign a maximum number of PDH that may be credited for successful completion of the educational activity.

(d) Once an educational activity has been submitted to the Board for approval, any changes, including those in format, instructors or content, shall be promptly reported to the Board in writing. Changes must be reviewed and approved by the Board.

(e) A sponsor who has obtained approval for an educational activity may represent to the licensees that the Board has approved a certain number of PDH credits for completion of the activity. Only the following reference to Board approval may be stated: "This educational activity has been approved by the Vermont Board of Land Surveyors for \_\_\_ PDH of continuing education credit."

(f) A sponsor shall in no way represent to licensees that the Board has endorsed, recommended or encouraged enrollment in the educational activity.

(g) A sponsor of a pre-approved educational activity shall furnish each licensee who successfully completes the entire program with a Certificate of Completion or some form of documentation as evidence of satisfactory completion.

(h) Forty-five days after the Board has received a completed request for pre-approval, the program will be deemed approved unless the Board notifies the sponsor that (1) the application is incomplete or (2) the program is disapproved.

#### **6.10 Approval of Educational Activity**

(a) When pre-approval was not obtained or applied for, a sponsor or licensee may request, in writing, approval of PDH credit for an educational activity which has already transpired. The request and response from the Board shall conform to the procedures in Section 6.9.

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