

CHAIRMAN
Robert N. McCoy
P. O. Box 133
Menongah, WV 26554

SECRETARY
Charles W. Stultz
34 West Main Street
Romney, WV 26757

WEST VIRGINIA
STATE BOARD OF EXAMINERS OF LAND SURVEYORS

34 West Main Street
Romney, West Virginia 26757
Phone: (304) 822-4090



TO: SECRETARY OF STATE

NOTICE OF RULE MODIFICATION

LEGISLATIVE RULE: Rules and Regulations for the practice of land surveying in West Virginia.

The above titled rule has been modified as a result of comments by the Legislative Rule-Making Review Committee and the attached modifications have been incorporated into the above titled rule and filed in the Secretary of State's office on November 8, 1985.

WEST VIRGINIA STATE BOARD
OF EXAMINERS OF LAND SURVEYORS


Charles W. W. Stultz
Secretary of the Board

FILED

NOV 12 AM 8 48

WEST VIRGINIA ADMINISTRATIVE REGULATIONS
State Board of Examiners of Land Surveyors
CHAPTER 30-13A
SERIES I, (1969) AS AMENDED

TITLE: RULES AND REGULATIONS FOR THE PRACTICE OF LAND SURVEYING IN W.VA.

Section 1. General

1.1 Statutory Authority - These Rules and Regulations are promulgated by the State Board of Examiners of Land Surveyors under authority of Chapter 30, Article 13A, Section 4(a) of the West Virginia Code.

1.2 Temporary Board Office - 34 West Main Street, Romney, West Virginia.

1.3 Filing Date - These rules and regulations were filed in the office of the Secretary of State on the 4th day of June 1976, the 23rd day of February 1981. and the 12th day of January, 1984.

1.4 Effective Date: 1st. day of July, 1985.

Section 2. General Purpose

2.1 These Rules and Regulations with the Minimum Standards of Practice for the performance of Boundary Surveys are promulgated for the purpose of administration and enforcement of Chapter 30, Article 13A of the West Virginia Code.

Section 3. Satisfactory Records

3.1 Satisfactory Records, shall include plats, deeds, and descriptions of surveys, certificates or reports of surveys, field notes, calculations for latitude, departure, coordinates, area, variation, observation for true meridian and other related records related to the survey work performed.

Section 4. Experience

4.1 The Board will consider adequate experience under a supervisor to include the subjects in Section 6 of these Rules and Regulations: satisfactory or approved experience as diversified practical training in land surveying as defined in Section Two, Article Thirteen-a, Chapter Thirty of the Code of West Virginia under the direct supervision of a licensed land surveyor, such experience shall be acquired in positions of responsibility requiring exercising of independent judgment, initiative, and professional skill. Approved experience shall not include positions of routine work such as chainman or rodman.

Section 5. Examinations

5.1 The content of examinations will be taken from the subjects in Section 6 of these Rules and Regulations.

Section 6. Accredited Surveying Curricula

6.1 The Board will be guided in accrediting survey curricula by the extent to which the following subjects are included in said curricula:

6.2 At least two years instruction are required to cover the subject of land surveying, with at least 60 semester credit hours. The curricula should cover the following subjects:

6.3 Mathematics to meet land survey needs, including arithmetic, algebra, plane geometry, trigonometry, functions and formulas, logarithms, triangulation, square roots, latitudes, departures, coordinates, curves, area, significant figures, accuracy, precision, theory and probability and kinds of errors, elementary data and statistical analysis, interpolations, omitted measurements, drainage calculations, and partitioning. Sufficient to The above subjects should supplement high school deficiencies curricula.

~~6.4~~ 6.3 English, spelling, grammar, writing, speaking, and typing, sufficient to supplement high school deficiencies.

~~6.5~~ 6.4 Ethics and public relations for surveyor. Responsibilities to the public, clients, adjoiners, and to the profession.

~~6.6~~ 6.5 Legal and historical aspects of surveying. Records of ownership and transfer of title, controlling elements, adverse possession, ejectment, seniority, resurveys, surplus and deficiency, riparian rights, meander lines, metes and bounds surveys, U.S. Public Land survey system, laws, ordinances, and rules for surveys and subdivisions, liability for trespass, witnessing in court, handling of disputes, boundary line agreements, authority of surveys.

~~6.7~~ 6.6 Preliminary procedures. Record sources, searches, abstracts, platting, detection and adjustment of errors, ground evidence.

~~6.8~~ 6.7 Survey equipment capabilities, use and care. Compass, transit, theolodite, electronic devices, clinometer, stadia, plane table, level, tapes, rods, plumb bob, verniers, notebooks, and small tools.

~~6.9~~ 6.8 Field methods. Rural lands, city lots, subdivisions, underground, oil and gas well, surface mines, rights-of-way, title insurance surveys, hydrographic, topography, Public lands, field notes, precisions, accuracies, bypassing obstacles, route and construction surveying.

~~6.10~~ 6.9 Plotting, drafting, mapping. Equipment, methods, material, scales, sheet sizes, recordability, conventional symbols.

~~6.11~~ 6.10 Calculations. Latitude, departure, DMD's, coordinates, areas, curves, inversing and intersections. Balancing latitudes and departures, errors of closure. Calculating equipment.

~~6.12~~ 6.11 Reports. Descriptions, certificates, reports. Distribution and recordability.

6-13 6.12 Meridian observations. On Sun and Polaris for true north, including magnetic declination and variation. Declination and variation of the magnetic needle:

6-14 6.13 Monumentation. Markers for corners and references; marking of lines.

6-15 6.14 Photogrammetry. Use and interpretation of aerial photos for locating corners, possession lines, distances. Stereoscopes; distortion.

6-16 6.15 Miscellaneous. Tree and wood identification, geology, paeing-
and hydrology.

6-17 6.16 Field work. A four week program curriculum covering rural, city lot, and underground surveys: surveying and Meridian observations. Also included will be curves and construction stake out including route survey procedures. Meridian observations, needle declination and variations.

Section 7. Unethical Practices

7.1 Signing or affixing a seal to any document prepared by persons who are not employees or who are not under supervision of the licensees as defined in Chapter 30, Article 13A, Section 5 of the West Virginia Code.

7.2 Accepting, paying, or offering to pay, either directly or indirectly, any gift, bribe, or other consideration to make an improper survey.

7.3 Associating with any survey project known by the licensee to be fraudulent or, dishonest in character, or unlawful.

7.4 Failing to exercise due regard for the safety of persons under supervision of the licensee.

7.5 Violating, aiding or abetting any person in the violation of any provision of the West Virginia Code related to the practice of land surveying or any of the Rules and Regulations promulgated by the Board.

7.6 Injuring or attempting to injure, falsely or maliciously, directly or indirectly, the reputation or business of another surveyor.

7.7 Reviewing the work of another land surveyor for the same client, except with the knowledge of such surveyor, or unless the connection of such surveyor with the work has been terminated.

7.8 Calling, naming, describing, designating or otherwise alleging that any service performed by a licensed land surveyor or any person under the supervision of said surveyor, is a survey, land survey, mortgage survey, loan survey, title insurance survey or similar wording, unless the service is performed in accord with the provisions of Article 13A of Chapter 30 of the Code of West Virginia or the regulations promulgated thereunder. If the work is described as a mortgage inspection or similar title, state in the title block or other visible place that "This is not a land survey".

7.9 Signing, sealing or approving plats, descriptions or reports that are not in accord with Article 13A of Chapter 30 of the Code of West Virginia or any reasonable rule or regulation promulgated by the board; nor or any document(s) that were not prepared under the supervision of the person responsible.

7.10 Failing to respond within 30 days to written communications from the board and to make available any records relevant to any inquiry or complaint about the licensee's professional conduct. The 30-day period shall begin on the date when such communication was sent by the board by certified mail with return receipt requested to the last known address of the surveyor.

7.11 Advertising that is false, fraudulent, deceptive, misleading or unlawful.

7.12 Accepting and undertaking to perform land survey services which the surveyor is not competent to perform.

7.13 Failing to give adequate supervision to subordinates:

Section 8. Field and Office Techniques

8.1 The surveyor shall use the proper equipment, methods, and precisions for the job to be done in the field and office.

8.2 8.1 The surveyor shall examine, to a reasonable limit, all land records and field survey data essential to performing the work, including establishing property lines. All laps, gaps, seniority, and errors must be considered. The surveyor shall study and give due weight to descriptions and other evidence for all properties adjoining or affecting the survey. Records of such evidence shall be kept on file.

8.3 8.2 Inform adjoining of survey plans, progress and results as fully as whenever possible.

8.3a Land Records Research Procedures:

The land surveyor shall search the land records for the proper description of the land to surveyed and obtain the description of adjoining land as it pertains to the common boundaries. The land surveyor shall have the additional responsibility to utilize any other available data pertinent to the survey being performed from any other source that is known to him/her. Evidence found, from all sources, shall be carefully compared with that located and found by field survey in order to establish the correct boundaries of the land being surveyed. It is not the intent of this rule to require the land surveyor to research the question of title or encumbrances of the land involved.

8.3b Minimum Field Procedures:

(1) Angular Measurement:

Angle measurements made for traverse or boundary survey lines will be made by using a properly adjusted instrument which allows a direct reading to a minimum accuracy of one minute (1') of arc or metric equivalent. The number of angles turned at a given station or corner will be the number which, in the judgement of the land surveyor, 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 of boundary surveys shall be made with tapes which have been checked and are properly calibrated during manufacture and include incremental distances, or with properly calibrated electronic distance measuring equipment. All linear measurements shall be reduced to the horizontal plane and other necessary corrections performed before using for computing purposes.

8-4 Consider proper calculations for magnetic variation when retracing lines that have been surveyed before.

8-5 Express final line distance in horizontal terms; if necessary to show surface distances, put in parenthesis, and include the word "surface".

8-6 8.4 Bearings of new subdivision lot lines shall be from the true (astronomic) meridian. Bearings of other surveys may be from magnetic or true, but if true, it shall be so stated on the plat and in the description. Grid north of the West Virginia Coordinate System may be shown on plats. It is essential that the meridian reference used identifies the date and year.

8-7 New or re-established markers shall be of the most permanent type practicable; and shall be selected or installed so as to be most easily found in future years. Monuments shall be adequately marked, referenced and described. As a minimum, at least one corner shall be referenced to three of the most permanent objects available. No wood stakes shall be left as permanent property markers. In subdivisions, two stone or concrete monuments, not less than 24" long by 6" square or in diameter at the top, with proper centers, shall be set in each block so that all street lines can be re-established; in addition, iron pipes or equally good markers shall be set at all other outside points of angles, curves and tangents and at any staked lot corners.

8-8 Property lines shall be marked whenever possible. In wooded areas, by two hacks facing each side of the line within general reach of the person who marks. In open areas, markers or monuments should be intervisible.

8-9 Error of closed traverses shall be calculated by latitude and departure or by coordinates, unless errors can be determined visually by plotting or by inspection.

8-10 Areas of closed traverses shall be calculated by two methods:

8-10a Either triangles or planimeter; and

8-10b Double meridian distances or coordinates, unless, as in the case of regularly shaped areas, it can be found by other calculations.

8-11 Plats should be clear, show the results of the work, and be suitable for recording and photocopying. Boundary lines of the property surveyed shall be solid and heavier than tie lines, which shall be solid or dashed, but lighter and narrower.

8.12 Guides for the accuracy of surveys to be striven for are:

CLASS	ERROR OF CLOSURE	THEORETHICAL UNCERTAINTY	
		Foot	mm
Rural	1:1500	1.00	300
City lot	1:5000	0.10	30
Underground	1:5000	0.10	30
Subdivision (urban)	1:7500	0.10	30
Commercial	1:10000	0.05	15

PRECISION OF MEASUREMENT

CLASS	BEARINGS	DISTANCES		VERTICAL ANGLES
		Foot	mm	
Rural	5'	0.20	60	15'
City lot	1'	0.01	3	05'
Underground	1/2'	0.01	3	02'
Subdivision (urban)	1/2'	0.01	3	02'
Commercial	1/2'	0.01	3	01'

8.5 The maximum permissible error of closure for a field traverse in connection with a boundary survey located in a rural area shall be one (1) foot in five thousand (5,000) feet or metric equivalent of perimeter length. The attendant angular closure shall be that which will sustain the 1/5,000 foot closure. The maximum permissible error of closure for a traverse in connection with a boundary survey located in an urban area shall be one (1) foot in ten thousand (10,000) feet or metric equivalent of perimeter length. The attendant angular closure shall be that which will sustain the 1/10,000 foot closure.

8:13 8.6 Oil and gas well location surveys shall comply with Chapter 22, Article 4, Section 2 of the West Virginia Code of the Rules and Regulations promulgated thereunder.

8.7 The computation of field work data shall be accomplished by using 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 boundary of the land involved.

8.8 The following information shall be shown on all plats and/or maps used to depict the results of the boundary survey:

8.8a The title of the boundary plat shall identify the land surveyed and show the district and county or city in which the land is located. A caption or heading stating: "Plat of Survey of (or for) ... or some similar wording. Data of plat and revisions, name, address, signature, and seal of the surveyor in charge. Certificates that may be required. The name of any surveyor-in-training in charge of the work and the licensee responsible for supervision of the survey work."

8.8b The owner's name and deed book referenced where the acquisition was recorded.

8.8c Names of all adjacent owners, including their deed book and page number and/or subdivision lot designations.

8.8d Names of highways and roads with route numbers, railroads, streams adjoining or running through the land, and other prominent or well-known objects or areas which are informative as to the location of the boundary survey.

8.8e Bearings of all property lines to nearest one minute (01') or a metric equivalent.

8.8f Distances of all property lines to nearest one tenth (0.1) of a foot or metric equivalent.

8.8g Area to the nearest hundredth (.01) of an acre or metric equivalent for rural located surveys.

8.8h North arrow and source of meridian used for the survey.

8.8i On interior surveys a reference distance and bearing to at least two property corners of the parent tract.

8.8j Tax map designation and parcel number if available.

8.8k Indication and description of each monument found and each monument set by the land surveyor during the survey work performed.

8.8l The certificate required by these regulations that has been signed, dated and sealed by the land surveyor performing the survey.

8.8m In all cases any overlaps, encroachments or gaps shall be shown.

8.8n A statement that the boundary survey shown is based on a current field survey; or that the land boundaries shown on the plat are the result of a compilation from deed and/or plats by others.

8.9a Monumentation: Property Boundaries. Each boundary survey of a tract or parcel of land shall be monumented at all corners. Where it is not feasible to set actual corners appropriate reference corners shall be set preferably on line and the location of each shall be shown on the plat or map of the boundary. All reference corners shall show location by bearing and distance to the property corner. When a property line passes through a wooded area "line trees" may be blazed or other trees within three feet of the property line may be marked by two hacks facing the line. Permission of adjoining owners should be

obtained prior to the marking of trees located on the adjoining property.

However, if the property line is already marked by fences or other definite structures additional marking is not required.

8.9b Subdivision surveys shall be monumented in accordance with all federal, state and local laws, rules and regulations.

8.9c Monumentation of property corners for new subdivisions shall include as a minimum the following:

8.9c.1 Two permanent monuments for each subdivision or sections thereof which comply with the following criteria:

8.9c.1a Field or cut stone having a nominal diameter of 6 inches with center marking chiseled into the face.

8.9c.1b Precast or cast-in place concrete monument with a nominal diameter of 6 inches containing a metallic rod or other appropriate indicator of the center point clearly visible in the face.

8.9c.1c Non-ferrous metallic monument having a minimum diameter of 2 inches over the total length of the monument and the exposed face clearly stamped or cast with an appropriate center marking.

8.9c.1d All permanent monuments shall have a minimum length below ground level of 24 inches.

8.9c.2 All other property corners within the subdivision shall meet the requirements for monumentation as specified in Section 8.9a of these rules and regulations as appropriate.

Section 9 Plats: Plats Shall Contain The Following Data:

9-1 State, County, and District where the land is located: If applicable, the City, Subdivision, Addition, Block, and Lot Number.

9:2 Deed Book; plat book; page number or other place where the deed, plat or other instrument covering the land; is recorded or found:

9:3 Names of adjoining owners with lot numbers; deed book and page numbers or other place where their deed, plat or other instrument is recorded or found:

9:4 Overlaps; encroachments or gaps:

9:5 Type of markers at corners; and if artificial, whether found (fd) or set. Reference markers optional provided they are in the description. For rural surveys; show bearing and distance ties to at least two parent tract corners or significant adjoining corners. For city lots; show bearing and distance to original markers in the block or to edge of three nearest streets; including half or full street width dimensions; and to other significant property markers. For subdivisions; in addition to those described above; show ties to at least two markers of any adjoining subdivisions and to any public triangulation stations in the vicinity:

9:6 For rural and subdivision surveys; show the magnetic and true (astronomic) north arrows; the amount and direction of the declination as of the year of survey and for the instrument used for the survey; and the location where the instrument declination was read. Said location shall be described so a future surveyor may go to that spot and read the declination on the instrument and thus calculate the variation that has occurred since the original or former survey. Arrows on rural and subdivision plats shall be platted within 1/2 degree of accuracy:

9.7 Bearings, distances, curve data (central angle, radius, arc and chord) and other measurements shall be shown with an accuracy consistent with the field equipment, methods and precision employed. Show comparative conflicting data if significant, in parenthesis or other way. Enough dimensions shall be shown to enable all omitted dimensions to be determined by inspection or calculation.

9.8 Bearings shall be clockwise if practicable.

9.9 Scale of the plat showing inch first and its equivalent last.

9.10 Area of the entire tract and of any significant parts. Total subdivision area shall include streets, alleys, and other non-lotted space. Accuracy of area figures shall be consistent with field methods employed.

9.11 Significant cultural, topographical or other relevant features. These may include buildings, utility facilities, pipelines, easements, fences, walls, driveways, watercourses, certificates with prescribed wording, etc.

9.12 Sheet and parcel number of tax map for the tract surveyed or of the parent tract whenever practicable.

9.13 On rural and subdivision plats, show general location of survey by (1) an insert sketch, or (2) by an arrow and approximate mileage to a landmark, or (3) by latitude and longitude of a specific corner by seating from a $7 \frac{1}{2}^{\circ}$ quadrangle to the nearest 2 or 3 seconds. City lots are located from three nearest streets.

9.14 Month and year of survey. Show day if desirable.

9-15 A caption of heading stating: "Plat of Survey of (or for) ??? " or some similar wording. Date of plat and revisions; name; address; signature; and seal of the surveyor in charge. Certificates that may be required. The name of any surveyor in training in charge of the work under supervision of the licensee may be shown.

9-16 Comply with metric measurement requirements.

Section 10 9. Description of Property Boundary Line Surveys

10-1 9.1 The preamble shall contain the District, County, and State where the land is located, and if practicable, the watershed and location in relation to a well-known landmark.

10-2 9.2 The body of the description shall contain: type; size and markings of monuments, and whether found or set; type, size, bearing and distance to reference markers; bearing and length of lines; names of present or former adjoiningers at corners or along lines; the point on lines where significant markers or features are located; acreage; name of surveyor in charge; date of survey; and a reference to the accompanying plat. If bearings are from true (astronomic) meridian, it should be so stated. Show calls in tabular form, starting each new paragraph with the bearing.

10-3 9.3 The closing or "being" clause should contain data relating to the legal source of title to the land, or the land of which it is a part, such as the name of the grantor and grantee, date of deed, book and page number in the proper County Clerk's Office or other location.

Section 11 10. Description of Other Surveys

11-1 10.1 Description of other surveys shall conform to the requirements of the work.

Section 12 11. Certificate or Report of Survey

11.1 The surveyor shall furnish to the client or employer, plats and descriptions of the work performed; along with and may provide a certificate or report stating that he has made the survey, plat and description, giving the date surveyed, and describing all unusual circumstances, including the weight given to conflicting evidence; any encroachments; overlaps or gaps and how they were resolved; names of adjoiningers contacted and the information they supplied; the distribution of plats, descriptions, and reports; and the date of the certificate, and the signature, address and seal of the surveyor.

11.2 A minimum certificate of the survey shall be furnished to the client or employer by plat of survey including the following certification: I CERTIFY THAT THIS PLAT OF SURVEY REFLECTS THE BOUNDARY OF THE PROPERTY, BASED ON DEED OF RECORD AND/OR OTHER EVIDENCE AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND COMPLIES WITH ALL LAWS, RULES AND REGULATIONS GOVERNING THE PRACTICE OF LAND SURVEYING IN THE STATE OF WEST VIRGINIA.

Section 13 12. Underground Surveys and Maps

13.1 12.1 Underground surveys and maps shall comply with the requirements in Chapter 22, Article 2, Section 1 of the West Virginia Code.

Section 14 Competency

14.1 Competency in the practice of land surveying includes; but is not limited to; compliance with the provisions of Section 8; 9; 10; 11; 12 and 13 of these Rules and Regulations.

Section 13. Suspension or Revocation of License to Practice Land Surveying.

13.1 Upon a finding by the board that a person holding a license to practice land surveying has been incompetent, grossly negligent, or guilty of fraud, deceit or other misconduct in the practice of land surveying as defined by these rules and regulations, the board shall suspend or revoke such person's license. Whether one or more violations of these rules and regulations constitutes a basis for suspension or revocation shall be a question of fact to be determined in each particular case.

13.2 As used in these rules and regulations:

"Incompetent" means lacking in ability, legal qualification, or fitness to discharge a required duty.

"Grossly negligent" means intentionally failing to perform a manifest duty in reckless disregard of the consequences as affecting the life or property of another; such a gross want of care and regard for the rights of others as to justify the presumption of wilfulness and wantonness."

Section ~~15~~ 14. License by Comity

~~15.1~~ 14.1 The Board recognizes the principle of comity with other states and countries, and ~~will~~ may honor the ~~acts~~ actions of licensing agencies in those jurisdictions, provided said acts are at least equivalent to the requirements set forth in these Rules and Regulations.

Section ~~16~~ 15. Compensation and Expenses of the Board

~~16.1~~ 15.1 The Board hereby sets a rate of ~~\$4.00~~ \$6.00 per hour for the time of its members while performing official work ~~of~~ for the Board.

~~16.2~~ 15.2 The Board hereby sets a rate established by the Governor for the use of its personal vehicles in official travel of Board members.

FILED OF ADMINISTRATIVE REGULATIONS

References are to Sections in W. Va. Adm.

Reg. 30-13A Series I

Accredited survey curricula, 6	Experience, 4
Authority for rules, 1-1	Field Techniques, 8
Certificate of survey, 12	Office, location of, 1-2
Comity, 15	Office techniques, 8
Compensation of Board, 16	Plats, 9, 13
Competency, 14	Reciprocity, 15
Curricula, accredited survey, 6	Records, satisfactory, 3
Description of survey, 10, 11	Reports of survey, 12
Ethics, 7	Techniques, field and office, 8
Examination, 5	Underground surveys and plats, 13
Expenses of Board, 16	Unethical practices, 7

WEST VIRGINIA ADMINISTRATIVE REGULATIONS
State Board of Examiners of Land Surveyors
CHAPTER 30-13A
SERIES I, (1969) AS AMENDED

Title: Rules and Regulations for the Practice of Land Surveying in W.Va.

Section 1. General

2. General Purpose
3. Satisfactory Records
4. Experience
5. Examination
6. Accredited Surveying Curricula
7. Unethical Practices
8. Field and Office Techniques
9. Description of Property Boundary Line Surveys
10. Description of Other Surveys
11. Certificate or Report of Survey
12. Underground Surveys and Maps
13. Suspension or Revocation of License to Practice Land Surveying
14. License by Comity
15. Compensation and Expenses of the Board