

CHAPTER 11  
MINIMUM STANDARDS FOR PROPERTY SURVEYS

[Prior to 11/14/01, see 193C—Chapter 2]

**193C—11.1(542B) Scope.** Each professional land surveyor shall comply with the minimum standards for property surveys described by statute or administrative rule. The minimum standards in this chapter shall apply to all property surveys performed in this state except those done for acquisition plats as described in Iowa Code chapter 354.

[ARC 0362C, IAB 10/3/12, effective 11/7/12]

**193C—11.2(542B) Definitions.** For the purposes of these rules, the following definitions shall apply:

“*Plat*” means both a plat of survey and a subdivision plat as those terms are defined in Iowa Code section 355.1.

“*Property survey*” means any land survey performed for the purpose of describing, monumenting, retracing and establishing boundary lines, dividing, subdividing, or platting one or more parcels of land.

“*Retrace*” means following along a previously established line to logical termini monumented by corners that are found or placed by the surveyor.

**193C—11.3(542B) Boundary location.** Every property survey shall be made in accordance with the legal description (record title) boundaries as nearly as is practicable. The surveyor shall acquire data necessary to retrace record title boundaries, centerlines, and other boundary line locations. The surveyor shall analyze the data and make a careful determination of the position of the boundaries of the parcel being surveyed. The surveyor shall make a field survey, locating and connecting monuments necessary for location of the parcel, and coordinate the facts of such survey with the analysis. The surveyor shall set monuments marking the corners of such parcel unless monuments already exist at such corners.

**193C—11.4(542B) Descriptions.** Descriptions defining land boundaries written for conveyance or other purposes shall be complete, providing definite and unequivocal identification of lines or boundaries. The description must contain dimensions sufficient to enable the description to be platted and retraced and shall describe the land surveyed either by government lot or by quarter-quarter section or by quarter section and shall identify the section, township, range and county; and by metes and bounds commencing with some corner marked and established in the U.S. Public Land Survey System; or if such land is located in a recorded subdivision or recorded addition thereto, then by the number or other description of the lot, block or subdivision thereof which has been previously tied to a corner marked and established by the U.S. Public Land Survey System. If the parcel is described by metes and bounds, it may be referenced to known lot or block corners in recorded subdivision or additions.

**193C—11.5(542B) Plats.** A plat shall be drawn for every property survey performed showing information developed by the survey and including the following elements:

**11.5(1)** The plat shall be drawn to a convenient scale which shall be clearly stated and graphically illustrated by a bar scale on every plat sheet.

**11.5(2)** The plat shall show the length and bearing of the boundaries of the parcels surveyed. Where the boundary lines show bearing, lengths or locations which vary from those recorded in deeds, abutting plats or other instruments, the following note shall be placed along such lines: “recorded as (show recorded bearing, length or location).”

**11.5(3)** The plat shall show and identify all monuments necessary for the location of the parcel and shall indicate whether such monuments were found or placed and shall include an accurate description of each monument consisting of size, shape, material type, capped with license number, and color as applicable.

**11.5(4)** The plat shall be captioned to identify the person for whom the survey was made and the date of the survey and shall describe the parcel as provided in rule 11.4(542B) above.

**11.5(5)** The plat shall show that record title boundaries, centerlines, and other boundary lines were retraced to monuments found or placed by the surveyor. The surveyor shall retrace those exterior lines

of a section that divide a metes and bounds-described parcel of land to determine acreage for assessment and taxation purposes.

**11.5(6)** The plat shall show that the survey is tied to a physically monumented land line which is identified by two U.S. Public Land Survey System corners or by two physically monumented corners of a recorded subdivision. The plat shall show a distance relationship measured by the surveyor between the two corners on the physically monumented land line. The physically monumented land line shall be germane to the survey of the lot, parcel, or tract.

**11.5(7)** The plat shall bear the signature of the professional land surveyor, a statement certifying that the work was performed by the surveyor or under the surveyor's direct personal supervision, the date of signature, and the surveyor's Iowa license number and legible seal as provided in rule 193C—6.1(542B).

**11.5(8)** The surveyor shall record every plat and description with the county recorder no later than 30 days after signature on the plat by the surveyor. The 30-day requirement shall not apply to subdivision plats.

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### **193C—11.6(542B) Measurements.**

**11.6(1)** Measurements shall be made with instruments and methods capable of attaining the required accuracy for the particular problem involved.

**11.6(2)** Measurements as placed on the plat shall be in conformance with the capabilities of the instruments used.

**11.6(3)** The unadjusted closure for all closed traverse surveys shall be not greater than 1 in 5,000 and, for subdivision boundaries, 1 in 10,000.

**11.6(4)** In a closed traverse, the sum of the measured angles shall agree with the theoretical sum by a difference not greater than 30 seconds times the square root of the number of angles.

**11.6(5)** The unadjusted error of field measurements shall not be greater than 1 in 5,000.

**11.6(6)** The relative positional tolerance at the 95 percent confidence level shall be as follows:

a. For subdivision boundaries:  $\pm(0.13 \text{ feet} + 1:10,000)$

b. For all other land surveying:  $\pm(0.26 \text{ feet} + 1:5,000)$

**11.6(7)** Bearings or angles on any property survey plat shall be shown to the nearest one minute; distance shall be shown to the nearest one-tenth foot.

**193C—11.7(542B) Monuments.** Permanent monuments shall be constructed of reasonably permanent material solidly embedded in the ground and capable of being detected by commonly used magnetic or electronic equipment. The licensed professional land surveyor shall affix to the top of each monument set by the surveyor a cap of reasonably inert material bearing an embossed or stencil-cut marking of the Iowa license number of the licensed professional land surveyor. Monuments or marks placed in pavements need not be capped. See rule 193C—11.3(542B).

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These rules are intended to implement Iowa Code sections 355.3 and 542B.2.

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