PROPOSED NEW STANDARDS OF PRACTICE – DRAFT APPROVED BY BOARD 7/16/10

201 KAR 18:150. Standards of practice.
RELATES TO: KRS 322.290(1)(a). (2)(f)
STATUTORY AUTHORITY: KRS 322.290(2)(f)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 322.290(1)(a) authorizes the board to administer KRS Chapter 322. KRS 322.290(2)(f) requires the board to establish standards of practice. This administrative regulation establishes standards of practice for professional land surveyors in Kentucky.

Section 1. Definitions.

(1) "Boundary" means the perimeter of a parcel or tract of land.

(2) "Boundary survey" means a survey to:

(a) determine either the entire perimeter of a parcel or tract of land, or a portion of the perimeter of a parcel or tract of land; or

(b) establish or reestablish a parcel or tract of land's corner or monument; or

(c) divide or consolidate the parcels or tracts of land surveyed.

(3) "Completion Date of Survey" means the last date when all the monuments were either found or set for the plat of survey area.

(4) "Corner" means a point that designates a change in the direction of the boundary.

(5) "Field work" means that work performed by a land surveyor on the ground in connection with the parcel or tract being surveyed.

(6) "GIS" means Geographic Information System and is any system that captures, stores, analyzes, manages, and presents data

that are linked to a land location and is the merging of cartography and database technology.

(7) "GNSS" means Global Navigation Satellite Systems. The standard generic term for satellite navigation systems that provide autonomous geo-spatial positioning with global coverage.

(8) "GPS" means the United States NAVSTAR Global Positioning System, a space-based global navigation satellite system that when used in conjunction with suitable GPS receivers and processing software, provides reliable location information to the level of precision specified in this administrative regulation, in all weather and at all times and anywhere on the earth where there is an unobstructed line of sight to four or more GPS satellites. It is maintained by the United States government and is freely accessible by anyone with a GPS receiver.

(9) "Meander point" means a survey point or station marking a change in direction along a linear feature such as a watercourse, ridge, road, or cliff.

(10) "Monument" means an artificial**,** manmade or natural object that is used as, or presumed to occupy, any of the following locations:

(a) A property corner;

(b) A point on the boundary; or

(c) A reference point.

(11) "Plat" means any representational drawing created by a land surveyor reflecting work falling within the definition of land surveying.

(12) "Plat of survey" means a finished drawing of a completed survey of a parcel or tract of land, used to depict the final results of a boundary survey, drawn on a dimensionally stable media suitable for reproduction of copies.

(13) "Point on Line" means a point on a boundary line other than a corner.

(14) "Reference monument" means a monument:

(a) That does not occupy the same defined position as a property corner; and

(b) Whose relationship to the corner of the property is established by bearing and distance to the actual corner.

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

(16) "Retracement survey" means a boundary survey of an existing parcel or tract of land.

Section 2. Application.

(1) Boundary Surveys. The standards of practice established in Sections 1 through 12 of this administrative regulation:

(a) Shall apply to the work product related to:

1. Boundary surveys used for the purpose of creating, depicting, or locating interests in land; and

2. Partial surveys; and

3. Boundary surveys of leases; and

4. Deed descriptions written by professional surveyors.

(b) Shall be the minimum standards of practice for a professional land surveyor; and

(c) Shall not limit the establishment of more stringent standards of practice for a professional land surveyor by:

1. An agency;

2. An owner;

3. A contract; or

4. The professional land surveyor.

(d) Shall not apply to surveys to determine or define political areas such as historical, school, fire, voting, utility or magisterial districts, municipal or county limits, or governmental permit limits.

(2) Land surveying work other than boundary surveys. The standards of practice established in Sections 1, 2, 3, and 13 of this administrative regulation:

(a) Shall apply to the work of the professional land surveyor falling within the definition of land surveying, but not falling within the definition of a boundary survey; and

(b) Shall be the minimum standards of practice for a professional land surveyor for such work; and

(c) Shall not limit the establishment of more stringent standards of practice for a professional land surveyor by:

1. An agency;

2. An owner;

3. A contract; or

4. The professional land surveyor.

Section 3. Compliance.

(1) Failure to comply with this administrative regulation shall constitute misconduct, gross negligence, incompetence, or a combination of these violations in the practice of professional land surveying.

(2) A professional land surveyor shall not represent that:

(a) A boundary survey determines land ownership; or

(b) A boundary survey provides more than evidence of rights in land; or

(c) Land ownership can be established by any survey.

Section 4. **Actual Boundary Survey**

(1) The marks and monuments on the ground as found and verified or as set by a professional land surveyor shall constitute the actual boundary survey.

(2) Any plat of survey shall accurately represent the actual boundary survey.

(3) Record research and field work required by the provisions of this administrative regulation:

(a) Shall be used by a professional land surveyor to determine the location of the boundary of the property to be surveyed; and

(b) Shall not be used by a professional land surveyor to determine title.

Section 5. Record Research. In performing a boundary survey, a professional land surveyor shall conduct research to obtain and evaluate the following:

(1) the present and relevant historical record descriptions of:

(a) each parcel to be surveyed; and

(b) each adjoining parcel;

(2) the description of the physical monument that represents each property corner;

(3) all other relevant documents of record including deeds and prior plats and surveys;

(4) all other relevant public agency records including tax maps, GIS maps, and topographic maps; and

(5) any other available data or documents pertinent to the boundary survey.

Section 6. Field Work. A professional land surveyor shall thoroughly:

(1) Search for the physical monuments that represent each boundary corner;

(2) Search for other physical monuments set out in the description of the parcel or tract of land being surveyed;

(3) Gather, analyze, and document evidence of occupation and physical evidence;

(4) Gather, analyze, and document relevant parol evidence; and

(5) Compare evidence discovered by field work, with that discovered by record research, to determine or reestablish the boundary of the tract or parcel of land being surveyed.

Section 7. Measurement Specifications.

(1) Every measurement made as a part of a boundary survey shall comply with the following:

(a) The standards for accuracy and precision established by the provisions of this section; or

(b) Standards for accuracy and precision that exceed the standards established by the provisions of this section but are:

1. requested by the client;

2. required by contract;

3. required by the agency or entity to which the plat of survey is to be presented; or

4. deemed desirable or necessary by the land surveyor.

(2) A professional land surveyor shall conduct measurements with instruments and equipment that are properly:

(a) Adjusted;

(b) Maintained; and

(c) Calibrated to meet the appropriate tolerance required for the classification of survey as specified in subsection (5) of this section.

(3) A boundary survey shall be conducted utilizing a method of measurement that achieves the appropriate minimum tolerance specified in subsection (5) of this section.

(4) A boundary survey for platting or describing a parcel or tract of land shall be classified as “Rural” or “Urban.”

(a) An Urban survey shall:

1. Consist of urban or suburban land; and

2. Include a parcel or tract of land lying within, or adjacent to:

a. A city or town limit;

b. A commercial business area;

c. An industrial area; or

d. A residential area that is outside a city or town limit and contains subdivided lots smaller than five (5.0) acres.

(b) A Rural survey shall apply to all land not classified as “Urban.”

(5) Table of Specifications by Class: Classification of Surveys.

	Urban	Rural	Remarks
Unadjusted Closure (Minimum)	1:10,000	1:5,000	Loop or Between Control Monuments

Angular Closure (Maximum)	15" N	30" N	N = Number of Angles in Traverse
Accuracy of Distances	+/-0.05'+100 PPM	+/-0.10'+200 PPM	100PPM= 1:10,000
Relative Positional Accuracy	+/-0.05'+100PPM	+/-0.10'+200PPM	

Section 8. Global Positioning Systems.

(1) It shall be acceptable practice to incorporate the use of survey grade GPS equipment into any boundary survey. The accuracy and precision of all measurements made with such equipment must, at a minimum, meet all other accuracy and precision standards required otherwise by law or rules under subsection 5 of Section 7 herein. When using GPS equipment in the course of a boundary survey, the professional land surveyor shall state on the face of the plat of survey, the following:

(a) A note stating what portion (or all) of the boundary survey was performed using GPS equipment.

(b) The type of GPS equipment used, including manufacturer and model number, and whether single or dual frequency receivers were used.

(c) The type of GPS survey that was performed, such as static, real time kinematic ("RTK"), network adjusted real time kinematic, etc., and

(d) A note that discloses the precision of the GPS work done, either in relative positional accuracy, or vector closure.

(e) A statement identifying the horizontal datum, the vertical datum, and the Geoid model used.

(2) The professional land surveyor shall at a minimum retain adequate documentation, in either paper or electronic format, of raw field data, adjustment calculations and closure, or relative positional

accuracy calculations or computations necessary to support the accuracy and precision of the work product.

Section 9. Monumentation.

(1) Monumentation standards established in this section shall apply to all boundary surveys.

(2) Unless an adequate monument already exists at each boundary corner, a professional land surveyor shall set a monument or a reference monument at each corner of the boundary as provided in this section.

(3) A monument or reference monument set by a professional land surveyor shall conform to the following categories and shall meet the following criteria:

(a) "Typical and Preferred" – an iron rod, iron pipe, or iron pin that is:

1. not less than one-half inch in diameter and eighteen inches in length; and

2. equivalent to, or greater than, schedule-forty weight; and

3. identified with a cap bearing the license number of the professional land surveyor under whose direct supervision the survey was performed, and which does not display any other license number.

(b) "Non-typical" - to be used only when it is not practical to set the monuments described in subsection (a), and that:

1. preferably contains a ferrous material or is otherwise capable of being located with a magnetic locator, and may include P. K. or mag nails at least one and one half inches in length; and

2. is identified with the license number of the professional land surveyor under whose direct

supervision the survey was performed, and does not display any other license number.

(c) "Alternate" – to be used only when it is not practical to set the monuments described in subsections (a) and (b) and may include railroad spikes, mine spikes, cross-cuts, chisel cuts, drill holes and curb notches, and must be referenced to a durable, physical feature.

(5) A boundary corner shall be identified by a reference monument if it is impractical to set a monument at the corner for either of the following reasons:

(a) The corner is likely to be disturbed; or

(b) The corner is inaccessible.

(6) A reference monument shall be set on the boundary line if practical to perpetuate the location of each corner.

(7) A professional land surveyor shall set each monument in a manner to avoid or minimize the likelihood of its destruction.

(8) A professional land surveyor may use a tree as a monument under the following conditions:

(a) A tree may be established as a corner monument only on a Rural boundary survey. Each tree utilized as a monument shall be marked in a conspicuous manner that is both physical and permanent and will not otherwise be harmful to the tree.

(b) A tree that a professional land surveyor establishes as a corner monument shall meet the following criteria;

1. Be at least ten (10) inches in diameter at breast height;

2. Be in sound condition;

3. Be marked in a conspicuous manner that is both physical and permanent; and

4. Be clearly described by size, species, and method of marking, on the plat and in the written description.

(c) Trees shall not constitute more than fifty (50) percent of the established monuments for a Rural boundary survey.

(d) For an Urban retracement survey in which a tree is found to be the monument of record, the tree shall be reference-monumented.

(9) A corner monument that a professional land surveyor has determined is not of sound condition, fails to meet the standards established in this administrative regulation, or is inadequate under the definition of monument within this administrative regulation, shall be reference-monumented to perpetuate the corner location. All existing record monuments discovered during the performance of the survey shall be preserved and shall not be altered or destroyed.

(10) Linear monuments may consist of a watercourse, ridge, cliff, or road, and:

(a) The point at which a boundary line intersects a linear monument shall be monumented or reference-monumented; and

(b) A physical feature that represents a linear monument shall be monumented or reference-monumented at a minimum of every one thousand feet, and those monuments shall be set in intra-visible pairs not to exceed one thousand feet (1,000') in spacing between pairs.

(11) All monumentation shall be set prior to the time the plat of survey, or record plat is issued by the surveyor. The signing and sealing of a survey plat is certification by the professional land surveyor that all corners shown on the plat are set on the ground.

Section 10. Documentation of Boundary Surveys

(1) A plat of survey shall be required to be given to the client when the professional land surveyor does any of the following:

(a) Surveys a new boundary line; or

(b) Retraces the boundary lines of a previously established boundary; or

(c) Determines that the current physical description or plat does not accurately depict the actual conditions found during the course of performing the survey.

(2) A professional land surveyor shall retain as permanent records the original plat of survey prepared by the land surveyor, or a copy thereof, and a copy of any new physical description that was prepared from the survey.

(3) A professional land surveyor shall retain as permanent records the following items used to perform a boundary survey:

(a) Research documents including notations stating the source of each;

(b) Field and office notes;

(c) Electronic and magnetically stored field data;

(d) Documents of calculation stating the:

1. Relative positional accuracy or closure as required by Section 7;

2. Adjustment method;

3. Bearing reference datum;

4. Determination of corners;

(e) Plat of survey and written description, if any, of the surveyed parcel or tract of land; and

(f) All other pertinent information necessary to reproduce the boundary survey; and

(g) All other pertinent information supporting the location of the boundary lines and corners of the boundary survey.

(4) Written Description: A written description shall be complete and shall accurately describe the actual boundary survey and, at a minimum, contain the following information:

(a) The general location of the land that was surveyed;

(b) The specific location of the land in reference to a major physical feature or recognized control network;

(c) The reference of at least one boundary corner to a corner of the parent tract;

(d) The direction and length of each line, as follows:

1. Each bearing represented in degrees, minutes and seconds with each distance represented to the hundredths of a foot; and

2. Any geometrically-curved line identified with a beginning point, terminus point, and sufficient curve data to define the curve; and

3. A description of each prominent terrain feature, if any, that the boundary follows.

(e) A notation as to whether each monument was found or set.

(f) The identification of each tree utilized as a new corner monument, including breast-height diameter, species of tree, method of marking, and a notation whether the tree is a record monument or a newly established monument.

(g) A complete description of each" set" monument, to include, if appropriate, the monument's length, diameter, type of material and the identifying cap or other identifier that was used.

(h) A complete description of each "found" monument that complies with the following:

1. It is sufficiently accurate and adequate for subsequent identification by another professional land surveyor; and

2. To the extent possible, the description shall include the monument's dimensions, type of material and the identification cap or other identifier that was used.

(i) A description of the location of any cemetery or grave site that is observable or evident during the performance of the field work, or discovered from the required research.

(j) The record source of the land surveyed and the names and record sources of all adjoining property owners;

(k) The calculated area of the land surveyed stated to the nearest hundredth of an acre.

(l) Name, certification date of the written description, license number and seal of the professional land surveyor under whose direct supervision the survey was performed, and name of the land surveying firm, if any; and

(m) Completion date of the boundary survey.

(5) Plat of Survey: A plat of survey shall be drawn to scale on durable, dimensionally-stable media, and clearly contain the following information:

(a) Direction and length of each line as follows:

1. Each bearing represented in degrees, minutes and seconds with each distance represented to the hundredths of a foot; and

2. Any geometrically-curved line identified with a beginning point, terminus point, and sufficient curve data to define the curve; and

3. A depiction of each prominent terrain feature, if any, that the boundary follows.

(b) The calculated area of the land surveyed, stated to the nearest hundredths of an acre;

(c) A notation as to whether each monument was found or set.

(d) A complete description of each “set” monument that marks or references a boundary corner to include, if appropriate, the monument’s length, diameter, type of material and the identifying cap or identifier that was used.

(e) A complete description of each “found” monument that complies with the following:

1. It is sufficiently accurate and adequate for subsequent identification by another professional land surveyor; and

2. To the extent possible, the description shall include the monument’s dimensions, type of material and the identifying cap or identifier, or lack thereof.

(f) Reference of at least one corner to at least one of the following:

1. A corner of the parent tract;

2. A durable and recognizable physical object; or

3. A properly identified primary control network;

(g) The name of each road, along with any record source thereof;

(h) The name and record sources of each adjoiner; and

(i) The name and record sources of each adjoining subdivision;

(j) Any apparent encroachment discovered in the course of the survey;

(k) The reference meridian and whether its basis is:

1. True;

2. Grid;

3. Record, including the source of the record meridian;

4. State plane; or

5. Magnetic, including the date and location of the observation;

(l) A vicinity map of sufficient detail to locate the parcel or tract of land being surveyed, unless the location of the parcel or tract of land is clearly shown by the plat itself.

(m) A statement, as appropriate, of:

1. the unadjusted error of closure for the traverse; and

2. the relative positional accuracy for a GPS based survey.

(n) A statement identifying the classification of the survey as “Rural” or “Urban”;

(o) A statement as to whether the directions and distances shown on the plat are based on an adjusted traverse;

(p) The location of a cemetery or grave site that is observable or evident during the performance of the field work or discovered from the required research;

(q) A dated signature and the seal of the professional land surveyor under whose direct supervision the boundary survey was performed;

(r) A written and graphic scale; and

(s) A title block containing the following:

1. Name and address of the client; and

2. Name and address of the property owner of record;

3. Title of the survey;

4. Statement that the plat of survey represents a boundary survey and complies with 201 KAR 18:150;

5. Name and business address of the professional land surveyor who performed the survey and, if applicable, the name and address of the surveying firm.

(t) The following information shall be placed conspicuously on the face of the plat of survey:

1. The record source of the tract or parcel of land surveyed; and

2. The location or address of each tract or parcel of land surveyed.

Section 11. Identification of Drawings and Plats.

(1) A plat of survey shall be signed, sealed, and dated by the professional land surveyor under whose direct supervision the survey was performed.

(2) Working drawings or unfinished plats of not yet completed boundary surveys shall be prominently marked or stamped in at least 16 point type or its equivalent, as follows:

"PRELIMINARY - NOT FOR RECORDING OR LAND TRANSFER".

Section 12. Partial Boundary Surveys.

(1) In performing a boundary survey, a professional land surveyor is not required to survey the parent tract in its entirety in order to create a smaller tract for conveyance when the following conditions are met:

(a) Adequate evidence exists that conforms to the deeds of record;

(b) Sufficient monumentation exists that is verifiable to establish the lines common to the boundary of the parent tract; and

(c) There is sufficient evidence and monumentation to establish the lines common to the adjoining tracts without adversely affecting the property interests of any adjoining owners.

(2) In performing a boundary survey, a professional land surveyor is not required to survey the entire boundary of a tract of land in order to mark a boundary line or replace a boundary corner when the following conditions are met:

(a) Sufficient evidence is found and verified to establish the record location of that portion of the boundary being surveyed; and

(b) The marked boundary line or reestablished boundary corner does not adversely affect the property interests of any adjoining owners.

(3) A plat of survey for that part of the boundary surveyed pursuant to this Section, shall be required to comply with this administrative regulation for the part of the boundary that was surveyed, and must graphically delineate and designate that portion of the boundary covered by the survey.

Section 13. Plats, Drawings, and Graphic Representations of Non-Boundary Survey Work – Mandatory Disclosures

(1) Plats, drawings, and graphic representations created by a professional land surveyor, not representing either a plat of survey, or a preliminary plat, drawing, or graphic representation of a boundary survey, shall meet the following criteria:

(a) Be clearly marked as to their intended use; and

(b) State affirmatively in a title block in at least 12 point type or its equivalent, that the work does not

represent a boundary survey and is not intended for land transfer; and

(c) May be signed and sealed by the professional land surveyor under whose direct supervision the work represented by the plat, drawing, or graphic representation was performed or the document was prepared.

(2) A professional land surveyor shall state in a note or notes, on the face of any plat, drawing or graphical representation of any work product falling within the definition of land surveying but not constituting either a plat of survey, or a preliminary plat, drawing or graphic representation of a boundary survey, the following mandatory informational disclosures for the work product:

(a) for whom and by whom the work product was created;

(b) the purpose of the work product;

(c) the method employed to create the work product and its underlying values and specifications;

(d) the location of the parcel or tract of land with which the work product is concerned;

(e) the date(s) that the work was performed;

(f) the date of any certification of the work product by the licensee;

(g) the mathematical scale employed in any graphic representation of the work performed; and

(h) the degree of accuracy or level of quality of the work product expressed in terms of mathematical precision.