

1 S.154

2 Introduced by Senators Hardy and Watson

3 Referred to Committee on

4 Date:

5 Subject: General provisions; Vermont Coordinate System

6 Statement of purpose of bill as introduced: This bill proposes to establish the  
7 Vermont State Plane Coordinate System as the State's sole coordinate system  
8 used for defining and stating locations of points on the surface of the earth  
9 within the State of Vermont.

10 An act relating to the Vermont State Plane Coordinate System

11 It is hereby enacted by the General Assembly of the State of Vermont:

12 Sec. 1. 1 V.S.A. chapter 17 is amended to read:

13 CHAPTER 17. VERMONT STATE PLANE COORDINATE SYSTEM

14 § 671. VERMONT COORDINATE SYSTEMS DEFINED

15 The ~~systems~~ most recent system of plane coordinates, known as the State  
16 Plane Coordinate System, ~~which have that has~~ been established by the ~~National~~  
17 ~~Ocean Service/National Geodetic Survey (formerly the U. S. Coast and~~  
18 ~~Geodetic Survey)~~ National Geodetic Survey or its successors for defining and  
19 stating the horizontal positions or locations of points on the surface of the earth  
20 within the State of Vermont ~~are hereafter to be known and designated as the~~

1 ~~“Vermont Coordinate System 1927 and the Vermont Coordinate System~~  
2 ~~1983.”~~ shall be known as the Vermont State Plane Coordinate System. The  
3 ~~term~~ terms “Vermont Coordinate System” ~~is~~ and “Vermont Plane Coordinate  
4 System” are synonymous with the term “Vermont State Plane Coordinate  
5 System.” Previous versions of this system include “Vermont Coordinate  
6 System 1927” and “Vermont Coordinate System 1983.”

7 § 672. COORDINATES DEFINED

8 (a) ~~The plane coordinate values for~~ coordinates of a point on the earth’s  
9 surface, ~~to be used to express~~ for expressing the horizontal geographic position  
10 or location of ~~such~~ the point on in the appropriate zone of the Vermont State  
11 Plane Coordinate Systems, shall consist of two distances, expressed in:

12 (1) meters and decimals of a meter, or international feet and decimals of  
13 a foot, when using the Vermont State Plane Coordinate System or its  
14 successors;

15 (2) U.S. Survey feet and decimals of a foot when using the Vermont  
16 Coordinate System 1927 ~~and;~~ or

17 (3) ~~expressed in~~ meters and decimals of a meter, or U.S. Survey feet and  
18 decimals of a foot, when using the Vermont Coordinate System 1983.

19 (b) One of ~~these~~ the distances described in subsection (a) of this section, to  
20 be known as the “east or x-coordinate,” shall give the ~~position in an east and~~  
21 ~~west direction~~ distance east of the y-axis; the other distance, to be known as the

1       “north or y-coordinate,” shall give the ~~position in a north and south direction~~  
2       distance north of the x-axis. ~~These coordinates shall be made to depend upon~~  
3       ~~and conform to plane rectangular coordinate values for the monumented points~~  
4       ~~of the National Spatial Reference System established by the U. S. Coast and~~  
5       ~~Geodetic Survey, its predecessor, or its successors.~~ The y-axis of any zone shall  
6       be parallel with the central meridian of that zone. The x axis of any zone shall  
7       be at right angles to the central meridian of that zone.

8       (c) One international foot equals 0.3048 meter exactly. For conversion of  
9       meters to international feet, multiply the meters by 3.280839895.

10       (d) The international foot shall be used for all foot distances and  
11       coordinates unless the distances or coordinates are tied to one of the legacy  
12       systems referenced in this section.

13       (e) The U.S. survey foot, which equals (1200)/(3937) meter, shall be  
14       superseded by the international foot specified in subsection (b) of this section,  
15       following guidance from the National Institute of Standards and Technology,  
16       the National Geodetic Survey, the National Ocean Service, and the National  
17       Oceanic and Atmospheric Administration.

18       § 673. ADDITIONAL DEFINITIONS

19       (a) The Vermont State Plane Coordinate System is the most recent system  
20       of plane coordinates established by the National Geodetic Survey, based on the  
21       National Spatial Reference System, and known as the State Plane Coordinate

1 System, for defining and stating the geographic positions or locations of points  
2 within the State of Vermont and shall be known as the Vermont State Plane  
3 Coordinate System.

4 (b) For purposes of more precisely defining the Vermont Coordinate  
5 System 1927, the following definition by the U.S. Coast and Geodetic Survey  
6 (now the National Ocean Service/National Geodetic Survey) is adopted:

7 ~~(b)~~(c) The Vermont Coordinate System 1927 is a transverse Mercator  
8 projection of the Clarke spheroid of 1866, having a central meridian 72 degrees  
9 30 minutes west of Greenwich, on which meridian the scale is set one part in  
10 28,000 too small. The origin of coordinates is at the intersection of the  
11 meridian 72 degrees 30 minutes west of Greenwich and the parallel 42 degrees  
12 30 minutes north latitude. This origin is given the coordinates:  $x = 500,000$   
13 feet and  $y = 0$  feet.

14 ~~(c)~~(d) For purposes of defining the Vermont Coordinate System 1983, the  
15 following definition by the National Ocean Service/National Geodetic Survey  
16 is adopted. The Vermont Coordinate System 1983 is a transverse Mercator  
17 projection of the GRS 80 ellipsoid, having a central meridian 72 degrees 30  
18 minutes west of Greenwich, on which meridian the scale is set one part in  
19 28,000 too small. The origin of coordinates is at the intersection of the  
20 meridian 72 degrees 30 minutes west of Greenwich and the parallel 42 degrees

1 30 minutes north latitude. This origin is given the coordinates:  $x = 500,000$   
2 meters and  $y = 0$  meters.

3 ~~(d)~~(e) The position of the Vermont Coordinate System 1983 shall be  
4 marked on the ground by existing or future survey stations established in  
5 conformity with standards adopted by the National Geodetic Survey or its  
6 successors for first-order or second-order work, or both, whose geodetic  
7 positions have been rigidly adjusted to the North American Datum 1983 (NAD  
8 1983).

9 § 674. RECORD

10 Coordinates based on ~~either~~ any Vermont Coordinate System, purporting to  
11 define the position of a point on a land boundary, presented to be recorded in  
12 any public land records or deed records shall be accompanied by a specific  
13 statement as to their basis and a description of the survey method used to  
14 determine them on the record plat or description of the survey.

15 § 675. RESTRICTION

16 The use of the terms "Vermont State Plane Coordinate System," "Vermont  
17 Coordinate System 1927," or "Vermont Coordinate System 1983" on any map,  
18 report of survey, or other document shall be limited to coordinates based on the  
19 respective Vermont Coordinate Systems System as defined in this chapter.

20 \* \* \*

1 § 679. TRANSITION

2 The Vermont Coordinate System 1927 shall not be used for projects  
3 commenced after January 1, 2000; and the Vermont Coordinate System 1983  
4 shall not be used for projects commenced after release of the Vermont State  
5 Plane Coordinate System by the National Geodetic Survey; the Vermont State  
6 Plane Coordinate System will be the sole system for projects commenced after  
7 this date.

8 Sec. 2. EFFECTIVE DATE

9 This act shall take effect on passage.