

WEST VIRGINIA LEGISLATURE

2018 REGULAR SESSION

Originating

House Bill 4624

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[Originating in the Committee on Government
Organization; Reported on February 19, 2018.]

1 A BILL to amend and reenact §1-1-5 of the Code of West Virginia, 1931, as amended, relating to
2 West Virginia coordinate systems; defining terms; and updating references.

Be it enacted by the Legislature of West Virginia:

ARTICLE 1. LIMITS AND JURISDICTION.

§1-1-5. West Virginia coordinate systems; ~~definitions~~ definitions; plane coordinates, limitations of use; conversion factor for meters to feet; official geodetic datum.

1 (a) The following acronyms used throughout this section shall have the following
2 meanings:

- 3 (1) “FGDC” means the Federal Geographic Data Committee or its successor;
4 (2) “NSRS” means “The National Spatial Reference System” or its successors;
5 (3) “NGS” means “The National Geodetic Survey” or its successors;
6 (4) “SPCS” means “State Plane Coordinate System” or its successors; and
7 (5) “WVCS” means “The West Virginia Coordinate System”.

8 ~~(a)(b) The systems~~ The most recent system of plane coordinates which has been
9 established by the ~~National Ocean Service/National Geodetic Survey (formerly the United States~~
10 ~~Coast and Geodetic Survey) or its successors~~ NGS, based on the NSRS, and known as the
11 SPCS, for defining and stating the ~~geographic positions or locations of points on the surface of~~
12 ~~the earth~~ within West Virginia ~~are to~~ shall be known and designated as the West Virginia
13 Coordinate System of 1927 ~~and the West Virginia Coordinate System of 1983.~~

14 (c) The plane coordinate values used to express the position or location of a point in this
15 system shall consist of two distances, expressed in U.S. Survey feet and decimals of a foot or in
16 meters and decimals of a meter. One of these distances, to be known as the x-coordinate, shall
17 give the position in an east-and-west direction. The other, to be known as the y-coordinate, shall
18 give the position in a north-and-south direction.

19 (d) The associated factor of one meter equals 39.37/12 United States Survey feet shall be
20 used in any conversion necessitated by changing values from meters to United States Survey
21 feet.

22 ~~(b)~~(e) For the purpose of the use of this system the state is divided into a North Zone and
23 a South Zone.

24 The area now included in the following counties is the North Zone: Barbour, Berkeley,
25 Brooke, Doddridge, Grant, Hampshire, Hancock, Hardy, Harrison, Jefferson, Marion, Marshall,
26 Mineral, Monongalia, Morgan, Ohio, Pleasants, Preston, Ritchie, Taylor, Tucker, Tyler, Wetzel,
27 Wirt and Wood.

28 The area now included in the following counties is the South Zone: Boone, Braxton,
29 Cabell, Calhoun, Clay, Fayette, Gilmer, Greenbrier, Jackson, Kanawha, Lewis, Lincoln, Logan,
30 McDowell, Mason, Mercer, Mingo, Monroe, Nicholas, Pendleton, Pocahontas, Putnam, Raleigh,
31 Randolph, Roane, Summers, Upshur, Wayne, Webster and Wyoming.

32 ~~(e)~~ (f) As established for use in the North Zone, the ~~West Virginia Coordinate System of~~
33 ~~1927 or the West Virginia Coordinate System of 1983~~ WVCS shall be named and in any land
34 description, map, survey or geospatial product in which it is used it shall be designated the ~~West~~
35 ~~Virginia Coordinate System of 1927 North Zone or West Virginia Coordinate System of 1983~~
36 WVCS North Zone.

37 As established for use in the South Zone, the ~~West Virginia Coordinate System of 1927~~
38 ~~or the West Virginia Coordinate System of 1983~~ WVCS shall be named and in any land
39 description, map, survey or geospatial product in which it is used it shall be designated the ~~West~~
40 ~~Virginia Coordinate System of 1927 South Zone or West Virginia Coordinate System of 1983~~
41 WVCS South Zone.

42 ~~(d)~~ The plane coordinate values for a point on the earth's surface, used to express the
43 geographic position or location of the point in the appropriate zone of this system, shall consist of
44 two distances, expressed in U.S. Survey feet and decimals of a foot when using the West Virginia
45 Coordinate System of 1927 and determined in meters and decimals when using the West Virginia
46 Coordinate System of 1983, but which may be converted to and expressed in feet and decimals
47 of a foot. One of these distances, to be known as the x-coordinate, shall give the position in an

48 ~~east and west direction. The other, to be known as the y coordinate, shall give the position in a~~
49 ~~north and south direction.~~

50 ~~These coordinates shall be made to depend upon and conform to plane rectangular~~
51 ~~coordinate values for the monumented points of the North American Horizontal Geodetic Control~~
52 ~~Network as published by the National Ocean Service/National Geodetic Survey (formerly the~~
53 ~~United States Coast and Geodetic Survey) or its successors and whose plane coordinates have~~
54 ~~been computed on the system defined by this section. Any such station may be used for~~
55 ~~establishing a survey connection to either West Virginia Coordinate System.~~

56 (g) Information and mathematical data for defining the WVCS, and previous versions
57 thereof, including but not limited to, the West Virginia Coordinate System of 1927 and the West
58 Virginia Coordinate System of 1983, and information and mathematical data for translating or
59 converting coordinates between the WVCS and the previous versions thereof, shall be the
60 information and data published by the NGS for such purposes.

61 ~~(e)(h) For purposes of describing the location of any survey station or land boundary~~
62 ~~corner in the State of West Virginia, it shall be considered a complete, legal and satisfactory~~
63 ~~description of the location to give the position of the survey station or land boundary corner on~~
64 ~~the WVCS as system of plane coordinates defined in this section. Nothing contained in this section~~
65 ~~requires a purchaser or mortgagee of real property to rely wholly on a land description, any part~~
66 ~~of which depends exclusively upon either West Virginia Coordinate System.~~

67 (i) Any survey that establishes WVCS coordinates to express definite positions, which is
68 to be used or relied upon by any federal, state or local government entity, or by the public
69 generally, shall be performed:

70 (1) By a professional surveyor licensed to practice surveying in the State of West Virginia
71 pursuant to §30-13A-1 et seq. of this Code; and

72 (2) In compliance with all other laws, rules or regulations governing surveying in the State
73 of West Virginia;

74 (3) In compliance with the Geospatial Positioning Accuracy Standards established and
75 published by the FGDC, and in effect at the time the survey is performed.

76 (i) In addition to any other requirements imposed by law, rule or regulation, any map, plat,
77 report, description or geospatial product that claims to report WVCS coordinates to express
78 definite positions, to be used or relied upon by any federal, state or local government entity, or by
79 the public generally, shall show, or have attached thereto, metadata that meets the requirements
80 established by the FGDC in effect at the time the map, plat, report, description or geospatial
81 product was produced, including a description of the methodology used to establish the WVCS
82 coordinate values reported that is adequate for users to evaluate the accuracy of the coordinates.

83 (k) For purposes of describing the location of any land boundary corner in the State of
84 West Virginia, it shall be considered a complete, legal and satisfactory description of the location
85 to give the position of the land boundary corner on the WVCS as required in this section, in
86 addition to other location information as may otherwise be required by law, rule or regulation:
87 Provided, That nothing contained in this section requires a purchaser or mortgagee of real
88 property to rely wholly on a land description, any part of which depends exclusively upon the
89 WVCS.

90 (f) (l) When any tract of land to be defined by a single description extends from one into
91 the other of the coordinate zones specified in this section, the position of all points on its
92 boundaries may refer to either of the two zones. The zone which is being used specifically shall
93 be specifically named in the description.

94 ~~(g) (1) For purposes of more precisely defining the West Virginia Coordinate System of~~
95 ~~1927, the following definition by the United States Coast and Geodetic Survey (now National~~
96 ~~Ocean Service/National Geodetic Survey) is adopted:~~

97 ~~The West Virginia Coordinate System of 1927 North Zone is a Lambert conformal conic~~
98 ~~projection of the Clarke Spheroid of 1866, having standard parallels at north latitudes 39 degrees~~
99 ~~and 00 minutes and 40 degrees and 15 minutes, along which parallels the scale shall be exact.~~

100 ~~The origin of coordinates is at the intersection of the meridian 79 degrees 30 minutes west of~~
101 ~~Greenwich and the parallel 38 degrees 30 minutes north latitude. This origin is given the~~
102 ~~coordinates: $x = 2,000,000$ feet and $y = 0$ feet.~~

103 ~~The West Virginia Coordinate System of 1927 South Zone is a Lambert conformal conic~~
104 ~~projection of the Clarke Spheroid of 1866, having standard parallels at north latitudes 37 degrees~~
105 ~~29 minutes and 38 degrees 53 minutes, along which parallels the scale shall be exact. The origin~~
106 ~~of coordinates is at the intersection of the meridian 81 degrees 00 minutes west of Greenwich~~
107 ~~and the parallel 37 degrees 00 minutes north latitude. This origin is given the coordinates: $x =$~~
108 ~~2,000,000 feet and $y = 0$ feet.~~

109 ~~(2) For purposes of more precisely defining the West Virginia Coordinate System of 1983,~~
110 ~~the following definition by the National Ocean Service/National Geodetic Survey is adopted:~~

111 ~~The West Virginia Coordinate System of 1983 North Zone is a Lambert conformal conic~~
112 ~~projection of the North American Datum of 1983, having standard parallels at north latitudes 39~~
113 ~~degrees and 00 minutes and 40 degrees and 15 minutes, along which parallels the scale shall be~~
114 ~~exact. The origin of coordinates is at the intersection of the meridian 79 degrees 30 minutes west~~
115 ~~of Greenwich and the parallel 38 degrees 30 minutes north latitude. This origin is given the~~
116 ~~coordinates: $x = 600,000$ meters and $y = 0$ meters.~~

117 ~~The West Virginia Coordinate System of 1983 South Zone is a Lambert conformal conic~~
118 ~~projection of the North American Datum of 1983, having standard parallels at north latitudes 37~~
119 ~~degrees 29 minutes and 38 degrees 53 minutes, along which parallels the scale shall be exact.~~
120 ~~The origin of coordinates is at the intersection of the meridian 81 degrees 00 minutes west of~~
121 ~~Greenwich and the parallel 37 degrees 00 minutes north latitude. This origin is given the~~
122 ~~coordinates: $x = 600,000$ meters and $y = 0$ meters.~~

123 ~~(h) (m) No coordinates based on the West Virginia Coordinate System WVCS, purporting~~
124 ~~to define the position of a point on a land boundary, may be presented to be recorded in any~~
125 ~~public records or deed records unless the point is based on a public or private monumented~~

126 ~~horizontal control station established in conformity with the standards of accuracy and~~
127 ~~specifications for first order or better geodetic surveying as prepared and published by the Federal~~
128 ~~Geodetic Control Committee of the United States Department of Commerce. Standards and~~
129 ~~specifications of the Federal Geodetic Control Committee or its successor in force on the date of~~
130 ~~the survey apply. The publishing of the existing control stations, or the acceptance with intent to~~
131 ~~publish the newly established control stations, by the National Ocean Service/National Geodetic~~
132 ~~Survey is evidence of adherence to the Federal Geodetic Control Committee specifications. The~~
133 ~~limitations specified in this section may be modified by a duly authorized state agency to meet~~
134 ~~local conditions. a certification is attached thereto and, recorded simultaneously therewith,~~
135 ~~certifying the coordinates were established in compliance with the laws, rules and regulations~~
136 ~~governing surveying in West Virginia by a professional surveyor licensed to practice surveying in~~
137 ~~West Virginia pursuant to §30-13A-1 et seq. of this code.~~

138 (n) A plat and a description of survey purporting to define the position of a point on a land
139 boundary by the use of the WVCS must show the following:

140 (1) The accuracy of the coordinates stated at the 95 percent confidence level and in
141 compliance with the Geospatial Positioning Accuracy Standards established and published by the
142 FGDC in effect at the time of the survey. The coordinate accuracies reported by the surveyor shall
143 take into account the network accuracy of existing control, as well as additional systematic effects:

144 (2) The applicable datum, datum tag, epoch date in a decimal year format, and the zone
145 that are the basis of the coordinates. The datum, datum tag, epoch date and zone shall be as
146 published by the NGS and shall be shown by an appropriate note, or by suffix such as “NAD83
147 (2011) epoch 2010.00, WVCS, South Zone”; and

148 (3) The signature and seal of the professional surveyor licensed to practice surveying in
149 West Virginia pursuant to §30-13A-1 et seq. of this code.

150 ~~(i)(o)~~ The use of the term “West Virginia Coordinate System of 1927 North or South Zone”
151 or “West Virginia Coordinate System of 1983 North or South Zone” on any map, report or survey

152 or other document shall be limited to coordinates based on the ~~West Virginia Coordinate System~~
153 WVCS as defined in this section.

154 ~~(j) A plat and a description of survey must show the basis of control identified by the~~
155 ~~following:~~

156 ~~(1) The monument name or the point identifier on which the survey is based;~~

157 ~~(2) The order of accuracy of the base monument; and~~

158 ~~(3) The coordinate values used to compute the corner positions.~~

159 ~~(k)~~ (p) Nothing in this section prevents the ~~recording~~ recording in any public record of
160 any deed, map, plat, survey, description or of any other document or writing of whatever nature
161 which would otherwise constitute a recordable instrument or document even though the same is
162 not based upon or done in conformity with the ~~West Virginia Coordinate System~~ WVCS
163 established by this section, nor does nonconformity with the ~~system~~ WVCS invalidate any deed,
164 map, plat, survey, description or other document which is otherwise proper.

165 ~~(l) For purpose of this section a foot equals a United States Survey foot. The associated~~
166 ~~factor of one meter equals 39.37/12 feet shall be used in any conversion necessitated by changing~~
167 ~~values from meters to feet.~~

168 (q) The official geodetic data to which geodetic coordinates (including, but not limited to,
169 latitude, longitude, ellipsoid height, orthometric height or dynamic height) are referenced within
170 the State of West Virginia shall be as defined for the NSRS.

171 (r) Any map, plat, report, description or geospatial product that establishes or reports
172 geodetic positions referenced to the NSRS for the purpose of expressing definite positions that is
173 to be used by or relied on by any federal, state or local government entity or by the public generally
174 shall comply with the accuracy and reporting requirements set forth above for the WVCS.

175 (s) The provisions of this chapter shall not be construed to prohibit the appropriate use of
176 other coordinate systems, data and other geodetic reference networks.

NOTE: The purpose of this bill is to update West Virginia code regarding coordinate systems.

Strike-throughs indicate language that would be stricken from a heading or the present law and underscoring indicates new language that would be added.