61G17-6.004 Specific Survey, Map, and Report Requirements.

(1) As-Built/Record Survey:

(a) When performing as-built or record surveys, the surveyor and mapper shall obtain field measurements of vertical or horizontal dimensions of constructed improvements so that the constructed facility can be delineated in such a way that the location of the construction may be compared with the construction plans.

(b) When the surveyor and mapper prepare as-built maps they will clearly show by symbols, notations, or delineations, those constructed improvements located by the survey.

(c) All maps prepared shall meet applicable minimum technical standards.

(d) The vertical and horizontal accuracy of the measurements made shall be such that it may be determined whether the improvements were constructed consistent with planned locations.

(2) Boundary Survey, Map, and Report:

(a) Boundaries of Real Property:

1. REGULATORY OBJECTIVE: The public must have confidence that boundaries of real property are located on the ground in an adequate and defensible manner. In meeting this objective, surveyors and mappers must meet the following minimum standards of accuracy, completeness, and quality:

2. The surveyor and mapper shall make a determination of the position of the boundary of real property in complete accord with the real property description shown on or attached to the survey map or report.

3. All boundary surveys shall result in a map.

4. Any discrepancies between the survey map and the real property description must be shown.

5. All changes in direction, including curves, shall be shown on the survey map by angles, bearings or azimuths, and will be in the same form as the description or other recorded document referenced on the map.

6. Curved lines with circular curves shall show the radii, arc distances and central angles, or radii, arc distances, chord distances and chord bearings.

7. When intersecting lines are non-radial to a curve, sufficient angular data shall be shown to relate the line to the curve.

8. Surveys of all or part of a lot(s) which is part of a recorded subdivision shall show the following upon the map:

a. The lot(s) and block numbers or other designations, including those of adjoining lots.

b. A comparison between recorded directions and distances with field measured directions and distances when they vary.

c. A comparison between the recorded directions and distances with field measured directions and distances to the nearest street intersection, right of way intersection or other identifiable reference point.

d. The dimensioned remaining portion of a lot(s) when part of a lot is included within the description.

9. Surveys of parcels described by metes and bounds shall show the following upon the map:

a. The relationship of the parcel(s) to at least one established identifiable real property corner;

b. All information called for in the property description, such as point of commencement, course bearings and distances, and point of beginning;

c. A comparison between recorded directions and distances and field measured directions and distances on the boundary when they vary;

d. The most current abutting recorded instrument or recorded plat either known by the surveyor and mapper or furnished to the surveyor and mapper.

(b) Boundary Monuments:

1. REGULATORY OBJECTIVE: In order to prevent boundary conflicts, the public must have assurance that the corners of accurately located real property boundaries as found by a survey are durably marked with survey monuments that may be identified on the ground with the aid of the survey map. In meeting this objective, surveyors and mappers must meet the following minimum standards of accuracy, completeness, and quality:

2. The surveyor and mapper shall set monuments as defined herein, unless monuments already exist or cannot be set due to physical obstructions at such corners or unless a water boundary has been located in approximate position. The survey map shall clearly label all approximate water boundaries with notes and these shall be mapped in a distinctly different graphic fashion from water boundaries located to full survey accuracy.

3. Every boundary monument set shall:

a. Be composed of a durable material;

b. Have a minimal length of 18 inches;

c. Have a minimum cross-section area of material of 0.2 square inches;

d. Be identified with a durable marker or cap bearing either the Florida license number of the surveyor and mapper in responsible charge, the certificate of authorization number of the business entity; or name of the business entity;

e. Be detectable with conventional instruments for finding ferrous or magnetic objects.

f. When a corner falls in a hard surface such as asphalt or concrete, alternate monumentation may be used that is durable and identifiable.

4. All monuments, found or placed, must be described on the survey map. The corner descriptions shall state the size, material, and cap identification of the monument as well as whether the monument was found or set.

5. When a parcel has an irregular roadway as a boundary, such as a dirt road or a common law road, then a monumented meander or survey line shall be established along or near the feature.

6. For other irregular boundaries such as a river, lake, beach, marsh or stream, not identified as in subparagraph 61G17-6.004(2)(a)2., F.A.C., a dimensioned meander or survey line may be used. When a meander or survey line is used, monuments shall be set at the meander or survey line's terminus points on real property boundary lines and dimensions shall be shown between a meander or survey line and the boundary line sufficient to show the relationship between the two.

7. A boundary survey updating a previous survey made by the same surveyor and mapper or business entity, and which is performed for the purpose of locating non-completed new improvements by measurements to the property lines or related offset lines placed on the property since the previous survey, need not have the property corners reset.

8. Side ties to locate or set monuments shall be substantiated by a redundancy of measurements.

(c) Boundary Inconsistencies:

1. REGULATORY OBJECTIVE: In order to protect and enhance stability of property location and title, the public must have assurance that potential boundary inconsistencies are adequately researched and disclosed. A survey map should present the factual basis of potential boundary inconsistencies in a clear fashion. In meeting this objective, surveyors and mappers must meet the following minimum standards of accuracy, completeness, and quality:

2. Potential boundary inconsistencies that the survey process did not attempt to detect shall be clearly indicated and explained on the survey map or in the report. Where evidence of inconsistency is found, the nature of the inconsistency shall be shown upon the survey map, such as:

a. Overlapping descriptions or hiatuses;

b. Excess or deficiency;

c. Conflicting boundary lines or monuments; or

d. Doubt as to the location on the ground of survey lines or property rights.

3. Open and notorious evidence of boundary lines, such as fences, walls, buildings, monuments or otherwise, shall be shown upon the map, together with dimensions sufficient to show their relationship to the boundary line(s).

4. All apparent physical use onto or from adjoining property must be indicated, with the extent of such use shown or noted upon the map.

5. In all cases where foundations may violate deed or easement lines and are beneath the surface, failure to determine their location shall be noted upon the map or report.

(d) Rights-of-Way, Easements, and Other Real Property Concerns:

1. REGULATORY OBJECTIVE: In order to provide assurance of the status of access and other real property rights, the public must be informed of the existence and location of rights-of-way and easements associated with property being surveyed. In meeting this objective, surveyors and mappers must meet the following minimum standards of accuracy, completeness, and quality:

2. All recorded public and private rights-of-way shown on applicable recorded plats adjoining or across the land being surveyed shall be located and shown upon the map.

3. Easements shown on applicable record plats or open and notorious evidence of easements or rights-of-way on or across the land being surveyed shall be located and shown upon the map.

4. When streets or street rights-of-way abutting the land surveyed are physically closed to travel, a note to this effect shall be shown upon the map.

5. When location of easements or rights-of-way of record, other than those on record plats, is required, this information must be furnished to the surveyor and mapper.

6. Human cemeteries and burial grounds located within the premises shall be located and shown upon the map when open and notorious, or when knowledge of their existence and location is furnished to the surveyor and mapper.

(e) Real Property Improvements:

1. REGULATORY OBJECTIVE: The public must be informed of the existence and location of pertinent real property improvements and their relation to the boundary of real property. In meeting this objective, surveyors and mappers must meet the following minimum standards of accuracy, completeness, and quality:

2. Location of fixed improvements pertinent to the survey shall be graphically shown upon the map and their positions shall be dimensioned in reference to the boundaries, either directly or by offset lines.

3. When fixed improvements are not located or do not exist, a note to this effect shall be shown upon the map.

4. Building corners are acceptable as monumentation so long as use of building corners as monumentation is clearly noted on survey drawing.

5. When a boundary survey updating a previous boundary survey is made by the same surveyor or survey firm for purpose of locating non-completed new improvements, then property corners need not be reset; however, when a boundary survey is updating a previous survey made by the same surveyor or survey firm and is performed for purpose of locating completed new improvements then property corners must be recovered or reset. When a boundary survey updates a previous boundary survey made by a different surveyor or survey firm for the purpose of locating either non-completed or completed new improvements, then property corners must be recovered or reset.

(3) Construction Layout Survey:

(a) When the surveyor and mapper provides construction staking, these stakes must be based on controls established using the survey standards set out in Rules 61G17-6.003 and 61G17-6.004, F.A.C., of this chapter. The stakes provided should be adequate in number and position so that the physical items can be constructed from the plans as designed.

(b) Horizontal and Vertical Controls for Public and Private Construction Layout:

1. Section 472.003(3), Florida Statutes, provides an exemption from licensing for certain classes of individuals performing construction layout from boundary, horizontal and vertical controls that have been established by a licensed professional surveyor and mapper. This rule is designed to set out what constitutes horizontal and vertical controls.

a. Horizontal control monumentation for the purpose of this rule includes:

(I) Points of Curve, Points of Tangency, Points of Tangent Intersections, Points on Line and Points on Curve.

(II) Points of Intersection of other streets or roads.

(III) Angle points or changes in direction.

b. Horizontal control monumentation for road center-lines, right-of-way lines, reference lines or base lines shall be at least a minimum of two (2) points placed so that no point on the line being monumented is more than 700 feet from a control monument.

c. Horizontal control monumentation for main utility lines (such as water, sewer, storm drainage, electric, telephone, television, gas, etc.) when not constructed within or along a road right-of-way control in accordance with sub-subparagraph 61G17-6.004(3)(b)1.b., F.A.C., shall be at least a minimum of two (2) points placed so that no point on the line being monumented is more than 700 feet from a control monument.

d. Horizontal control monumentation for buildings and/or primary constructions shall be at least:

(I) Boundaries, or

(II) Control or base lines (minimum of 2 points), or

(III) A minimum of a four-corner envelope for non-residential construction improvement layout.

e. Horizontal control monumentation required by plans as a control for horizontal location not included in sub-subparagraph 61G17-6.004(3)(b)1.b., c., or d., F.A.C., shall meet the requirements of sub-subparagraph 61G17-6.004(3)(b)1.a., F.A.C.

(c) All construction requiring benchmarks shall have a minimum of two (2) existent or established benchmarks for vertical control.

(d) Vertical control for linear type construction sites such as roads and sewer lines shall have a maximum of 1,100 feet between existent or established benchmarks.

(e) Vertical control for acreage construction sites shall have two (2) existent or established benchmarks on the first ten (10) acres plus an additional benchmark for each additional ten (10) acres.

(f) The only required documentation for this type of survey product shall be field notes.

(4) Control Survey:

(a) Geodetic Control Surveys: When applicable, all geodetic control surveys, both vertical and horizontal, shall conform to the Standards and Specifications for Geodetic Control Networks (1984) as set forth by the Federal Geodetic Control Committee (FGCC), which Standards and Specifications are incorporated herein by reference, effective 5-13-96, and the Geospatial Positioning Accuracy Standards Parts 1, 2, and 3, FGDC-STD-007.1-1998, entitled "Geospatial Positioning Accuracy Standards Part 2: Standards for Geodetic Networks", and FGDC-STD-007.3-1998, entitled "Geospatial Positioning Accuracy Standards Part 3: National Standard for Spatial Data Accuracy", which are hereby incorporated by reference, effective 5-18-00, copies of which may be obtained via the internet web site (http://fgdc.er.usgs.gov). No use of the terminology of these standards may be made without completely adopting and following all the standards in their entirety. When these standards are not employed, then a survey, map, or report shall explain applicable standards used in the geodetic control survey. All geodetic control survey maps or reports shall show the horizontal and vertical datum used and shall contain adequate graphical or written descriptions of the locations, construction and marking of all marks used or set and shall explain methods employed in the survey and adjustment.

(b) Other Control Surveys: Any control survey map or report shall detail the datum used and control stations used in a manner consistent with the general survey and map provisions of subsection 61G17-6.003(1), F.A.C.

(5) Descriptions/Sketch to Accompany Description:

(a) Descriptions written by a surveyor and mapper to describe land boundaries by metes and bounds shall provide definitive identification of boundary lines.

(b) When a sketch accompanies the property description, it shall show all information referenced in the description and shall state that such sketch is not a survey. The initial point in the description shall be tied to either a government corner, a recorded corner, or some other well-established survey point.

(6) Digital Data:

(a) When survey information is provided in digital form only, the surveyor and mapper shall provide a signed and sealed report as set forth in paragraph 61G17-6.003(3)(o), F.A.C.

(b) The digital file will reference the report and that the digital file is not full and complete without the report.

(7) Ortho-Images/Photos:

(a) The survey, map, and/or report must contain a list of control points employed in geo-referencing the image along with the source of control positions used.

(b) Positional Accuracy: Feature accuracies shall be stated.

(c) The Ortho-Image/Photo shall comply with the December 1996 US Department of the Interior, US Geological Survey National Mapping Divisions, "National Mapping Program Technical Instructions Part 2 Specifications Standards for Digital Orthophotos," which are incorporated herein by reference.

(8) Quantity Survey: The surveyor and mapper shall obtain horizontal and vertical measurements adequate to delineate graphically geometric configurations and/or dimensions that can be mathematically computed.

(9) Raster Imagery:

(a) REGULATORY OBJECTIVE: The public must be able to rely on surveys and maps presented in image form, digital or graphical, where coordinate positions of mapped features on a recognized coordinate system may be extracted from the image.

(b) The survey and report must contain a list of control points employed in geo-referencing the image along with the source of control positions used. The survey and report must contain a statement clearly stating that "This is not an ortho-image or ortho-photo."

(c) Feature accuracies shall be stated.

(10) Subdivision Record Plat: This rule shall not apply to plats being prepared for filing and recording pursuant to Chapter 177, Florida Statutes; however, this rule shall apply to any boundary survey performed during the preparation of the plat.

(11) Specific Purpose Survey:

(a) Surveys which are performed for a purpose other than the purposes encompassed by the definitions in paragraphs 61G17-6.002(10)(a)-(i) or (k), F.A.C., shall be permitted only where unusual conditions make impracticable or impossible the performance of one of the types of surveys defined in paragraphs 61G17-6.002(10)(a)-(i) or (k), F.A.C.

(b) Such purpose and conditions shall be clearly shown upon the survey map or in the survey report.

(c) Surveys performed for purposes of monumenting, referencing, describing, and mapping centerline or baseline may be performed as Specific Purpose Surveys. Additionally, surveys performed for the purpose of monumenting official right-of-way lines may be performed as Specific Purpose Surveys.

(12) Topographic Survey:

(a) Topographic surveying and mapping by field methods shall meet general provisions applicable to all surveys and maps as set out in Rule 61G17-6.003, F.A.C. A minimum of two site benchmarks on or near the survey shall be indicated upon the survey map.

(b) Topographic Features.

1. REGULATORY OBJECTIVE: The public must be able to rely on topographic information contained on a survey map and must be able to correctly interpret the intended map coverage.

2. Intended Features. The surveyor and mapper shall devise a method of reporting which topographic features were intended to be surveyed and mapped, the style of cartographic representation employed for each, and the degree of intended completeness in the surveying and mapping of each feature. As with abbreviations, any symbols, line types, etc. shown on the survey map shall be explained and/or defined in a legend.

3. Obscured Areas. Features in obscured areas where the desired points or surfaces being mapped are not clearly visible on source images shall be clearly labeled on the map as "interpolated" or "estimated" through the use of notes and shall be depicted graphically clearly different from other surveyed features.

4. Scale of Map. The scale of the map that is selected when provided in hard copy shall be sufficient to accurately and clearly show the results of the survey.

5. Property Lines. Any depiction of property lines on a topographic map shall be accompanied with a statement as to the source of the property lines shown.

Specific Authority 472.008, 472.027, 472.033(1)(h) FS. Law Implemented 472.027, 472.033(1)(h) FS. History–New 9-1-81, Formerly 21HH-6.04, Amended 12-18-88, Formerly 21HH-6.004, Amended 12-25-95, 5-13-96, 5-25-99, 4-4-06, 8-31-06.