

## HOUSE OF REPRESENTATIVES STAFF ANALYSIS

**BILL #:** CS/HB 821 Licensure Requirements for Land Surveyors and Mappers

**SPONSOR(S):** Regulatory Reform Subcommittee, Mariano

**TIED BILLS:** **IDEN./SIM. BILLS:** SB 1342

| REFERENCE   | ACTION           | ANALYST  | STAFF DIRECTOR or<br>BUDGET/POLICY CHIEF |
|---|------------------|----------|--|
| 1) Regulatory Reform Subcommittee                                 | 13 Y, 5 N, As CS | Thompson | Anstead                                  |
| 2) Agriculture & Natural Resources Appropriations<br>Subcommittee | 11 Y, 4 N        | White    | Pigott                                   |
| 3) Commerce Committee   |                  |          |  |

### SUMMARY ANALYSIS

Chapter 472, F.S., governs the practice of land surveying and mapping in Florida. Through the Florida Board of Professional Surveyors and Mappers (Board), the Department of Agriculture and Consumer Services (DACS) licenses and regulates professional surveyors and mappers in the state. Current law provides education and experience prerequisites that must be met in order to be eligible to take the licensure examination to practice as a surveyor and mapper.

Applicants with a bachelor's degree in surveying and mapping must have four or more years of responsible work experience under a professional surveyor in order to take the licensure examination.

Applicants with a bachelor's degree in a course of study other than surveying and mapping must have six or more years of work experience under a professional surveyor, five of which must have been in responsible charge of the work performed. These applicants must also complete a minimum of 25 semester hours from a college or university approved by the board in surveying and mapping related subjects in order to take the licensure examination.

In addition, exiled foreign-trained professionals must have graduated with an appropriate college degree from a college or university and must have lawfully practiced the profession for at least three years in order to take the licensure examination.

The bill revises education and experience prerequisites that must be met in order to be eligible to take the licensure examination to practice as a professional surveyor and mapper as follows:

- Allows exiled foreign-trained professionals who have lawfully practiced the profession for three years to substitute their experience for the education requirements.
- Reduces the work experience requirements for applicants with a bachelor's degree.
- Allows applicants with a two-year associate degree and four years of responsible work experience to be eligible to take the licensure examination.
- Allows applicants with a high school diploma or equivalent and six or more years of responsible work experience to be eligible to take the licensure examination.
- Allows applicants that are licensed and have at least two years of responsible work experience in another state, jurisdiction or territory to be eligible to take the licensure examination.
- Allows applicants who have received a registered apprenticeship certificate in surveying and mapping and two years of experience to be eligible to take the licensure examination.

The bill may have an indeterminate fiscal impact on state government and a positive fiscal impact on the private sector.

The effective date of the bill is July 1, 2021.

# FULL ANALYSIS

## I. SUBSTANTIVE ANALYSIS

### A. EFFECT OF PROPOSED CHANGES:

#### **Land Surveying and Mapping**

Chapter 472, F.S., governs the practice of land surveying and mapping in Florida. Through the Florida Board of Professional Surveyors and Mappers (Board), the Department of Agriculture and Consumer Services (DACs) licenses and regulates professional surveyors and mappers in the state.<sup>1</sup>

These regulations include, but are not limited to:

- Examination;
- Licensure, including certificates of authorization;
- Continuing education;
- Seals;
- Standards of practice;
- Prohibitions and penalties;
- Disciplinary guidelines;
- Investigative procedures;
- Power to administer oaths, take depositions, and issue subpoenas;
- Unlicensed activities; and
- Elevation certificates.<sup>2</sup>

According to DACs, licensed surveyors and mappers make exact measurements and determine property boundaries. They provide data relevant to the shape, contour, gravitation, location, elevation or dimension of land or land features on or near the earth's surface for engineering, mapmaking, mining, land evaluation, construction and other purposes.<sup>3</sup>

The Board has authority to adopt rules to implement ch. 472, F.S., subject to approval by DACs.<sup>4</sup> Effective October 1, 2009, the regulation of professional surveyors and mappers by the Board was transferred from the Department of Business and Professional Regulation (DBPR) to DACs.<sup>5</sup>

According to DACs, there are 2,634 Surveyors and Mappers currently licensed in Florida.<sup>6</sup>

#### **Licensing Examinations**

Current law provides education and experience prerequisites that must be met in order to be eligible to take the licensure examination to practice as a surveyor and mapper or as a surveyor and mapper intern.<sup>7</sup> All applicants must be approved by the Board prior to taking any examination.

All pathways to licensure as a professional surveyor and mapper in Florida require at least a four-year degree. The prerequisites to take the licensure examination to practice as a surveyor and mapper are as follows:

- A bachelor's degree in surveying and mapping or in a similarly titled program:
  - Four or more years of work experience under a professional surveyor;

---

<sup>1</sup> S. 472.007, F.S.

<sup>2</sup> See ch. 472, F.S.

<sup>3</sup> Florida Department of Agriculture and Consumer Services, Consumer Services, *Surveyors and Mappers*, <https://www.fdacs.gov/Business-Services/Surveyors-and-Mappers> (last visited Feb. 25, 2021).

<sup>4</sup> S. 472.008, F.S.

<sup>5</sup> Ch. 2009-66, Laws of Fla.

<sup>6</sup> Email from Emily Buckley, Legislative Affairs Director, Department of Agriculture and Consumer Services, Re: Surveyors and Mappers, (Feb. 26, 2021).

<sup>7</sup> S. 472.013, F.S.

- All four years of work experience must have been in responsible charge of the accuracy and correctness of the surveying work performed; or
- A bachelor's degree in a course of study other than surveying and mapping:
  - Six or more years of work experience under a professional surveyor;
  - Five of the six years of experience must have been in responsible charge of the accuracy and correctness of the surveying work performed.
  - These applicants must also complete a minimum of 25 semester hours from a college or university approved by the board in surveying and mapping subjects or in any combination of courses in civil engineering, surveying, mapping, mathematics, photogrammetry, forestry, or land law and the physical sciences.

The following is a chart outlining these education and work experience prerequisites:

| Type of Applicant                 | Type of Degree  | Work Experience  |
|-----------------------------------|---|--|
| Surveyor and Mapper<br>(Option 1) | Surveying and Mapping<br>Bachelor's Degree  | 4 or more years<br>subordinate to surveyor<br>and mapper and in<br>"responsible charge" of<br>work performed                         |
| Surveyor and Mapper<br>(Option 2) | Non Surveying Bachelor's<br>Degree; and<br>25 semester hours<br>surveying and mapping<br>subjects | 6 or more years<br>subordinate to surveyor<br>and mapper of which<br>5 years must be in<br>"responsible charge" of<br>work performed |

The board, by rule,<sup>8</sup> is authorized to establish fees for examination. The initial application and examination fee must not exceed \$125 plus the actual per applicant cost to DACS to purchase the examination from the National Council of Engineering Examiners or a similar national organization. The examination fee must be sufficient to cover the cost of obtaining and administering the examination and is refundable if the applicant is found ineligible to sit for the examination. The application fee is nonrefundable.<sup>9</sup>

Exiled foreign-trained professionals that wish to become surveyors and mappers must have graduated with an appropriate college degree from a college or university and must have lawfully practiced the profession for at least three years. Specifically, an exiled professional is eligible for examination if the exiled professional satisfies all of the following seven requirements:

- Immigrated to the United States after leaving the person's home country because of political reasons, provided the country is located in the Western Hemisphere and does not have diplomatic relations with the United States;
- Applied to DACS and submits a fee;
- Was a resident of this state immediately preceding the person's application;
- Demonstrated to DACS, through submission of documentation verified by the applicant's respective professional association in exile, that the applicant was graduated with an appropriate professional or occupational degree from a college or university.
  - However, DACS may not require receipt of any documentation from the Republic of Cuba as a condition of eligibility under this section;
- Lawfully practiced the profession for at least 3 years;
- Prior to 1980, successfully completed an approved course of study pursuant to chapters 74-105 and 75-177, Laws of Florida; and

<sup>8</sup> R. 5J-17.070, F.S.

<sup>9</sup> S. 472.011, F.S.

- Presented a certificate demonstrating the successful completion of a continuing education program, which offers a course of study that will prepare the applicant for the examination.
  - The department shall develop rules for the approval of such programs for the board.<sup>10</sup>

Upon request of a person who meets the requirements for foreign-trained professionals and submits an examination fee, DACS, for the Board, is required to conduct a written practical examination that tests the person's current ability to practice the profession competently in accordance with the actual practice of the profession. The fees charged for the examinations are established by DACS, for the board, by rule,<sup>11</sup> and must be sufficient to develop or to contract for the development of the examination and its administration, grading, and grade reviews.<sup>12</sup>

### **Licensure by Endorsement**

The board is required to certify as qualified for a license by endorsement an applicant who, at the time of application, holds a valid license to practice surveying and mapping issued by another state or territory of the United States, if:

- Issued before July 1, 1999, and has passed a national, regional, state, or territorial licensing examination that is substantially equivalent to the examination required by s. 472.013, F.S.; and has a specific experience record of at least eight years as a subordinate to a registered surveyor and mapper in the active practice of surveying and mapping, six years of which must be of a nature indicating that the applicant was in responsible charge of the accuracy and correctness of the surveying and mapping work performed; or
- The criteria for issuance is substantially the same as the licensure criteria that existed in Florida at the time the license was issued.<sup>13</sup>

All applicants for licensure by endorsement must also pass the Florida law and rules portion of the examination prior to licensure.<sup>14</sup>

As a result, Florida law does not provide practicing surveyors and mappers from other states with less than a four-year degree a pathway to licensure unless they were licensed in the other state prior to July 1, 1999, or prior to Florida having a four-year degree requirement.

### **Recent Trends**

According to the Bureau of Labor Statistics, in 2020 there were 45,000 working surveyors in the U.S. and 15,000 were 34 years of age or younger.<sup>15</sup> This indicates that approximately 33 percent of surveyors and mappers are under the age of 34. Employment of surveyors is projected to grow 2 percent from 2019 to 2029, slower than the average for other occupations.<sup>16</sup>

There are many contributing factors to help explain the land surveyor shortage. One of those reasons is the advancement of technology. The use of drones and other technologies has increased worker productivity and is expected to limit employment growth.<sup>17</sup>

Another contributing influence is the extensive education expectations and cost. Many state boards require a four-year degree before beginning work in the surveying field. These requirements might hinder those from pursuing a surveying path.<sup>18</sup>

---

<sup>10</sup> S. 472.001(1), F.S.

<sup>11</sup> R. 5J-17.210, F.A.C.

<sup>12</sup> S. 472.0101, F.S.

<sup>13</sup> S. 472.015, F.S.

<sup>14</sup> *Id.*

<sup>15</sup> U.S. Bureau of Labor Statistics, *Labor Force Statistics from the Current Population Survey*, <https://www.bls.gov/cps/cpsaat11b.pdf> (last visited Feb. 25, 2021).

<sup>16</sup> U.S. Bureau of Labor Statistics, Occupational Outlook Handbook, <https://www.bls.gov/ooh/architecture-and-engineering/surveyors.htm#tab-6> (last visited Feb. 25, 2021).

<sup>17</sup> U.S.B.L.S Occupational, *Supra* note 10.

Additionally, there may be a general lack of awareness in the public about who land surveyors are and what they do. This also has worked its way into other skilled trades throughout the construction and manufacturing industries.<sup>19</sup>

According to DACS, there are 2,634 surveyors and mappers currently licensed in Florida.<sup>20</sup>

### **Other States**

Each state and territory in the U.S. requires those who perform the tasks defined as the practice of surveying to hold a professional surveying license. Most states require professional surveyors to meet a combination of requirements in education and exams.<sup>21</sup>

Generally, while each state board for surveyors has its own requirements for licensure, potential licensees will follow a similar path of prerequisites to obtain a license in any state. Prerequisites typically include:

- An education requirement - Sometimes a high school diploma but some states also require a four-year degree from an accredited surveying program.
- Successful completion of a Fundamentals of Surveying (FS) written examination - testing an applicant's breadth of understanding of basic surveying principles.
- Successful completion of a written Principles and Practice of Surveying (PS) examination - testing an applicant's knowledge and competency of surveying skills.
- A requisite amount of surveying experience - which for most states is four years and is usually under the supervision of a professional surveyor.<sup>22</sup>

According to research, in 2020, the education and experience requirements in all 50 states appear to indicate the following patterns:

- Most states require at least a four-year degree and four years of professional experience.
- Typically, the extent of the degree is relative to the amount of professional experience required.
- Fourteen states provide an option that requires only a high school diploma or do not have any educational requirements along with a certain amount of professional experience.
- Six states provide an option that does not require the completion of a degree, but requires the completion of a certain amount of survey and mapping coursework and professional experience.
- The degrees that are required are typically in a surveying and mapping curriculum, a curriculum related to surveying and mapping, or an unrelated curriculum but with a certain amount of coursework in a surveying related curriculum.
- States that allow postgraduate coursework in a surveying curriculum allow the coursework to be substituted for professional experience.
- Twenty-eight states do not provide an education-less alternative method of licensure.<sup>23</sup>

### **Effect of the Bill**

The bill revises education and experience prerequisites that must be met by exiled foreign-trained professionals and others in order to be eligible to take the licensure examination to practice as a professional surveyor and mapper.

---

<sup>18</sup> Nearerterm Blog, *Is There a Shortage of Land Surveyors?* (Nov. 2, 2020), <https://nearerterm.com/is-there-a-shortage-of-land-surveyors/> (last visited Feb. 25, 2021).

<sup>19</sup> *Id.*

<sup>20</sup> Email from Emily Buckley, Legislative Affairs Director, Department of Agriculture and Consumer Services, Re: Surveyors and Mappers, (Feb. 26, 2021).

<sup>21</sup> The National Council of Examiners for Engineering and Surveying (NCEES), *Surveying Licensure*, <https://ncees.org/surveying/surveying-licensure/> (last visited Feb. 26, 2021).

<sup>22</sup> The National Council of Examiners for Engineering and Surveying (NCEES), *NCEES Member Licensing Boards*, <https://ncees.org/member-licensing-boards/> (last visited Feb. 25, 2021).

<sup>23</sup> NCEES, *supra* note 19.

Specifically, the bill:

- Allows exiled foreign-trained professionals who have practiced the profession for three years to substitute their experience for the education requirement. The three-year experience requirement is currently one of seven licensure examination prerequisites for these individuals.
- Reduces the work experience requirement for applicants who receive a bachelor's degree in surveying and mapping from four or more years, to two or more years, to be eligible to take the licensure examination.
- Reduces the work experience requirement for applicants who receive a bachelor's degree in a course other than surveying and mapping, from six or more years, to two or more years, and reduces the amount of time in responsible charge that experience must be from five years, to two years, to be eligible to take the licensure examination.
- Allows applicants who have received a two-year associate degree, and four years of work experience in responsible charge under a professional surveyor and mapper, to be eligible to take the licensure examination. Work experience acquired as a part of the education requirement may not be construed as experience in responsible charge.
- Allows applicants who have received a high school diploma or equivalent, and six or more years of work experience in responsible charge under a professional surveyor and mapper, to be eligible to take the licensure examination. Work experience acquired as a part of the education requirement may not be construed as experience in responsible charge.
- Allows applicants who hold a valid license to practice surveying and mapping in another state, jurisdiction or territory, and have two years of work experience in responsible charge of the accuracy and correctness of the surveying and mapping work performed, to be eligible to take the licensure examination.
- Allows applicants who have received a registered apprenticeship certificate in surveying and mapping after completing a Registered Apprenticeship Program approved by the Department of Education, and have two or more years of work experience in responsible charge under a professional surveyor and mapper, to be eligible to take the licensure examination. Work experience acquired as a part of the education requirement may not be construed as experience in responsible charge.

#### B. SECTION DIRECTORY:

Section 1: Amends s. 472.0101, F.S., relating to foreign-trained professionals, special examination and license provisions.

Section 2: Amends s. 472.013, F.S., relating to examinations, prerequisites.

Section 3: Provides an effective date of July 1, 2021.

## II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

#### A. FISCAL IMPACT ON STATE GOVERNMENT:

##### 1. Revenues:

Indeterminate. The bill may have a positive impact on examination and licensing revenue, to the extent that additional individuals will take the licensure examination and become licensed. All funds collected are deposited into the DACS General Inspection Trust Fund. DACS is unable to estimate a fiscal impact.<sup>24</sup>

##### 2. Expenditures:

---

<sup>24</sup> Department of Agriculture and Consumer Services, Agency Analysis of 2020 HB 821, p. 2 (Feb. 25, 2021).

Indeterminate. The bill may cause additional individuals to take the examination and become licensed. According to DACS, it is unknown if the reduced requirements will lead to an increase in the number of licenses issued, but if it does, DACS “may require additional resources to process applications.”<sup>25</sup> Any additional resources needed would be funded by the increased revenues from examination and licensing revenues. DACS can accomplish the rule-making requirements of the bill within existing resources.

**B. FISCAL IMPACT ON LOCAL GOVERNMENTS:**

1. Revenues:

None.

2. Expenditures:

None.

**C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:**

The bill relaxes experience and education prerequisites in order to be eligible to take the licensure examination to practice as a surveyor and mapper, which will lower the cost to become licensed, and allow more people to practice their chosen profession.

**D. FISCAL COMMENTS:**

None.

### **III. COMMENTS**

**A. CONSTITUTIONAL ISSUES:**

1. Applicability of Municipality/County Mandates Provision:

Not applicable. The bill does not appear to effect county or municipal governments.

2. Other:

None.

**B. RULE-MAKING AUTHORITY:**

According to DACS, “the rules would have to be amended to change current education and work experience requirements.”<sup>26</sup>

Current law appears to provide sufficient rulemaking authority for DACS to implement the bill.

**C. DRAFTING ISSUES OR OTHER COMMENTS:**

**Other Comments**

Current law provides seven prerequisites to the surveying and mapping licensure examination for foreign-trained professionals. One of these includes the following provision:

*Prior to 1980, successfully completed an approved course of study pursuant to chapters 74-105 and 75-177, Laws of Florida.*

---

<sup>25</sup> *Id.*

<sup>26</sup> Department of Agriculture, *supra* note 21, at 3.

According to DACS, “this provision refers to a course of study that may never have existed. The chapter laws referenced in the provision provided for the licensing of an applicant who had been licensed under the laws of a foreign country under certain conditions.” DACS further provides:

“Back in 1974, the professional regulation statute was amended to give foreign born professionals more access to Florida licenses. Chapter 74-105 provided for the licensing of an applicant who had been licensed under the laws of a foreign country under certain conditions. If 5 or more applicants showed proof (a certificate of licensure or the certification by affidavit from the respective foreign professional association) they lawfully practiced a profession in a foreign country prior to July 1, 1974, they would be approved to take a one year course (continuing education). Once they graduated, they could take a written exam the same as or similar to the exam taken by other applicants. They had the option taking the test in their native language if there were at least 5 applicants who wanted that. If the board already had a program for granting licenses to foreign professionals, the applicants had the option of choosing which alternative they wanted.

The next year Chapter 75-177 made some changes. The minimum number of applicants needed to trigger the creation of the one year course was raised to 15; if the board already had a program for granting licenses to foreign professionals, and the Department of Education deemed it equivalent to the one year program, it would be in lieu of the one year program and applicants wouldn’t have that option.

However, it is not known if PSM ever developed and offered that one year course.”<sup>27</sup>

Based on the date included in this provision, if a person satisfied this requirement prior to 1980 at the age of 18, the person would be 58 years old today. As a result, it isn’t likely this provision would apply to many applicants. Removing this outdated provision and revising other requirements may make this provision more inclusive to foreign-trained applicants.

#### **IV. AMENDMENTS/ COMMITTEE SUBSTITUTE CHANGES**

On March 2, 2021, the Regulatory Reform Subcommittee adopted one amendment and reported the bill favorably as a committee substitute. The committee substitute:

- Specifies that an applicant is eligible to take the licensure examination if the applicant is licensed and has at least two years of responsible work experience in another state, jurisdiction or territory in the active practice of surveying and mapping.
- Revises the two year associate of arts degree path to take the licensure examination to allow any type of associates degree rather than specifying an associate of arts degree.
- Allows an applicant who has received a registered apprenticeship certificate in surveying and mapping and two years of experience to be eligible to take the licensure examination.

This analysis is drafted to the committee substitute as passed by the Regulatory Reform Subcommittee.

---

<sup>27</sup> Richard Kimsey, Director, Division of Consumer Services, Department of Agriculture and Consumer Services, FW: [External] HB 821 Foreign-trained professionals, (Mar. 2, 2021).