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CHAPTER 49.

DEPARTMENT OF LABOR, LICENSING AND REGULATION-- SOUTH CAROLINA STATE  
BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND LAND SURVEYORS

(Statutory Authority: 1976 Code Sections 40-22-60, 40-22-130)

ARTICLE 1.

ORGANIZATION, ADMINISTRATION AND PROCEDURE

49-100. Definitions.

A. Definitions found in Section 40-22-20 of the Code of Laws of South Carolina apply to this Chapter.

B. The following definitions are terms used in this Chapter in addition to those included in Section 40-22-20 of the Code of Laws of South Carolina:

- (1) "CEAB" means the Canadian Engineering Accreditation Board.
- (2) "Comity Registration" means the courteous recognition and extension of the practice license privileges in this State to engineers and surveyors licensed in other states. ~~To be eligible for comity consideration, one must have been licensed in the other state by meeting qualifications comparable to those required by this State at the time of licensure in the other state.~~
- (3) "Dual License Holder" means a person who is licensed as an engineer and a land surveyor.
- (4) ~~"Engineering Service Provider" means a licensed or registered engineer legally practicing the profession of engineering.~~
- (5) "FEEEP" means the Foreign Engineering Education Evaluation Program.
- (6) "Firm" as used in this Chapter means those organizations for which a Certificate of Authorization is required.
- (7) "Foreign Jurisdiction" means a foreign nation or political subdivision thereof.
- (8) "Foreign Practitioner" means an engineer legally practicing the profession of engineering in a foreign jurisdiction. RESERVED
- (9) "Model Law Engineer" refers to a person who meets the following criteria:
  - (a) Graduation from an engineering program accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET).
  - (b) Four years of qualifying experience after graduation.
  - (c) Passing of a NCEES Fundamentals of Engineering Examination (FE).
  - (d) Passing of a NCEES Principles and Practice of Engineering Examination (PE).
  - (e) Status in good standing as a registrant in the NCEES Records Program, and
  - (f) A record clear on any license violations or sanctions by an engineering board.
- (10) (9) "NCEES" means the National Council of Examiners for Engineering and Surveying.
- (10) "Model Law Engineer" refers to a person who meets the following criteria:
  - (a) Graduation from an engineering program accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET).
  - (b) Four years of qualifying experience after graduation.
  - (c) Passing of a NCEES Fundamentals of Engineering Examination (FE).
  - (d) Passing of a NCEES Principles and Practice of Engineering Examination (PE).
  - (e) Status in good standing as a registrant in the NCEES Records Program, and
  - (f) A record clear on any license violations or sanctions by an engineering board.
- (11) ~~"Practice in this State" means those professional services offered or provided in this State, or the work product of which is intended for construction in this State.~~
- (12) ~~"Recognized Registration Authority" means the body recognized by this Board as having legal authority to credentialize and register engineering service providers in a particular jurisdiction.~~ RESERVED

~~(13) "USCIEP" means the United States Council for International Engineering Practice, an organization formed in part by NCEES and ABET to address matters involving the international cross-border practice of engineering.~~

~~(14) "Washington Accord" refers to an international agreement providing for the mutual recognition of engineering education program accreditation by and between EAC/ABET and engineering education accrediting bodies of other nations holding membership in the Washington Accord. For a current list of international bodies holding membership in the Washington Accord, one may contact the Accreditation Board for Engineering and Technology.~~

49-101. Board Rules of Order/Procedures and Seal of Board.

A. Rules of Order/Procedures. All proceedings of the Board shall be governed by provisions set forth in the Administrative Procedures Act.

B. Description of Seal of Board. The seal of the Board shall be circular in form and 1 7/8 inches in diameter. Concentric with the outside of the Seal there shall be a circle 1 1/4 inches in diameter, within which there shall be a replica of the device used on the Seal of the State of South Carolina, and in the annular space between the circle and the outside of the Seal there shall appear the words "State Board of Registration for Professional Engineers and Land Surveyors." All official papers, registration certificates, and other formal documents of the Board shall bear the imprint of this Seal.

49-102. Use of Forms/Applications.

A. Forms.

(1) All applications for engineering and land surveying licensure and certificate of authorization shall be made on a form provided by the Board, and no applications made otherwise will be accepted.

~~(2) All applications shall be subscribed to and sworn to before a Notary Public or other persons legally authorized to administer oaths.~~

(3) Applications not completed in accordance with the applicable printed instructions will be returned to the applicant. Withholding information, misrepresentation, or untrue statements will be cause for denial of application.

~~(4) An applicant registered in one or more states seeking South Carolina licensure by comity will be required to complete all sections of the application form. If a properly executed NCEES Record is provided with certified copies verifying applicant's education, qualifications, experience, examinations taken, responses from references and registration in other states, the applicant will be required to complete only those sections of the South Carolina application form dealing with general information, education, registration in other state and the affidavit.~~

B. Documentation.

(1) All information given on an application form must be documented. The applicant is required to provide the names and current mailing addresses of five references having personal knowledge of applicant's character and professional reputation, and of employers or supervisors who can verify applicant's work experience. ~~The Board will send a verification form to each reference provided by the applicant; however, it is will be the applicant's responsibility to see that references return the forms promptly to the Board office.~~

(a) Engineering. At least three of the five character references shall be professional engineers, ~~currently practicing within the scope of their profession.~~

(b) Land Surveying. At least three of the character references shall be from professional land surveyors, ~~"GIS" professionals, mappers, photogrammetric surveyors or professional engineers currently practicing within the scope of their profession.~~

(2) Official transcripts are required showing subjects and grades of all scholastic work which the applicant wishes to claim, degree issued and date of issuance. It is the responsibility of the applicant to see that such a record is sent from the institution directly to the Board office. A failure to provide such transcript directly from the institution, whether foreign or domestic, may be grounds for rejection of the application.

49-103. Fees.

A. The Board will charge fees sufficient to cover expenses for the following:

- (1) Application Fee, Individual License: ~~not to exceed \$200.~~
- (2) Application Fee, Certificate of Authorization: ~~not to exceed \$300.~~
- (3) Examination Fee: ~~not to exceed \$150, if applicable~~
- (4) Certificate Fee: ~~not to exceed \$35 for individuals or \$50 for firms.~~
- (5) Biennial Renewal Fee, Individual: ~~not to exceed \$200.~~
- (6) Biennial Renewal Fee, Firm: ~~not to exceed \$400.~~
- (7) Temporary Permits: ~~not to exceed \$200 for individuals and \$300 for firms.~~
- (8) Roster: ~~the actual cost not to exceed \$100.~~

B. No fee, or any part thereof, paid by any applicant for application, examination and/or registration will be refunded once an application has been submitted to ~~accepted by~~ the Board for processing. Refunds will not be made in the event of failure by an applicant to take the required examination, or to pass the required examination.

49-104. Examinations--General.

A. Classifications--Engineering Examinations.

- (1) NCEES Fundamentals of Engineering (FE).
- (2) NCEES Principles and Practice of Engineering (PE).
- (3) NCEES Special Structural Engineering Examinations.

B. Classifications--Land Surveying Examinations.

- (1) NCEES Fundamentals of Land Surveying (FLS).
- (2) NCEES Principles and Practice of Land Surveying (PLS).
- (3) S.C. State Specific Land Surveying Examination (State-LS).
- (4) TIER B Land Surveying (State-TIER B LS).
- (5) S.C. Board Rules and Regulations.
- (6) Principles and Practice of Photogrammetric Surveying.
- (7) Principles and Practice of GIS Surveying.

C. Examination for Record Purposes.

- (1) Any engineer registered by this Board may take for record purposes one or more of the listed engineering examinations upon payment of a fee as established by the Board.
- (2) Any land surveyor registered by this Board may take for record purposes one or more of the listed land surveying examinations upon payment of a fee as established by the Board.
- (3) Failure to pass an examination will not affect current registration.

~~D. Review and Rescoring of Examinations.~~

~~(1) Review. An applicant who has failed to make a passing score on a written examination may request permission to review his examination. The applicant will be allowed to review those examination items scored as an incorrect answer subject, however, to the rules and restrictions established by the NCEES and this Board.~~

~~(2) Rescoring. An applicant failing an examination may, upon request and payment of the prescribed fee set by this Board, have one or more items rescored by the scoring authority. If as a result of the rescoring, the applicant's total score changes from a failing grade to a passing grade, the rescoring fee will be refunded.~~

D. E. A. Re-Examination.

~~(1) An applicant failing an examination may be allowed to retake it at the next administration subject to those exceptions below, upon request and payment of the examination fee.~~

(1) (2) An applicant who has failed the same topical examination two times shall provide evidence satisfactory to the Board that steps have been taken in preparation for a third examination on the same topical subject.

(2) (3) An application update will be required of any applicant who has failed the same topical examination three times. The applicant may be required to wait a period of two years after the date of the last failed examination before reapplying. The applicant must also provide documentation that additional study satisfactory to the Board was taken in preparation for further examination on the same topical subject.

~~F. Examination Not Sole Determinant of Qualifications.~~

~~Examinations shall not be considered the sole determinant of an applicant's qualifications to practice engineering or land surveying. In its evaluation of an engineering applicant, the Board must also consider such factors as the depth and breadth of one's education and experience as those factors relate to the application of sound engineering judgement and assessment of issues affecting safety, health and welfare of the general public. Similar considerations must also apply to the evaluation of a land surveying applicant.~~

49-105. License Expiration, Renewal and Reinstatement--Individuals.

A. Expiration and Renewal.

(1) The privilege to practice in any category or tier as a registered professional engineer or land surveyor in South Carolina expires ~~each biennial year, effective 2002,~~ on June 30, biennially in even numbered years unless the license is renewed. Every Registered Professional Engineer and Land Surveyor who elects to continue the practice of his profession shall complete and submit an application for renewal of licensure and pay the appropriate fee ~~biennially by the end of the month of June 30 pay to the Board a fee for renewal of his license~~ (2) Renewal notices will be mailed to the licensee's address on record with this Board in May each biennial year; however, it is the licensee's responsibility to renew his license prior to the official expiration date of June 30.

~~(3) The Board will assess a late renewal penalty against those persons who do not renew their registration within the first month following expiration of the license. The penalty will be assessed for the month thereafter at twenty percent (20%) of the biennial renewal fee and for the following month at an additional twenty percent (20%) of the biennial renewal fee. A licensee will have a maximum grace period of three months following the renewal date to pay the fee and late penalty for renewal.~~

~~(4) Any practice in South Carolina as a professional engineer or professional land surveyor beyond the grace period stipulated herein is a violation of the law.~~

~~(5) The biennial renewal fee is set each renewal period. Therefore, no advance renewal fees will be accepted.~~

~~(6) As a condition of renewal of license a professional engineer must demonstrate continuing professional competency in engineering and a professional land surveyor must demonstrate continuing professional competency in land surveying as outlined in Article 6 of this Chapter. A professional engineer or professional land surveyor who has been continuously licensed in this State since January 1, 1969 will be exempted from requirements for demonstration of continuing professional competency.~~

B. Reinstatement.

(1) A licensee whose ~~renewal fees are not more than one year in arrears~~ license has lapsed and who can truthfully certify that he or she has not been engaged in the practice of engineering or land surveying in South Carolina during the period the certificate was not in a current status, barring any other irregularities, shall be reinstated and retain the original registration number upon payment of the renewal fees and penalties. A licensee whose ~~renewal fees~~ license has lapsed ~~are~~ more than one year ~~in arrears~~ may be required to take and pass examinations as required by the Board.

(2) Those persons who cannot certify that they have refrained from practicing their profession in this State during the period in which their license was ~~not valid will~~ lapsed may be required to show cause to the Board why their license should not be disciplined. ~~to file a new application accompanied by the required application fee. An applicant may be required to take or retake and pass examinations as required by the Board.~~

(3) Any person reinstating an expired registration will be required to meet the continuing professional competency requirements, ~~outlined in Article 6 of this Chapter and subsection (A) (6) above.~~

49-106.COA License Expiration, Renewal and Reinstatement--Firms.

A. Expiration and Renewal.

(1) Certificates of Authorization must be renewed biennially to remain in effect. Unless renewed a Certificate of Authorization shall expire biennially on March 31. ~~of each biennial year, effective March 31, 2000~~ of odd numbered years. A firm whose certificate has expired may not offer or engage in engineering or land surveying services until the Certificate of Authorization has been renewed or until a new certificate has been issued.

~~(2) Every firm holding a Certificate of Authorization will be mailed, to its address on record with this Board, a renewal form not less than thirty days before the expiration date. The renewal form shall be completed and returned with the renewal fee. Notwithstanding the above, it is the firm's responsibility to renew its Certificate of Authorization prior to the official biennial expiration date of March 31.~~

(2) Renewal notices will be mailed to the firm's address on record with this Board in January each biennial year; however, it is the firm's responsibility to renew its license prior to the official expiration date of March 31.

(3) The completed renewal form signed and sworn to by the applicant must be filed with the Board office on or before March 31 of each ~~biennial year~~ odd numbered year.

B. Reinstatement.

(1) A Certificate of Authorization will become invalid upon a failure to renew by April 1 of the biennial renewal year. The Certificate may be reinstated by the Board at any time during the following three months on payment of the biennial renewal fee plus late penalty. ~~The penalties are computed in the same manner as prescribed for individual licensees who fail to renew.~~

(2) In the case of failure to reinstate within three months from the date of expiration, the Certificate of Authorization will be reissued only upon submittal of a new application, accompanied by the application fee, and approval by the Board.

C. Resident Professional Requirement.

(1) A Certificate of Authorization (COA) is automatically suspended when the firm fails to comply with the resident professional requirement as provided for in Section 40-22-250 of the Practice Act.

~~(2) Practice by a firm on an expired or suspended COA is a violation of Section 40-22-260(C) of the Practice Act.~~

ARTICLE 2.

GENERAL PROVISIONS

49-200. Professional Engineer Licensure Requirements.

A. Education Requirements.

(1) General.

~~(a) An applicant must meet the educational requirements prescribed by statute at the time the application is filed in this State.~~

~~(b) An applicant's education must be approved by the Board as qualifying before the application can be consider for further processing.~~

(2) Education—Unrestricted License (Category A):

~~(a) The minimum educational requirement for applicants requesting licensure as a Category A professional engineer shall be graduation from an engineering program accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (EAC/ABET), which includes the following:~~

~~1. Four-year engineering degree accredited by EAC/ABET. An applicant in this category must have four years of qualifying engineering experience, as described in the section R.49-200B below, after graduation; or~~

(1) ~~2~~: The Board will recognize the degrees of Master of Engineering or Master of Science in Engineering in a program accredited by EAC/ABET at either the baccalaureate or masters level as fulfilling the education requirements, ~~which will be accepted as the basic degree requirement. An applicant in this category must have four years of qualifying experience, as described in the section R.49-200B below, after the approved graduate degree.~~

(2) (b) The Board will evaluate ~~recognize~~ graduation degrees from an engineering program evaluated ~~accredited~~ by a foreign accreditation board or other source ~~(FEEEP)~~ recognized by ABET as having accreditation criteria substantially the same as that established by EAC/ABET. ~~An applicant in this category must have four years of qualifying experience, as described in the section R.49-200B below, after the approved degree.~~ Engineering degree programs in this category include the following:

(a) ~~1~~: Four-year engineering degree accredited by the Canadian Engineering Accreditation Board (CEAB).

(b) ~~2~~: Four-year engineering degree from an accredited program in other countries listed in the ABET published "Washington Accord" document.

(3) (c) ~~For educational programs, other than those described in the items (a) and (b) above, (e). C~~ courses taken for credit and appearing on official college or university transcripts must be evaluated by a Board approved Education Consultant ~~or FEEEP~~. The purpose of such evaluations shall be to determine whether or not the curriculum presented by the applicant complies substantially with accreditation criteria of EAC/ABET. Programs determined by the Board, based upon the evaluations, to be substantially equivalent to those accredited by EAC/ABET will be considered as fulfilling the education requirements. ~~as qualifying education. The following programs in this section will be accepted for evaluation:~~

~~1. Four-year engineering degree from a non-EAC/ABET accredited program from a college or university in the United States and its jurisdictions.~~

~~a. For transcripts submitted for evaluation by the Education Consultant, an applicant shall have the academic institution furnish the Board such supporting documentation as necessary for a proper and sufficient evaluation.~~

~~b. An applicant in this category must have eight years of qualifying experience, as described in the section R.49-200B below, obtained after the approved degree.~~

~~2. Master of Engineering or Master of Science in Engineering, not accredited by EAC/ABET, or a PhD. in engineering, with a Board approved non-EAC/ABET undergraduate degree, provided that the school or institution granting the graduate degree also offers an EAC/ABET baccalaureate engineering program in the same field of study. Education must be evaluated by a Board approved Education Consultant. An applicant in this category must have four years of qualifying experience, as described in the section R.49-200B below, after the date of the graduate degree. However, if the undergraduate degree should not be approved by the Board, the applicant must have eight years of qualifying experience after the date of the graduate degree.~~

~~3. Master of Engineering or Master of Science in Engineering degree not accredited by EAC/ABET, with a non-approved undergraduate degree such as mathematics, biology, engineering technology, etc. from an institution of the United States or its jurisdictions when offered as meeting education requirements for licensure, if certification can be made by the institution granting the degree that deficiencies in an undergraduate degree in the same field of study, have been made up before entering or during the graduate program.~~

~~a. Such certification must be made by the Engineering Dean or Department Head and will also require evaluation by the Board Education Consultant.~~

~~b. The applicant must have eight years of qualifying experience, as described in the section R.49-200B below, obtained after the approved graduate degree.~~

~~4. Four-year engineering degree from a foreign country institution of higher education approved by the Board.~~

~~a. The applicant will be required to have the curriculum transcript submitted to and evaluated by a Board approved Education Consultant or the Foreign Engineering Education Evaluation Program (FEEEP) administered by the National Council of Examiners for Engineering and Surveying (NCEES).~~

~~b. The applicant must have eight years of qualifying experience, as described in the section R.49-200B below, obtained after the approved degree.~~

~~(3) Education—Restricted License (Category B).~~

~~(a) The minimum educational requirement for applicants requesting licensure as a Category B associate professional engineer shall be graduation from a four-year engineering technology program accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET).~~

~~(b) An engineering technology degree shall not be considered to be an engineering degree, nor shall it be considered as equivalent to an engineering degree.~~

~~(c) Category B associate professional engineers may apply for licensure as a Category A professional engineer (unrestricted license) provided the requisite supplemental education is acquired to qualify under one or more of the provisions as described in subsection A(2) above. In addition to transcripts submitted for evaluation by the Education Consultant, an applicant shall have the academic institution furnish the Board such supporting documentation as necessary for a proper and sufficient evaluation.~~

~~B. Experience Requirements.~~

~~(1) General.~~

~~(a) An applicant must have completed the qualifying experience required by the Board by the application deadline. at the time an application is filed. Experience cannot be anticipated. Experience gained prior to completion of degree requirements actual graduation will not be accepted as qualifying experience.~~

~~(b) Qualifying experience must be progressive and of an increasing standard of quality and responsibility after graduation. Where guidelines for qualifying experience are published by NCEES, such guidelines may be used by the Board to evaluate experience of the applicant.~~

~~(2) Engineering Experience—Unrestricted License (Category A).~~

~~(a) The applicant should have meaningful design experience under the supervision of a registered professional engineer in designing components or processes that meet a public need. This experience should include exposure to the formation of design problem statements and specifications, consideration of alternative solutions, feasibility considerations, analytical calculations and detailed systems descriptions. If the experience was not gained under the direct supervision of a registered professional engineer, then the indirect supervision should be explained with clarification of the degree of supervision received. RESERVED~~

~~(b) Successful completion of a Master's degree in a Board approved engineering curriculum may be accepted as one year of equivalent engineering experience credit. The completion of a PhD. in a Board approved engineering curriculum may be accepted as two years of equivalent experience credit. However, in no case will more than two years of equivalent engineering experience credit be given for post baccalaureate education.~~

~~(c) For teaching experience to be considered by the Board, the engineer applicant must have taught design courses acceptable by the Board in an engineering in an engineering curriculum accredited by EAC/ABET and must have been employed in the grade of assistant professor or higher.~~

~~(d) Experience should be gained by working under the supervision of a registered professional engineer. If the experience was not gained under the direct supervision of a registered professional engineer, then the indirect supervision should be explained with clarification of the degree of supervision received.~~

~~(e) A combined certificate for engineer and land surveyor registration will require a minimum of six years of experience of which at least two years must be land surveying and at least four years must be engineering. Effective July 1, 2004, an applicant in this category must have a minimum of eight years of experience, of which at least four years must be land surveying and at least four years, must be engineering.—RESERVED~~

~~(f) Military experience, to be creditable, must have been spent in engineering and of a character substantially equivalent to that required in the civilian section for like work.~~

~~(g) For sales experience, to be considered by the Board, the engineer applicant must creditable, it must be demonstrated demonstrate conclusively that engineering principles and engineering knowledge were~~

actually employed. The mere selection of data or equipment from a company catalogue or a similar publication will not be considered qualifying engineering experience.

~~(g) The applicant should have meaningful design experience under the supervision of a registered professional engineer in designing components or processes that meet a public need. This experience should include exposure to the formation of design problem statements and specifications, consideration of alternative solutions, feasibility considerations, analytical calculations and detailed systems descriptions. RESERVED~~

~~(f) (h) Experience in construction supervision, in order to be qualifying, must include a demonstrated use of engineering computational and problem-solving skills in assuring compliance with specifications and designs.~~

~~(g) (i) The Board will not accept the mere execution as a contractor of work designed by a registered professional engineer, or the supervision of the construction documents, or similar non-engineering tasks as qualifying engineering experience.~~

~~(h) (j) Industrial experience leading to registration as a registered professional engineer should be directed toward the identification and solution of practice problems in the applicant's area of engineering specialization. This experience should include engineering analysis of existing physical systems and the design of new ones.~~

~~(3) Engineering Experience—Restricted License (Category B).~~

~~(a) Qualifying experience must be progressive and exhibit an increasing standard of advancement in the application of technological principles.~~

~~(b) Experience must be gained by working under the supervision of a legally practicing engineer or on engineering assignments which exhibit an increasing standard of assigned responsibility.~~

~~(c) Industrial experience leading to registration as an associate professional engineer should be directed toward the identification and solution of practical problems in the applicant's area of technological specialization of engineering principles.~~

~~(d) Work as laboratory or field technicians where such work is merely the conduct of routine explorations or data acquisition activities shall not be considered as qualifying. In order to be qualifying, the experience should show a demonstrated and satisfactory use of basic engineering computational and problem-solving skills.~~

~~(e) Category B associate professional engineers may apply for an unrestricted Category A professional engineer license provided the supplemental education as described in the subsection A(2) above, and the experience requirements as described in the subsection B(2) above are acquired.~~

**C. Examination Requirements.**

**(1) Engineer-in-Training (EIT).**

~~(a) An applicant applying for certification as an engineer-in-training must take and pass one of the written examinations on the Fundamentals of Engineering (FE), prepared and graded by the NCEES.~~

~~(b) An applicant for certification as EIT must also meet the education and experience requirements as outlined in the subsections R.49-200A and B above prior to admittance to the examinations.~~

**(2) Category A Professional Engineer (unrestricted license).**

~~(a) An applicant applying for registration as a Category A professional engineer must have taken and passed the FE examination and must also take and pass one of the discipline specific written examinations on the Principles and Practice of Engineering (PE), prepared and graded by the NCEES.~~

~~(b) The Board may, at its discretion, exempt an applicant applying for the unrestricted license from taking the FE examination. These exemptions include the following:~~

~~1. An applicant who has earned a doctorate degree in engineering in which the undergraduate degree in the same field of study is accredited by EAC/ABET, and is otherwise qualified under the provisions of the South Carolina Code of Laws at the time the application is received.~~

~~2. An applicant with more than fifteen years of acceptable experience after date of accredited degree or who has been licensed in another jurisdiction not less than 12 years, and is otherwise qualified under the provisions of Section 40-22-220 60 of the Practice Act, at the time the application is received.~~

**(3) Category B Associate Professional Engineer (restricted license).**

~~(a) An applicant applying for registration as a Category B associate professional engineer must take and pass the FE and PE examinations, prepared and graded by the NCEES. The Board will not consider requests for exemptions to the FE examination for an applicant in this category.~~

~~(b) An applicant in this category (restricted license) must also meet the education requirements as outlined in the subsection R.49-200A(3) and experience requirements as outlined in the subsection R.49-200B(3) of this Chapter prior to admittance to the examinations.~~

49-201. Professional Land Surveyor Licensure Requirements.

~~A. TIER A Professional Land Boundary Surveyor.~~

~~(1) Education Requirements Land Boundary Surveyor.~~

~~(a) Education must be evaluated by an Education Consultant and approved by the Board before an application can be considered for further processing.~~

~~(b) In addition to one of the following degrees, an applicant must have completed courses satisfactory to the Board in surveying and mapping of not less than twelve semester hours or the equivalent in quarter hours:~~

~~1. Four year land surveying degree from a program accredited by the Related Accreditation Commission (RAC) of the Accreditation Board for Engineering and Technology (ABET).~~

~~2. Four year civil engineering technology degree from a program accredited by the Technology Accreditation Commission (TAC) of ABET.~~

~~3. Four year engineering or related bachelor of science degree, or equivalent degree, approved by the Board.~~

~~4. Two year associate engineering technology degree from a program accredited by TAC/ABET. Effective July 1, 2010, this degree will not be recognized as meeting the education requirements for registration as a professional land surveyor.~~

~~(2) Experience Requirements Land Boundary Surveyor.~~

~~(a) Land Surveyor in Training (LSIT).~~

~~1. An applicant for certification as a land surveyor in training who meets the four year education requirements in the subsection A(1) above must have one year of progressive practical experience as described in the item A(2)(e) below.~~

~~2. An applicant who meets the two year education requirements as described in the subsection A(1) above must have three years of progressive practical experience as described in the item A(2)(e) below. Effective July 1, 2010 this provision will be void.~~

~~(b) Land Boundary Surveyor.~~

~~1. An applicant applying for licensure as a land boundary surveyor who meets the four year education requirements as described in the subsection A(1) above must have two years of progressive practical experience as described in the item A(2)(e) below. Effective July 1, 2004 an applicant in this category must have four years of qualifying experience.~~

~~2. An applicant applying for licensure as a land boundary surveyor who meets the two year education requirements as described in the subsection A(1) above must have four years of progressive practical experience as described in the item A(2)(e) below. Effective July 1, 2010 this provision will be void.~~

~~A. (e) Qualifying Experience and Documentation.~~

~~1. Experience must be obtained under the supervision of a registered professional land surveyor and must be of a character satisfactory to the Board.~~

~~2. Qualifying experience approved by the Board is experience beyond elementary surveying duties level activities such as chaining, rodman, and bush cutting duties. In order for work to be considered as qualifying experience, an advanced level of responsibility must have been placed on the applicant. Responsibility should involve mature judgement and expertise gained in such job assignments as instrument man, assistant crew chief or crew chief. Work claimed as qualifying experience should demonstrate a sound working knowledge of surveying with respect to research (records and field), instrumentation, note-keeping, calculations and mapping.~~

3. An experience record in boundary and route surveying, topographical surveying, construction surveying, control/geodetic surveying, and rights-of-way delineation is beneficial to the applicant in the Board's evaluation of the application. Recognizing that boundary surveys are the types of surveys which more critically affect the public welfare, experience in boundary surveys should constitute a significant portion of the applicant's experience record and will be given more weight by the Board in considering an applicant's qualifications for licensure.

4. An applicant must submit copies of three different maps and plats of land surveys on which he has worked. The documents must be signed by the professional land surveyor who supervised the work and contain a statement describing that part of the work done by the applicant. Submitted plats and maps must meet the requirements of the Minimum Standards Manual for the Practice of Land Surveying in South Carolina, Chapter 49, Article 5, of the Code of Regulations, in effect at the time of licensure.

5. An applicant must submit five references as to the applicant's character and quality of work, three or more must be registered land surveyors having personal knowledge of the applicant's qualifications.

**B. (3) Examination Requirements--Land Boundary Surveyor.**

(a) An applicant applying for certification as land surveyor-in-training must take and pass a written examination on the Fundamentals of Land Surveying (FLS), prepared and graded by the NCEES.

(b) An applicant applying for licensure as a TIER A land boundary surveyor must have taken and passed the FLS written examination and must take and pass the Principles and Practice of Land Surveying (PLS), prepared and graded by the NCEES, and a South Carolina State Specific Land Surveying examination.

(4) A person licensed as a professional land boundary surveyor may practice as a professional photogrammetric surveyor only by meeting the requirements as described in the section R.49-201C of this Chapter, and may practice as a professional GIS surveyor only by meeting the requirements as described in the section R.49-201D of this Chapter.

**B. TIER A Professional Land Boundary Surveyor--Provisions for Geodetic Surveying.**

(1) The practice of geodetic surveying is classified under land boundary surveying. Between July 1, 2001 and June 30, 2004, a person who has been practicing geodetic surveying and does not have land boundary surveying experience will qualify to apply on or after July 1, 2001 for licensure as a TIER A land boundary surveyor, restricted to the geodetic surveying area of expertise, by meeting the following requirements.

**(a) Education Requirement--Geodetic Surveying.**

1. Graduation from a school or college of two or more years, approved by the Board; or
2. A baccalaureate degree in surveying, geodesy, or a related field of study approved by the Board, which may be substituted for two of the four years of required experience, provided applicant has at least two years of professional or supervisory level experience; or
3. A Master's degree in surveying, geodesy, or a related field of study approved by the Board, which may be substituted for three years of experience, provided applicant has at least one year of experience at the professional or supervisory level.

**(b) Experience Requirement--Geodetic Surveying.**

1. Four years of experience in geodetic surveys conducted in the United States, two of which shall have been at the professional or supervisory level.
2. An applicant must submit at least one geodetic project which includes
  - a. Detailed report of project planning.
  - b. How national network was utilized.
  - c. Datum and units (SI or English).
  - d. Equipment used.
  - e. Observational schedules.
  - f. Field procedures.
  - g. Adjustment report including narrative description.
  - h. Problems encountered and how they were resolved.
  - i. Coordinate listing.
  - j. Statement of accuracy.

- k. Software used.
  - l. Final geographically referenced project sketch.
  - m. Project specifications.
  - n. Certification as to the applicant's personal involvement.
  - o. Names of other professionals involved in the project.
  - p. Name, address and telephone number of references to verify this information.
3. An applicant must submit five references as to the applicant's character and quality of work, three of which shall be recognized professionals in the field of geodetic surveying.
- (c) Examination Requirement--Geodetic Surveying.  
An applicant must take and pass a special examination based on the Board's rules and regulations as referred to in the subsection R.49-104B(5) of this Chapter.
- (2) Time Limitation--Enforcement.
- (a) To meet the provisions outlined in the subsection (B)(1) above, an application must be filed with the Board prior to July 1, 2004.
- (b) Enforcement of the license requirement for geodetic surveyors will be effective July 1, 2004.
- (c) After July 1, 2004 geodetic surveyors applying for licensure must meet all the requirements for land boundary surveyors as outlined in the subsection R.49-201A of this Chapter.
- C. TIER A Professional Photogrammetric Surveyor.
- (1) Between July 1, 2001 and June 30, 2004, any person practicing photogrammetry shall, upon application, be licensed to practice in the discipline of TIER A Professional Photogrammetric Surveying, provided the applicant meets all of the following requirements:
- (a) Education Requirement--Photogrammetric Surveyor.
- 1. Certified proof of graduation from high school or high school equivalency; or
  - 2. Graduation from a school or college of two or more years beyond high school approved by the Board; or
  - 3. A baccalaureate degree in surveying, photogrammetry or a related field of study approved by the Board, which may be substituted for two of the four years of required experience for a baccalaureate degree, provided the applicant has at least two years of professional or supervisory level experience; or
  - 4. A master's degree in surveying, photogrammetry or a related degree approved by the Board, which may be substituted for three years of required experience for a baccalaureate degree, provided the applicant has at least one year of experience at the professional or supervisory level.
- (b) Experience Requirement--Photogrammetric Surveyor.
- 1. The applicant with high school or equivalency education must have at least seven years of experience in photogrammetry prior to application, two or more of which shall have been in responsible charge of photogrammetric mapping projects meeting National Map Accuracy Standards.
  - 2. The applicant with a minimum of a two-year degree as described in the item C(1)(a)2 above must have at least four years of experience in photogrammetry prior to application, two of which shall have been in responsible charge of photogrammetric mapping projects meeting National Map Accuracy Standards.
  - 3. The applicant must submit proof of employment in responsible charge of at least one project as a photogrammetrist to include reports detailing methods, procedures, amount of applicant's personal involvement. The applicant must submit the name, address and telephone number of references to verify this information
  - 4. The applicant must submit a map which includes:
    - a. Date of photography or original data acquisition.
    - b. Scale of Photography.
    - c. Date of document or data set compilation.
    - d. North Arrow, Map Legend, and Contour Interval, as applicable.
    - e. A coordinate system for horizontal and vertical denoting SI or English units.
    - f. A list or note showing the control points used for the project.
    - g. A statement of accuracy.

h. For topographic maps or data sets, contours in areas obscured by manmade or natural features shall be uniquely identified or enclosed by a polygon clearly identifying the obscured area.

i. A vicinity map depicting the project location.

j. Company name, address and telephone number.

k. The name of the client for whom the project was conducted.

(c) Examination Requirement--Photogrammetric Surveyor.

An applicant must take and pass a special examination based on the Board's rules and regulations as referred to in the subsection R.49-104B(5) of this Chapter.

(2) Time Limitation--Enforcement.

(a) To meet the provisions as outlined in the subsection B(1) above, an application must be filed with the Board prior to July 1, 2004.

(b) Enforcement of the license requirements for photogrammetric surveyors will be effective July 1, 2004.

(3) After June 30, 2004, any person applying for licensure as a photogrammetric surveyor must meet the following requirements:

(a) Education Requirement--Photogrammetric Surveyor.

1. Education must be evaluated by an Education Consultant and approved by the Board before an application can be considered for further processing.

2. In addition to one of the following degrees, an applicant must submit proof of satisfactorily completing not less than 12 semester hours, or the equivalent in quarter hours, of course work specific to the discipline of photogrammetric surveying, satisfactory to the Board:

a. Four-year engineering or bachelor of science degree in a related field from a program accredited by the Related Accreditation Commission (RAC) or the Accreditation Board for Engineering and Technology (ABET).

b. Four-year civil engineering technology degree from a program accredited by the Technology Accreditation Commission (TAC) of ABET.

c. Four-year related bachelor of science degree, or equivalent degree, approved by the Board.

d. Two-year associate degree approved by the Board. Effective July 1, 2010, this degree will not be recognized as meeting the education requirements for registration as a photogrammetric surveyor.

(b) Experience Requirement--Photogrammetric Surveyor.

1. Photogrammetric Surveyor-in-Training.

a. An applicant applying for certification as a photogrammetric surveyor-in-training who meets the four-year education requirements in the item C(1)(a)3. above must have one year of progressive practical experience as described in the item C(3)(b)3 below.

b. An applicant who meets the two-year education requirements in the item C(1)(a)2 above must have three years of progressive practical experience as described in the item C(3)(b)3 below. Effective July 1, 2010, this provision will be void.

2. Photogrammetric Surveyor.

a. An applicant applying for licensure as a photogrammetric surveyor who meets the four-year education requirements in the item C(1)(a)3 above must have four years of progressive practical experience as described in the item C(3)(b)3 below.

b. An applicant applying for licensure as a photogrammetric surveyor who meets the two-year education requirements as described in the item C(1)(a)2 above must have four years of progressive practical experience as described in the item C(3)(b)3 below. Effective July 1, 2010 this provision will be void.

3. Qualifying Experience and Documentation.

a. Experience must be obtained under supervision of a licensed photogrammetric surveyor or a recognized professional in the field of photogrammetry and must be of a character satisfactory to the Board.

b. Qualifying experience approved by the Board is experience beyond elementary level activities. In order for work to be considered as qualifying experience, an advanced level of responsibility must have been placed on the applicant. Work claimed as qualifying experience should demonstrate a sound working knowledge of photogrammetry.

- c. At least two years of the required experience must have been at the professional level in responsible charge of photogrammetric mapping projects meeting National Mapping Accuracy Standards.
- d. The applicant must submit proof of employment in responsible charge of at least one project as a photogrammetrist. Maps and documents satisfactory to the Board detailing methods, procedures, amount of applicant's personal involvement must be submitted to document this project. These maps and documents must be signed by the professional who supervised the work and contain a statement describing the part or the work done by the applicant. The applicant must submit the name, address and telephone number of references to verify this information.
- e. An applicant must submit five references as to the applicant's character and quality of work, three or more must be licensed land surveyors or practicing professionals in the field of photogrammetry, having personal knowledge of the applicant's photogrammetric surveying experience.

(c) Examination Requirements--Photogrammetric Surveyor.

- 1. An applicant applying for certification as a photogrammetric surveyor-in-training must take and pass a written examination on the Fundamentals of Land Surveying (FLS), prepared and graded by the NCEES.
- 2. An applicant applying for licensure as a photogrammetric surveyor must have taken and passed the FLS examination and must take and pass an examination on the principles and practice of photogrammetry and an examination on the Board's rules and regulations as referred to in the section R.49-104B(5) of this Chapter.

(4) A person licensed as a professional photogrammetric surveyor may practice as a professional land boundary surveyor only by meeting the requirements of the section R.49-201A of this Chapter, and may practice as a professional GIS surveyor only by meeting the requirements of the section R.49-201D of this Chapter.

D. TIER A Professional Geographic Information System (GIS) Surveyor.

(1) Between July 1, 2001 and June 30, 2004, any person presently practicing GIS surveying shall, upon application, be licensed to practice in the discipline of TIER A geographic information system surveying, provided the applicant meets the following requirements:

(a) Education Requirement--GIS Surveyor.

- 1. Graduation from a school or college of two or more years, approved by the Board; or
- 2. A baccalaureate degree in surveying, geography, or a related field of study, approved by the Board, which may be substituted for two of the four years of required experience, provided the applicant has at least two years of professional or supervisory level experience; or
- 3. A Master's degree in surveying, geography, or a related field of study, approved by the Board, which may be substituted for three years of experience, provided the applicant has at least two years of professional or supervisory level experience.

(b) Experience Requirement--GIS Surveyor.

- 1. Four years of experience in the profession, two or more of which shall have been in responsible charge of GIS projects.
- 2. The applicant must submit proof of employment in responsible charge of at least one GIS project to include reports detailing methods, procedures, and amount of applicant's personal involvement. The applicant must submit the name, address and telephone number of references to verify this information.
- 3. The applicant must submit one GIS project and a map and related project information to include:
  - a. Source and date of original data.
  - b. Data creation procedures.
  - c. Date of map publication.
  - d. North arrow, map scale and map legend.
  - e. Information on coordinate system and datum used.
  - f. Software used.
  - g. Equipment used.
  - h. Statement of data accuracy.
  - i. Certification of applicant's personal involvement in project.
  - j. Database structure.

k. Project metadata.

l. Appropriate contact information for references to verify this information.

(c) Examination Requirement--GIS Surveyor.

An applicant must take and pass a special examination based on the Board's rules and regulations as referred to in the subsection R.49-104B(5) of this Chapter.

(2) Time Limitation--Enforcement.

(a) To meet the provisions outlined in the subsection D(1) above, an application must be filed with the Board prior to July 1, 2004.

(b) Enforcement of the licensure requirement for GIS Surveyors will be effective July 1, 2004.

(3) After June 30, 2004, any person applying for licensure as a geographic information system (GIS) surveyor must meet the following requirements:

(a) Education Requirement--GIS Surveyor.

1. Education must be evaluated by an Education Consultant and approved by the Board before an application can be considered for further processing.

2. In addition to one of the following degrees, an applicant must also submit evidence of completion of discipline specific courses of not less than 12 semester hours or the equivalent in quarter hours satisfactory to the Board.

a. Four-year Bachelor of Science degree in a related field from a program accredited by the Related Accreditation Commission (RAC) of the Accreditation Board for Engineering and Technology (ABET).

b. Four-year civil engineering technology degree from a program accredited by the Technology Accreditation Commission (TAC) of ABET.

c. Four-year related Bachelor of Science degree, or equivalent degree, approved by the Board.

d. Two-year Associate Degree approved by the Board. Effective July 1, 2010, this degree will not be recognized as meeting the education requirements for registration as a Geographic Information System Surveyor.

(b) Experience Requirements--GIS Surveyor.

1. Geographic Information System Surveyor-in-Training.

a. An applicant applying for certification as geographic information system surveyor-in-training who meets the four-year education requirements as described in the item D(3)(a) above must have one year of progressive practical experience as described in the item D(3)(b)3 below.

b. An applicant who meets the two-year education requirements in the item D(3)(a) above must have three years of progressive practical experience as described in the item D(3)(b)3 below. Effective July 1, 2010 this provision will be void.

2. Geographic Information System Surveyor.

a. An applicant applying for licensure as a geographic information system surveyor who meets the four-year education requirements in the item D(3)(a) above must have four years of progressive practical experience as described in the item D(3)(b)3 below.

b. An applicant applying for licensure as a geographic information system surveyor who meets the two-year education requirements in the item D(3)(a) above must have four years of progressive practical experience as described in the item D(3)(b)3 below. Effective July 1, 2010 this provision will be void.

c. An applicant applying for licensure as a geographic information system surveyor who holds a master's degree in surveying, geography, or a related field of study approved by the Board must have three years of practical experience as described in the item D(3)(b)3 below.

3. Qualifying Experience and Documentation.

a. Experience must be obtained under supervision of a licensed geographic information system surveyor or a recognized professional in the field of GIS and must be of a character satisfactory to the Board.

b. Qualifying experience approved by the Board is experience beyond elementary level activities. In order for work to be considered as qualifying experience, an advanced level of responsibility must have been placed on the applicant. Work claimed as qualifying experience should demonstrate a sound working knowledge of GIS.

c. At least two years of the required experience must have been at the professional level in responsible charge of geographic information system mapping projects.

d. The applicant must submit proof of employment in responsible charge of at least one project as a GIS Surveyor. Maps and documents, satisfactory to the Board, detailing methods, procedures, amount of applicant's personal involvement must be submitted to document this project. The map and related project information submitted must include the project information described in the item D(1)(b)3 of this Chapter.

e. Maps and documents must be signed by the professional who supervised the work and contain a statement describing the part or the work done by the applicant. The applicant must submit appropriate contact information including the name, address and telephone number of references to verify this information.

f. An applicant must submit five references as to the applicant's character and quality of work, three or more must be licensed land surveyors or practicing professionals in the field of GIS having personal knowledge of the applicant's GIS surveying experience.

(c) Examination Requirements--GIS Surveyor.

1. An applicant applying for certification as geographic information system surveyor-in-training must take and pass the written examinations on the Fundamentals of Land Surveying (FLS), prepared and graded by the NCEES.

2. An applicant applying for licensure as a geographic information system surveyor after June 30, 2004 must have taken and passed the FLS examination described in the item C(3)(a) above and must take and pass an examination on the principles and practice of geographic information systems and pass an examination on the Board's rules and regulations as referred to in the section R.49-104B(5) of this Chapter.

E. TIER B Professional Land Surveyor.

(1) An applicant shall be licensed as a TIER A Land Boundary Surveyor prior to submitting an application for licensure or registration as a TIER B Land Surveyor.

(2) Effective July 1, 2001, an applicant must meet the following requirements of education, experience and examinations.

(a) Education--TIER B Land Surveyor.

1. Graduation from a school or college of four or more years with a Bachelor of Science degree including in the curriculum not less than fifteen semester hours or the equivalent in quarter hours of surveying, mapping, hydraulics, and hydrology courses satisfactory to the Board; or,

2. A Bachelor of Engineering Technology degree in an ABET Commission accredited curriculum of land surveying or engineering technology, including in the curriculum not less than twelve semester hours or the equivalent in quarter hours of surveying, mapping, hydraulics, and hydrology courses satisfactory to the Board.

(b) Experience--TIER B Land Surveyor.

1. A specific record of two or more years of progressive practical experience performed under a practicing registered land surveyor. Effective July 1, 2004, an applicant must have four years of qualifying experience performed under a practicing registered land surveyor.

2. Experience must be of a character satisfactory to the Board as described in the Scopes of Authority, R.49-202D of this Chapter.

(c) Examinations--TIER B Land Surveyor.

1. An applicant must have taken and passed the written examinations required for licensure as a TIER A Land Boundary Surveyor which include the FLS and PLS examinations, prepared and graded by the NCEES, and the State Specific Land Surveying Examination.

2. An applicant must also take and pass a special written examination pertaining to the practice of TIER B land surveying in the State which includes the design of storm drainage systems and preparation of sedimentation and erosion control plans associated with the development of residential subdivisions.

(3) A TIER B land surveyor may practice as a professional photogrammetric surveyor only by meeting the requirements of the section R.49-201C of this Chapter, and may practice as a professional GIS surveyor only by meeting the requirements of the section R.49-201D of this Chapter.

49-202. Classifications and Scopes of Authority: Engineers and Surveyors.

A. Category A Professional Engineer.

(1) A professional engineer who by reason of his special knowledge of the mathematical and physical sciences and the principles and methods of engineering analysis and design, acquired by professional education and practice experience, is qualified to practice engineering as defined in Section 40-22-22 of the Practice Act, all as attested by his legal license and registration as a professional engineer in this State, is classified as a Category A license holder.

(2) The Category A professional engineer license holder is entitled to the unrestricted practice of engineering as described in Section 40-22-22 of the Practice Act.

B. Category B Associate Professional Engineer.

(1) An associate professional engineer is qualified to practice within the profession of engineering in the restricted manner defined in the Code and as attested by his recognition and registration as an associate professional engineer in this State is classified as a Category B license holder.

(2) The practice of Category B associate professional engineers is subject to certain restrictions:

(a) An associate professional engineer must not assume direct responsibility, direct supervisory control or responsible charge for engineering work as an independent practitioner, or for engineering work provided by or through a "private practice organization" as defined by statute.

(b) Work by a Category B associate professional engineer employed by a "private practice organization" must be under the direct responsibility, supervisory control, and responsible charge of a Category A professional engineer.

(c) Where documents are required to be submitted to building officials and other authorities having jurisdiction for government review, approval or permitting, and where such documents are required to be submitted under the signature or seal of a Professional Engineer, the documents must be prepared by or under the responsible charge of and submitted only by a Category A professional engineer.

(d) A Category B associate professional engineer shall not, by title, verbal claim, sign, advertisement, letterhead, card or in any other way, represent himself to be a Professional Engineer.

(3) A Category B associate professional engineer may apply for an unrestricted Category A professional engineer license provided the requisite supplemental education is acquired to qualify under one or more of the provisions as described in the section R.49-200 of this Chapter. Add statement that Category B licensure ceases to exist on July 1, 2020?

C. TIER A Land Surveyor.

(1) The practice of TIER A land surveying consists of three separate disciplines: (a) land boundary surveying, (b) photogrammetry, and (c) geographic information systems (GIS). A land surveyor may be licensed in one or more of the disciplines and practice is restricted to only the discipline or disciplines for which the land surveyor is licensed.

(2) The scopes of authority for the individual disciplines of TIER A land surveying are identified as follows:

(a) Professional Land Boundary Surveyor (PLS).

1. Locates, relocates, establishes, re-establishes, lays out or retraces any property line or boundary of any tract of land or any road, right-of-way, easement, alignment, or elevation of any fixed works embraced within the practice of land surveying, or makes any survey for the subdivisions of land;

2. Determines, by use of principles of land surveying, the position for any survey monument or reference point; or sets, resets, or replaces such monument or reference; determines the topographic configuration or contour of the earth's surface with terrestrial or extraterrestrial measurements; conducts hydrographic surveys;

3. Conducts geodetic surveying which includes surveying for determination of geographic position in an international three-dimensional coordinate system, where the curvature of the earth must be taken into

account when determining directions and distances; geodetic surveying includes the use of terrestrial measurements of angles and distances, as well as measured ranges to artificial satellites;

4. Creates graphical representations of the data related to items C(2)(a)1.2.3 above.

5. Performs work of a professional photogrammetric surveyor as described in the item C(2)(b) below or as a GIS surveyor as described in the item C(2)(c) below only after obtaining a license in those categories.

(b) Professional Photogrammetric Surveyor (PPS).

1. Determines the configuration or contour of the earth's surface or the position of fixed objects thereon by applying the principles of mathematics on remotely sensed data, such as photogrammetry.

2. Creates graphical representations of data relating to the item (b)1 above.

3. Performs work of a land boundary surveyor as described in the item C(2)(a) above or as a geographic information systems (GIS) surveyor as described in the item C(2)(c) below only after obtaining a license in those categories.

(c) Professional Geographic Information System Surveyor (GIS).

1. Creates, prepares, or modifies electronic or computerized data including land information systems and geographic information systems relative to the performance of the activities described in subsections (a) and (b) above.

2. Creates digital spatial data based on integration, interpretations, transformations, and/or the manipulation of primary data sources that affects the health, welfare, or safety of the public.

3. Performs work of a land boundary surveyor as described in subsection C(2)(a) above or as a photogrammetric surveyor as described in the item C(2)(b) above only after obtaining a license in those categories.

(3) The practice of TIER A land surveying does not include the use of GIS or LIS to create maps pursuant to Section 40-22-290 of the Practice Act, analyze data, or create reports.

D. TIER B Professional Land Surveyor.

(1) Persons registered as both Professional Land Surveyor and Professional Engineer are classified as TIER B Professional Land Surveyors.

(2) The practice of TIER B land surveying as described by Section 40-22-20(24) of the Practice Act, and regulated by the Board shall include the authority, within the limits set by these regulations, to practice the design of storm drainage systems and the preparation of sedimentation and erosion control plans associated with the development of residential subdivisions. Included within this practice of TIER B land surveying is the design of stormwater detention or retention facilities incidental to the surveyor's design of storm drainage systems; provided, however, that these facilities are not lakes, ponds or similar impoundments intended to contain water at all times.

(a) As used in this section, the term "residential subdivision" means property developed for single family residences and other type projects where individual lots are established for each residential unit. The density of these projects shall be limited to two lots or units per acre. Apartment projects and projects for developments of commercial or industrial properties are not included within the scope of authority.

(b) Where reference has been made to "lakes, ponds or similar impoundments intended to contain water at all times," such reference is not intended to limit a TIER B Land Surveyor's authority to prepare calculations pertaining to the hydrology or hydraulics of these impoundments. It is expected, however, that such impoundments will require a more detailed analysis and design with respect to soil mechanics. Consequently design of impoundments intended to contain water at all times should be based upon appropriate geotechnical evaluations conducted under the direction of a licensed engineer experienced in such matters. The geotechnical investigations and report should, as a minimum, evaluate site conditions and provide recommendations for materials and methods of construction of the impoundment.

(3) The practice of TIER B land surveying shall not include the design of drainage structures, drainage systems, or other drainage features which are not incidental to the development of a residential subdivision. Projects, which are purely drainage in nature or where a subdivision of a parcel of land into small parcels is not involved, shall not fall within the scope of practice authorized for TIER B land surveyors. The design of such features as water systems, sanitary sewer systems, surcharged storm drainage systems or pumping stations which may also be incidental to the project are not included in this

practice. The exclusion from the scope of authority of the design of "surcharged storm drainage systems" is not intended to apply to submerged outlet pipes routinely used in detention and retention basins.

(4) The practice of TIER B land surveying is further limited to the use of predesigned structures, which are approved by the county or municipal governmental agency having jurisdiction. Where standard design structures cannot be used because of extra loading, extreme depth or unusually large size, the structure shall be designed by a licensed engineer. "Predesigned Structure" is intended to cover two situations:

(a) As used in this section, the standard design for catch basins, junction boxes, and headwalls that are specified by local governments will be considered "predesigned".

(b) As used in this section, precast basins, junction boxes, and headwalls produced by concrete companies are considered as "predesigned" and may be used where allowed by the local authority.

(5) In exercising powers of a TIER B Land Surveyor, the surveyor shall undertake to perform only those assignments for which he is authorized by the statute and these regulations and for which he is qualified by education or experience in the specific technical area of TIER B land surveying involved.

#### 49-203. Licensure by Comity.

##### A. Professional Engineer.

(1) An application will ~~not~~ be considered ~~accepted~~ for licensure by comity from an applicant who is ~~not~~ appropriately licensed in another jurisdiction, ~~and who meets current requirements the state in which the applicant resides or is employed unless there are extenuating circumstances satisfactory to the Board.~~

~~(2) A Model Law Engineer applicant, as described in the section R.49-100B(9) of this Chapter and meeting the requirements of the subsection A(1) above, may be licensed as a Category A Professional Engineer by making application on the prescribed form and having the NCEES Council Record sent to the Board. To be considered, the Council Record must be submitted directly to the Board by NCEES. Upon receipt of the proper documents and payment of the fee established by the Board, a Model Law Engineer applicant may be licensed as a Category A Professional Engineer without further review.~~

(2) Any applicant holding a valid license to practice engineering issued by a proper authority of a jurisdiction or possession of the United States, based on requirements not less than those specified by the applicable licensure act in effect in the State of South Carolina at the time such other license was issued, may, upon receipt of the proper documents and payment of the fee established by the Board, be considered for licensure in the appropriate category designation without further written examination.

~~(3) Any applicant holding a valid license to practice engineering issued by a proper authority of a jurisdiction or possession of the United States, based on requirements not less than those specified by the applicable licensure act in effect in the State of South Carolina at the time such other license was issued, may, upon receipt of the proper documents and payment of the fee established by the Board, be considered for licensure in the appropriate category designation without further written examination.~~

~~(2) (3) A Model Law Engineer applicant, as described in the section R.49-100B(9) of this Chapter and meeting the requirements of the subsection A(1) above, may be licensed as a Category A Professional Engineer by making application on the prescribed form and having the NCEES Council Record sent to the Board. To be considered, the Council Record must be submitted directly to the Board by NCEES. Upon receipt of the proper documents and payment of the fee established by the Board, a Model Law Engineer applicant may be licensed as a Category A Professional Engineer without further review.~~

~~(4) An applicant for comity consideration as a Category B Associate Professional Engineer must be a resident of the State of South Carolina or regularly employed at a business operation located within the State.~~

##### B. Professional Land Surveyor.

(1) An application will ~~not~~ be considered ~~accepted~~ for registration by comity from an applicant who is ~~not~~ appropriately registered in the state in which the applicant resides or is employed unless there are extenuating circumstances satisfactory to the Board.

(2) An application will not be accepted for registration by comity if unless the applicant meets the requirements for education, experience and examination as prescribed by the statutes, and the rules and regulations of this Board in effect at the time of filing said application.

(3) An applicant registered in another state may be required to take such examinations as the Board deems necessary to establish that his qualifications meet the requirements of the statutes, rules and regulations of the Board. The applicant shall in all cases be required to pass a written examination including questions of laws, procedures and practices pertaining to the practice of land surveying in this State.

(4) An application will not be accepted for registration by comity as a TIER B Land Surveyor after until the applicant first obtains registration as a TIER A Land surveyor. An applicant in this category will be required to pass the eight-hour written examination for a TIER B Land Surveyor in addition to meeting the education and experience requirements as established by the statutes and the rules and regulations of the Board.

#### ~~49-204. Engineering Registration of Foreign (Non-US) Practitioners and COA's for Foreign (Non-US) Firms.~~

##### ~~A. General Provisions.~~

~~(1) Applicability. The provisions of this section apply only to engineering service providers from foreign jurisdictions who make application to this State for registration as a Category A Professional Engineer.~~

~~(2) Citizenship and Residency. An applicant must be a citizen and resident of the foreign jurisdiction from which application is made.~~

~~(3) Character and Reputation. An applicant must be of good character and reputation.~~

~~(4) Immigration Requirements. A license to practice professional engineering issued by this Board must not be construed to exempt an engineering service provider from any immigration requirement of the United States government.~~

##### ~~B. License to Practice Professional Engineering.~~

~~(1) Comity Registration. An applicant who qualifies under the comity registration provisions may be licensed by the Board.~~

~~(2) Mutual Recognition Agreements. Provided the recognized registration authority in the foreign jurisdiction from which application originates is a signatory to, and is in good standing under, a mutual recognition agreement executed by the USCIEP, and approved by this Board, an applicant meeting the minimum qualifications prescribed by the agreement and the requirements of this section may be licensed by the Board.~~

~~(3) Competency Assessment. An applicant must satisfactorily demonstrate to the satisfaction of the Board a reasonable knowledge and understanding of local regulations, technical codes, ethical standards and relevant legal provisions governing the application of engineering knowledges, principles and practices in the United States. Passing one or more of the Principles and Practice of Engineering (PE) examinations prepared by the NCEES shall be deemed by the Board to be an acceptable demonstration of these competency assessments standards.~~

~~(4) Compliance with Jurisdictional Laws. Registrants, by applying for and receiving a license to practice by this Board, shall be deemed to be knowledgeable of, and subject to, such additional laws, rules, regulations and ordinances, whether federal, state or local, as may be applicable to their services as a professional engineer.~~

~~(5) Jurisdiction of South Carolina Court. By accepting a license to practice under this subsection, an applicant agrees to accept the jurisdiction of the Courts of the State of South Carolina and the application of the laws of the State of South Carolina to work performed within the scope of this license.~~

##### ~~C. Certificate of Authorization.~~

~~No registrant or employer thereof shall be exempt from requirements under the statute to obtain a certificate of authorization where the practice of engineering in this State is offered or provided through a firm.—RESERVED~~

49-205. Firm Registration.

~~A. Requirements.~~

~~(1) Each firm engaged in the practice of engineering or land surveying in South Carolina must have a Certificate of Authorization issued by the South Carolina State Board of Registration for Professional Engineers and Land Surveyors before undertaking such work. Before a Certificate of Authorization may be issued to an out-of-state business corporation, the corporation shall be approved by the South Carolina Secretary of State to transact business in the State. A copy of the corporate documents issued by the Secretary of State shall be filed with the Board office as part of the initial application for a Certificate of Authorization.~~

~~(2) Each firm continuing to engage in the practice of engineering or land surveying in this State shall register with the Board prior to the first day of April of each biennial renewal year. Upon payment of the biennial fee and the submission of information required on the Board renewal form, a renewal certificate will be issued.~~

~~(3) No firm shall engage in the practice of engineering or land surveying within South Carolina unless one or more persons in full authority and responsible charge of such work be licensed to practice in South Carolina. Persons in full authority and responsible charge shall mean regularly employed persons in unrestricted, unchecked, and unqualified command of, and legally accountable for the actions of such practice. Failure to maintain on file in the office of the Board at all times the name, registration certificate number and written evidence of authority of the individual in full authority and responsible charge within the subject corporation, professional corporation, partnership or firm shall constitute a violation of these regulations, punishable by sanction up to and including revocation of the Certificate of Authorization and right to practice in South Carolina by the organization.~~

~~(4) For the purpose of this regulation, a sole proprietorship is one in which the ownership is held by a single individual who is duly licensed to practice engineering and/or land surveying in this State, where there is no stock ownership in the firm, and where the practice name is identical to that in which the individual registration is held. A registered engineer or land surveyor, practicing in his own name as a sole proprietorship is exempt from this section of the regulations. For multiple firms practicing engineering or land surveying as a joint venture for one or more projects in this State, a Certificate of Authorization will be required for each firm practicing within the joint venture.~~

~~(5) Failure to notify the Board within thirty (30) days of changes affecting the status of the firm's any of the above prescribed information shall be grounds for sanctions up to and including revocation of the organization's Certificate of Authorization. An engineer or land surveyor on file with the Board as being in full authority and responsible charge shall notify the Board of any change in his employment. With respect to affirmations made under this section, failure to file a written notice to the Board within thirty (30) days of any change which removes a person from a position of responsible charge shall constitute a violation of these regulations, punishable by a fine of not less than \$200 nor more than \$500, and/or by sanctions up to and including revocation of the Certificate of Authorization to practice in South Carolina, or both, at the discretion of the Board.~~

~~B. Issuance.~~

~~(1) If the requirements of Section 40-22-250 of the Practice Act are met, the Board shall issue a certificate of authorization to a firm.~~

~~(2) The certificate of authorization must be renewed biennially, effective March 31, 2002.~~

49-206. Temporary Permits: Engineers; Engineering and Land Surveying Firms.

~~A. The Board may grant to a professional engineer holding a valid certificate to practice professional engineering in another state a temporary permit to engage in professional engineering work on one specific project in this State for a period not exceeding one year.~~

~~(1) A professional engineer applying for a temporary permit to practice in this State must meet the qualifications specified in the Practice Act for registration as a Category A Professional Engineer.~~

~~(2) No right to practice engineering in this State shall accrue to an engineer holding a temporary permit with respect to any work not set forth in the permit.~~

~~(3) Verification of education and registration will be required before issuance of a temporary permit to practice professional engineering in this State.~~

~~(4) A temporary permit to practice engineering in this State must be applied for and granted prior to the assumption of responsible charge for the engineering services to be furnished under the permit.~~

~~B. The Board may grant a Temporary Certificate of Authorization to an out-of-state corporation, professional corporation, partnership or firm desiring to engage in professional engineering work on one specific project in this State for a period not exceeding one year if one or more of the principal officers of said organization has obtained a license or a temporary permit to practice as a Professional Engineer in this State.~~

~~C. Applicants seeking a temporary permit to practice engineering and/or seeking a Temporary Certificate of Authorization shall make application in writing on the prescribed forms and pay the required fees.~~

~~D. Only one temporary permit will be issued during a three year period to an individual. Only one Temporary Certificate of Authorization will be issued during a three year period to a firm. For any other work, an applicant will be required to file an application, as appropriate, for registration as a Professional Engineer and/or an application for a Certificate of Authorization.~~

~~E. Written notification from the permit holder will be required at the time of completion of the project. For projects extending beyond the twelve month permit period, an application for registration by comity (in the case of individuals) and an application for a Certificate of Authorization (in the case of firms) must be submitted in sufficient time to avoid a lapse in the privilege to practice in this State.~~

~~F. While practicing under a temporary permit or a Temporary Certificate of Authorization in South Carolina, the holders thereof shall affix to all plans and documents for use in South Carolina, the seals or stamps required in the state of residence or employment with a notation "Practicing in the State of SC Under Temporary Permit No." (in the case of individuals) and "Practicing in the State of SC Under Temporary Certificate of Authorization No." (in the case of firms).~~

~~G. The Board cannot grant a Land Surveyor a temporary permit for the practice of land surveying. No individual may legally practice land surveying in this State without first being duly licensed as a Professional Land Surveyor in the State of South Carolina. RESERVED~~

#### 49-207. Seals: Individuals and Firms.

##### A. Description of Licensee's Seal.

(1) The seal of engineers and land surveyors licensed by the Board shall be at least  $1\frac{1}{2}$   $\times$   $\frac{9}{16}$  inches in diameter and similar to that prescribed for the Board. In the center there shall appear the registration number of the licensee along with the words:

(a) "Registered Professional Engineer", for Category A engineers licensed prior to July 1, 2001.

(b) "Licensed Professional Engineer", for Category A engineers licensed after July 1, 2001.

(c) "Associate Professional Engineer--Restricted License", for Category B engineers.

(d) "Professional Engineer and Land Surveyor", for Category A engineers holding dual registration.

(e) "Professional Land Surveyor", for TIER A land boundary surveyors.

(f) "Professional Photogrammetric Surveyor", for photogrammetric surveyors.

(g) "Professional GIS Surveyor", for geographic information systems surveyors.

(h) "Professional Land Surveyor--TIER B", for TIER B land surveyors.

(2) Rubber stamps or computer generated seals, identical in size, design and content with the approved impression seals may be used by the registrant where the use of an impression seal is not specifically required.

##### B. Description of Firm's Seal.

(1) The seal evidencing issuance of a Certificate of Authorization by this Board shall be at least  $1\frac{1}{2}$   $\times$   $\frac{9}{16}$  inches in diameter and similar to that prescribed for the Board. In the center there shall appear the name of the certificate holder and the assigned Certificate of Authorization number. In the space between the circle and the outside of the Seal there shall appear the words "South Carolina" and the words "Certificate of Authorization".

(2) Rubber stamps, impression seals, or computer generated seals, identical in size, design and content with the approved impression seals may be used by the organization.

C. Seal on Documents.

(1) The seal and signature of a licensee on a document constitutes a certification that the document was prepared by the licensee or under his direct supervision, and in the case of prototypical documents, that the licensee has reviewed the document in sufficient depth to fully coordinate and assume responsibility for application of the plans ~~prepared by another licensee.~~

(2) When sealing documents is required by statute, other authority or contract, each sheet of design or construction plans, ~~and drawings documents, specifications and reports~~ for engineering practice and of maps, plats, and charts ~~and reports~~ for land surveying practice shall be sealed and signed by the licensee or permit holder preparing them, or in responsible charge of their preparation. The signature and date when the document was prepared must be affixed under or across the face and beyond the circumference of the seal but in a manner that does not obliterate or render illegible the licensee's name and number. Where the engineering or land surveying practice is provided through a firm such documents shall also carry the seal evidencing registration of the Certificate of Authorization.

(3) Where more than one page ~~sheet~~ is bound together in one volume of documents, specifications or reports, the licensee or permit holder who prepared said volume, or under whose direction and control said volume was prepared, may seal, date and sign only the title or index sheet, provided that the signed sheet clearly identifies all of the other sheets comprising the bound volume, and provided that any of the other sheets which were prepared by, or under the direction and control of, another licensee or permit holder, be sealed, dated and signed by said other licensee or permit holder with responsibility clearly delineated. This provision, however, shall not apply to design drawings and construction plans prepared by or under the responsible charge of a licensee. Such documents shall carry the required seals, date and licensee's signature on each sheet.

(4) Additions, deletions or other revisions to sealed documents shall not be made, unless such changes are sealed, dated and signed by the licensee who made the revisions or under whose directions and control said revisions were made.

### ARTICLE 3.

## RULES OF PROFESSIONAL CONDUCT

#### 49-300. Preamble.

A. In order to safeguard the life, health, property and welfare of the public and to establish and maintain a high standard of integrity, skills, and practice in the profession of engineering and land surveying, the following Rules of Professional Conduct are promulgated in accordance with the Code of Laws of South Carolina (1976, as amended), Title 40, Chapter 22, and shall be binding upon every person holding a certificate of registration as a Professional Engineer or Land Surveyor. Reference to engineer or land surveyor in this Article shall mean any engineer, land surveyor, corporation, professional corporation, partnership or firm, authorized to offer or perform engineering or land surveying services in this State.

B. The Rules of Professional Conduct delineate specific obligations engineers and land surveyors must meet. In addition, each engineer and land surveyor is charged with the responsibility of adhering to standards of generally accepted ~~highest~~ ethical and moral conduct in all aspects of the practice of professional engineering and land surveying.

C. The Rules of Professional Conduct as promulgated herein are an exercise of the police power vested in the South Carolina State Board of Registration for Professional Engineers and Land Surveyors by virtue of the acts of the legislature, and as such the South Carolina State Board of Registration for Professional Engineers and Land Surveyors is authorized to establish conduct, policy and practices in accordance with the powers herein above stated.

D. All engineers and ~~land~~-surveyors registered under the Code of Laws of South Carolina (1976, as amended), Title 40, Chapter 22, are charged with having knowledge of the existence of these Rules of

Professional Conduct, and shall be deemed to be familiar with their several provisions and to understand them. Such knowledge shall encompass the understanding that the practices of engineering and land surveying are privileges, as opposed to rights, and the registrants shall be forthright and candid in their statements or written responses to the Board or its representatives on matters pertaining to professional conduct.

#### 49-301. Responsibility to the Public.

The Engineer or Land Surveyor shall hold paramount the safety, health, and welfare of the public in the performance of his professional duties.

A. The Engineer or Land Surveyor shall at all times recognize that his primary obligation is to protect the safety, health, property and welfare of the public and shall conduct his practice to fulfill this obligation.

B. If the judgement of the engineer or land surveyor is overruled under circumstances where the safety, health, and welfare of the public are endangered, he shall inform his employer of the possible consequences and notify other proper authority of the situation, as may be appropriate.

#### 49-302. Competency for Assignments.

The Engineer or Land Surveyor shall perform his services only in the areas of his competence.

A. The Engineer or Land Surveyor shall undertake to perform engineering or land surveying assignments only when qualified by education or experience in the specific technical field of professional engineering or land surveying involved.

B. The Engineer or Land Surveyor may accept an assignment requiring education or experience outside of his own field of competence, but only to the extent that his services are restricted to those phases of the project in which he is qualified. All other phases of such projects shall be performed by qualified associates, consultants, or employees.

C. The Engineer or Land Surveyor shall not affix his signature and seal to any engineering or land surveying plan or document dealing with subject matter to which he lacks competence by virtue of education or experience, nor to any such plan or document not prepared under his direct supervisory control.

D. In the event a question arises as to the competence of an Engineer or Land Surveyor to perform an engineering or land surveying assignment in a specific technical field of engineering or land surveying which cannot be otherwise resolved to the Board's satisfaction, the Board, either upon request of the Engineer or Land Surveyor or by its own volition, may require him to submit to an appropriate examination as determined by the Board.

#### 49-303. Public Statements.

The Engineer or Land Surveyor shall issue public statements only in an objective and truthful manner.

A. The Engineer or Land Surveyor shall be completely objective and truthful in all professional reports, statements, or testimony. He shall include all relevant and pertinent information in such reports, statements, or testimony.

B. The Engineer or Land Surveyor when serving as an expert or technical witness before any court, commission, or other tribunal shall express an opinion only when it is founded upon adequate knowledge of the facts in issue, upon a background of technical competence in the subject matter, and upon honest conviction of the accuracy and propriety of his testimony.

C. The Engineer or Land Surveyor will issue no statements, criticisms or arguments on engineering or land surveying matters connected with public policy which are inspired or paid for by an interested party, or parties, unless he has prefaced his comment by explicitly identifying himself, by disclosing the identities of the party or parties on whose behalf he is speaking, and by revealing the existence of any interest he may have in the matters.

#### 49-304. Conflicts of Interest.

The Engineer or Land Surveyor shall avoid conflicts of interest.

- A. The Engineer or Land Surveyor shall conscientiously strive to avoid conflicts of interest with employer or client, but when unavoidable, the Engineer or Land Surveyor shall forthwith disclose the circumstances to his employer or client. In addition the Engineer or Land Surveyor shall avoid all known conflicts of interest with his employer or client and shall promptly inform his employer or client of any business association, interests, or circumstances which could influence his judgement or the quality of his service.
- B. The Engineer or Land Surveyor shall not accept compensation, financial or otherwise, from more than one party for services on the same project, or for services pertaining to the same project, unless the circumstances are fully disclosed and agreed to, by all interested parties.
- C. The Engineer or Land Surveyor shall not solicit or accept financial or other valuable considerations from material or equipment suppliers for specifying their projects.
- D. The Engineer or Land Surveyor shall not solicit or accept gratuities, directly or indirectly from contractors, their agents, or other parties dealing with his client or employer in connection with work for which he is responsible.
- E. When in public service as a member, advisor, or employee of a governmental body or department, the Engineer or Land Surveyor shall not participate in considerations or actions with respect to services provided by him or his organization in private engineering or land surveying practices.

#### 49-305. Solicitation of Work.

The Engineer or Land Surveyor shall solicit and accept work only on the basis of his qualifications.

- A. The Engineer or Land Surveyor shall not offer to pay, either directly or indirectly, any commission, political contribution, or a gift, or other consideration in order to secure work, ~~exclusive of securing~~ It is not a violation of law to seek or secure salaried positions through employment agencies.
- B. The Engineer or Land Surveyor shall not falsify or permit misrepresentation of his, or his associates' academic or professional qualifications. He shall not misrepresent or exaggerate his degree of responsibility in or for the subject matter of prior assignments. Brochures or other presentations pertaining to the solicitation of employment shall not misrepresent pertinent facts concerning employers, employees, associates, joint-venturers, or his or their past accomplishments with the intent and purpose of enhancing his qualifications and his work.
- C. The Engineer or Land Surveyor shall not review the work of another engineer or land surveyor for the same client, except with the knowledge of such engineer or land surveyor, or unless the connection of such engineer or land surveyor with the work has been terminated.

#### 49-306. Improper Conduct.

~~Improper Conduct. The Engineer or Land Surveyor shall associate only with reputable persons or organizations.~~ The Engineer or Surveyor shall conduct his work with honesty and integrity.

- A. ~~The Engineer or Land Surveyor shall conduct his work with honesty and integrity and~~ The Engineer and Surveyor shall not knowingly associate with or permit the use of his name or organization's name in a business venture by any person or organization which he knows, or has reason to believe, is engaging in business or professional practices of a fraudulent or dishonest nature.
- B. If the Engineer or Land Surveyor has knowledge or reason to believe that another person or organization may be in violation of any of these provisions or of the Code of Laws of South Carolina (1976, as amended), Title 40, Chapter 22, he shall present such information to the Board in writing and shall cooperate with the Board in furnishing such further information or assistance as may be required by the Board.
- C. Engineering and land surveying registrants shall recognize and honor practice restrictions placed upon them by their designated license category or practice tier.

### ARTICLE 4.

## MINIMUM STANDARDS MANUAL FOR THE PRACTICE OF LAND SURVEYING IN SOUTH CAROLINA

49-400. Purpose.

A. These regulations are intended to establish a minimum standards manual for the practice of land surveying in South Carolina.

(1) The standards set forth are to promote uniform requirements for and accurate surveys by land surveyors practicing in South Carolina.

(2) The established guidelines will assist a land surveyor in meeting the needs of his clients so that surveyed properties henceforth can be readily located, mapped and described in a definitive and easily understood manner.

B. These regulations are also intended to provide guidelines that will assist property owners and others who deal with real property such as those in the legal, banking, and real estate professions.

(1) The manual should be of value to property owners in South Carolina when engaging the services of qualified surveyors to establish corners, boundaries and maps of their respective properties.

(2) The manual should assist the Clerks of Court in the various counties of South Carolina in receiving and accepting for recordation maps that are in compliance with appropriate standards and statutory requirements.

49-410. Compliance.

A. All Registered Land Surveyors shall comply with these regulations governing minimum standards for the practice of land surveying in South Carolina.

B. A land surveyor who practices land surveying in South Carolina in violation of the minimum standards contained in this manual, on complaint in writing, sworn to by the complainant and submitted to the Board of Registration for Professional Engineers and Land Surveyors, shall be notified of the complaint and afforded an opportunity to be heard before the Board.

C. The repeated failure to adhere to minimum standards for land surveying as contained in this manual may be considered as prima facie evidence of misconduct in the practice of land surveying on the part of a Registered Land Surveyor.

D. The Board will investigate information from Clerks of Court, clients, individuals, and land owners if in the Board's opinion a land surveyor appears to have performed land surveying which is not in compliance with this manual. When a land surveyor obligates himself and contracts to survey real property in South Carolina by virtue of his registration and the license granted him by this State, he accepts the responsibility to comply with minimum standards prescribed by this manual.

E. The Board shall provide for each Registered Land Surveyor and for each Clerk of Court in this State a copy of the Minimum Standards Manual for the Practice of Land Surveying in South Carolina. Copies will be made available, upon request, for other State officials and the general public.

49-420. General.

A. For the purpose of these regulations, the following terms or words are defined as meaning:

(1) The term "Board" shall mean the South Carolina State Board of Registration for Professional Engineers and Land Surveyors.

(2) The term "manual" shall mean the Minimum Standards Manual for the Practice of Land Surveying in South Carolina.

(3) The term "minimum standards" shall mean the minimum standards for the practice of land surveying.

(4) The terms "land surveyor", "Registered Land Surveyor" or "Professional Land Surveyor" shall mean a surveying practitioner duly registered by the Board for the practice of land surveying in the State of South Carolina.

(5) The terms "Clerk of Court" and "Register of Mesne Conveyance" shall refer to the office in the county having responsibility for recording plats and deeds.

(6) The term "seal" shall mean the raised embossed seal of a Registered Land Surveyor.

(7) The term "accurate" shall mean that degree of accuracy consistent with the standards and tolerances specified in this manual.

B. The proper execution of land surveying and mapping procedures and all other details of a land survey are the direct responsibility of the Registered Land Surveyor whose raised embossed seal and original personal signature shall appear on the plat to be recorded. The fact that a map is approved by a planning department or accepted by Clerk of Court for recordation in no way relieves the land surveyor whose seal appears upon the drawing of the full responsibility to make certain that the plats meet the requirements of this manual.

C. The original plat or map shall remain in the possession of the land surveyor whose seal appears thereon. It should, therefore, be professionally and accurately prepared as a permanent record and after prints or copies have been made for recordation or other purposes the original plat should be carefully preserved by the land surveyor or his firm along with the land surveyor's original field notes, calculations, and work sheets. Such material, in original form, is to be made available when required either by the Board or by the courts.

D. The words "course" and "bearing" are used interchangeably in this manual.

E. Where survey requirements are more stringent than those set forth herein, the land surveyor shall comply with those standards as mandated by federal, state, or local governmental requirements.

F. Surveys which are performed for a specific stated purpose other than boundary surveys as defined herein shall be permitted where unusual conditions make it impractical or impossible to perform the survey to the standards set forth herein, provided the purpose and conditions shall be clearly stated on the survey drawing. This section is not to be used in any way to circumvent the standards in this manual on a survey which can be performed to these standards.

G. Additions or deletions to survey drawings by other than the signing party or parties is prohibited without written consent of the signing party or parties.

H. The land surveyor shall comply with the minimum survey classifications noted herein but has the option to negotiate with each client an agreement for a higher classification.

I. Typical sample maps which represent acceptable practice under the minimum standards set forth in this manual are included in Appendixes (A) General Property Survey, (B) Closing/Loan or Mortgage Survey, (C) Topographical Survey, (D) "Site" Survey, and (E) Property Description. These examples are guidelines to be used by land surveyors in the preparation of their drawings and should not be used solely in place of the text contained herein. They may be used by Clerks of Court in evaluating maps submitted to them for recordation and by property owners in determining the level and quality of workmanship to which they are entitled. Variations in curve data and vicinity maps are acceptable options. Most planning departments require a preliminary plat stage for subdivision before final plats are submitted for recordation, therefore, local requirements should be referred to in such matters.

#### 49-430. Nomenclature.

A. In land surveying work, it is acceptable to employ abbreviations and symbols. When use of such abbreviations and symbols are necessary, the following are acceptable and may be employed in land surveying work in South Carolina:

- (1) Acres: AC
- (2) Angle: Ang
- (3) Avenue: AV
- (4) Azimuth: Az
- (5) Bench Mark: BM
- (6) Catch Basin: CB
- (7) Calculated Course(s): CC
- (8) Calculated Distance: CD
- (9) Curb Face: CF or FOC
- (10) Curb and Gutter: CG
- (11) Chord: CH
- (12) Center Line: CL or C/L or CL
- (13) Concrete Monument, New: Conc. N.

- (14) Concrete Monument, Old: Conc. O.
- (15) Cosine: Cos
- (16) Degree of Curve: D
- (17) Deed Book: DB
- (18) Deflection Angle: Defl Ang
- (19) Departure: Dep
- (20) Drill Hole: DH
- (21) Delta Angle or Defl. Angle at P.I. or Central > or I  
Angle:
- (22) Double Meridian Distance: DMD
- (23) Easement: ESMT.
- (24) East: E
- (25) Error of Closure: EC
- (26) Elevation: EL
- (27) Edge of Pavement: EP
- (28) Foot: Ft.
- (29) Found: Fd
- (30) Gutter: Gut
- (31) Highway: Hwy
- (32) Invert Elevation: I.E. or Inv.
- (33) Iron Pipe, Set: IPS
- (34) Iron Pipe, Found: IPF
- (35) Length of Curve: L or Arc
- (36) Latitude: Lat
- (37) Long Chord: LC
- (38) Magnetic course: MC
- (39) Manhole: MH
- (40) Mile: Mi
- (41) Marker: Mk
- (42) Monument: Mon
- (43) Nail and Cap: N & C
- (44) North: N
- (45) North American Datum 1927: NAD 27
- (46) North American Datum 1983: NAD 83
- (47) North American Vertical Datum 1988: NAVD 88
- (48) National Geodetic Survey: NGS
- (49) National Geodetic Vertical Datum 1929: NGVD
- (50) Offset: O.S. OR O/S
- (51) Perimeter: P
- (52) Pavement: Pave
- (53) Pk Nail: PK
- (54) Plat Book: PB
- (55) Point of Curvature: PC
- (56) Point of Compound Curve: PCC
- (57) Point on Curve: POC
- (58) Point of Intersection: P.O.I. or P.I.
- (59) Point of Tangent: POT
- (60) Point of Reverse Curvature: PRC
- (61) Point on Tangency: PT
- (62) Point: Pt
- (63) Private: Pvt

- (64) Property Line: PL
- (65) Radius: R
- (66) Reference Point: RP
- (67) Railroad: RR
- (68) Reinforced Concrete Pipe: RCP
- (69) Register of Mesne Conveyance: RMC
- (70) Railway: Rwy
- (71) Right of way: R/W
- (72) South: S
- (73) SC State Plane Coordinate-North Zone NAD 27: SC SPCN 27
- (74) SC State Plane Coordinate-South Zone NAD 27: SC SPCS 27
- (75) SC State Plane Coordinate NAD 83: SC SPC 83
- (76) South Carolina Geodetic Survey: SCGS
- (77) Sine: Sin
- (78) Square: Sq
- (79) Square Feet: SF or FT<sup>2</sup>
- (80) Street: St
- (81) Station: Sta
- (82) Stake: Stk
- (83) Tangent of Curve: T
- (84) Tangent: Tan
- (85) Tack: Tk
- (86) Traverse: Tra
- (87) Track: Trk
- (88) US Bureau of Standards: USBS
- (89) Vertical: Vert
- (90) West: W
- (91) Wood: Wd
- (92) Symbols:
  - (a) Degree: °
  - (b) Minute: ‘
  - (c) Second: “
  - (d) Foot or Feet: ‘

B. The following are acceptable abbreviations for metric measures:

- (1) Area: A
- (2) Centimeter: CM.
- (3) Decimeter: DM.
- (4) Hectare: HA.
- (5) Kilometer: KM.
- (6) Meter: M
- (7) Millimeter: MM.
- (8) Square Meter: M<sup>2</sup>

C. Definitions: The following definitions and terminology shall be used in land descriptions:

- (1) Boundary Line: Any line bounding an area or dividing separate properties; adequately dimensioned and described. Such lines may be straight, irregular, circular, or spiral.
- (2) Beginning: A well defined, readily located, and permanent point or monument that is the starting point for a metes and bounds description; and also is the final point of such description.
- (3) Convey: The act of transferring title or rights to a property.

- (4) Grantor: A person or party conveying property or rights to a grantee.
- (5) Grantee: A person or party receiving title or rights to property.
- (6) Title: A written claim or right which constitutes a just and legal cause of exclusive possession.
- (7) Metes and Bounds Description: A description in which the boundary lines starting from a given point are described by listing the direction, distance, and description of corners of the lines forming this boundary; in succession and adjoining owners.
- (8) Description by Lot Number: A description which identifies a lot or tract of land by reference to a recorded plat and by book and page number together with other pertinent information.
- (9) Recorded: Placed on record in the office of the Clerk of Court or Register of Mesne Conveyance for the county in which all or part of the land lies.
- (10) Coordinate Description: A description of lands in which the angle points or other points in the boundary are each referred to by grid coordinates on the South Carolina or similar coordinate system.
- (11) Grid Coordinates: Distances measured at right angles to each other in a rectangular system having two base lines at right angles to each other.
- (12) Survey: The orderly process of determining data relating to the physical characteristics of the earth, which may be further defined according to the type of data obtained, the methods and instruments used, and the purpose(s) to be served.
- (13) Boundary Survey: A survey, the primary purpose of which may include, but is not limited to, the determining of the perimeters of a parcel or tract of land by establishing or reestablishing corners, monuments, and boundary lines for the purpose of describing, or platting or dividing the parcel.
- (14) Closing/Loan or Mortgage Survey: A boundary survey of a parcel or lot which includes all improvements obvious and apparent found on the property, to be used in the preparation of a mortgage, loan or deed document.
- (15) Topographical Survey: A survey of the natural and selected man-made features of a part of the earth's surface by remote sensing and/or ground measurements to determine horizontal and vertical spatial relations.
- (16) Compiled Map: A map drawn from previously recorded documents, photographic material or tax maps which represent the general configuration of the parcel where partial or no actual surveying has been performed by the land surveyor preparing the map.
- (17) "Site" Survey: A survey performed to obtain horizontal and/or vertical dimensional data so that the constructed facility may be located and delineated.
- (18) Geodetic Survey: A survey of areas and points affected by and taking into account the curvature of the earth and astronomic observations.
- (19) Hydrographic Survey: A survey having for its principal purpose the determination of data relating to bodies of water, and which may consist of the determination of one or several of the following classes of data; depth of water and configuration of bottom; directions and force of current; heights and times and water stages; and location of fixed objects for survey and navigation purposes.
- (20) Corner: A point on a land boundary.
- (21) Monument: A shaft of ferrous metal, concrete, stone or concrete and metal; placed to designate a fixed point; placed near vertically in the earth; designed for maximum permanency, placed by a land surveyor to mark corners.
- (22) Witness Monument: Any monument that does not occupy the same defined position as the corner itself, but whose relationship to the corner is established.
- (23) Reference Point: Any defined position that is or can be established in relation to another defined position.
- (24) Benchmark: A relatively permanent material object, natural or artificial, bearing a marked point whose elevation above or below an adopted datum is known.
- (25) Plat: A diagram drawn to scale showing all essential data pertaining to the boundaries and subdivisions of a tract of land, as determined by survey.
- (26) Map: A representation on a plane surface, at an established scale, of the physical features of a part or the whole of the earth's surface, by the use of signs and symbols.

(27) Map of Survey, Plat of Survey, or other Similar Titles: Any drawing of a parcel or tract of real property used for the purpose of depicting the results of a field survey. Each survey drawing shall state the type of survey it depicts as defined in this manual.

49-440. Classification of Surveys.

A. The accuracy of the measurements for a survey shall be based upon the character of the land, the type of survey and the current use of the land. Unadjusted Ratio of Precision permissible shall be no less than the errors of closure prescribed below.

B. On the basis of the size and character of the land, boundary surveys for conveying, mapping, or describing property shall be classified as follows:

(1) (Class A) Urban Land Surveys: Urban surveys include land properties which lie within or adjoin city or town limits, or other high valued properties. These lands usually justify higher surveying accuracy. Bearings shall be shown in degrees, minutes and seconds and distances shall be shown to hundredths of a foot.

(2) (Class B) Suburban Land Surveys: Suburban surveys include properties surrounding the urban area of a town or city. The land represented by these surveys is often valuable, but more important it is land whose value is by definition rapidly increasing. Bearings shall be shown in degrees, minutes and seconds and distances shall be shown to hundredths of a foot.

(3) (Class C) Rural Land Surveys: Rural surveys include properties located outside suburban properties. Bearings shall be shown in degrees and minutes or less and distances shall be shown to hundredths of a foot.

(4) (Class D) Farm and Timber Land Surveys: Timber surveys include properties located throughout the State and represent land which may be cultivated, may provide space for farm houses and buildings; or may be employed as timber land. Bearings shall be shown in degrees and minutes or less and distances to the nearest tenth of a foot or less.

(5) (Class E) Vertical Control Surveys: Surveys involving vertical control (leveling) for land areas where a common datum is necessary shall be classified on the basis of accuracy.

(a) Urban Control: Control loops employed for commercial, industrial, or urban land surveys shall be executed with a precision or error of closure not to exceed in feet 0.04 times the square root of the number of miles of the level circuit.

(b) Other: Other leveling surveys shall be conducted with a precision or error of closure not to exceed in feet 0.10 times the square root of the number of miles of the level circuit.

C. Table of Classifications:

	A	B	C	D
Classification	Urban Surveys	Suburban Surveys	Rural Surveys	Farm & Timber Surveys
Unadjusted Closure (Minimum)	1:10000	1:7500	1:5000	1:3000
Angular Closure (Maximum)	15" <<SqRoot>>N	20" <<SqRoot>>N	30" <<SqRoot>>N	50" <<SqRoot>>N
Location of Improvements, Structures, Paving, Etc.: (Tie Measurement)	+/- 0.1'	+/- 0.2'	+/- 1.0'	+/- 2.0'

N = Number of Points in Traverse

49-450. Plats and Platting.

A. A plat, as defined by this manual, is an accurate graphical representation, neatly lettered and properly dimensioned, report of a survey made by a Registered Land Surveyor of a finite piece of land property, including pertinent data and appropriate information.

B. A land survey requiring a plat should be accurately presented and should reveal all of the pertinent information developed by the survey. The plat is a valuable asset to a client and/or land owner in developing property; in locating buildings and improvements; for subdividing; and in transferring or selling property.

#### 49-460. Survey Types and Requirements.

A. General Property Surveys: The following general requirements apply to all survey types included in this manual.

(1) The size of the plat should conform with the requirements of the Clerk of Court or the Register of Mesne Conveyance of the county in which the plat is to be recorded with minimum size to be eight and one-half inches by eleven inches. Due to the reduction of plats, in almost all county offices, care should be given to selection of pen size and character size, so data will be legible.

(2) A plat shall be a print or tracing, sealed with the land surveyor's impression seal, and signed by the Registered Land Surveyor.

(3) All survey plats shall have a title and contain the following information:

(a) The embossed seal and the signature of the Registered Land Surveyor responsible for the full conduct of the survey;

(b) A location map and/or adequate descriptive location of the property surveyed;

(c) The state, county and/or city in which the property is located;

(d) The name of the owner, company or agent of the property who requested the survey document;

(e) The date the survey was completed;

(f) A graphic scale;

(g) A numerical scale;

(h) The name, registration number and address of the land surveyor.

(i) A certification executed by the Registered Land Surveyor which will contain a statement of the class of the survey performed as follows:

"I hereby state that to the best of my knowledge, information, and belief, the survey shown hereon was made in accordance with the requirements of the Minimum Standards Manual for the Practice of Land Surveying in South Carolina, and meets or exceeds the requirements for a Class \_\_\_\_\_ survey as specified therein."

(j) The area of the parcel of tract surveyed will be shown consistent with the class of survey or at least to the nearest one-hundredth (0.01) of an acre.

(k) At least one corner of the property surveyed shall be referenced so as to form a tie-line which can be used to help establish or verify the correct location of the property.

(l) right-of-way shall be shown on the survey document.

(m) The North arrow shall be shown and shall be accurately correlated with the courses so that it is accurately positioned and designated as astronomic, grid or magnetic, with date if different from date of plat.

(n) All property lines shall be defined by bearings and horizontal distances and plotted to scale indicated on the plat.

(o) Bearings and distances shall be shown consistent with the class of the survey.

(p) The Registered Land Surveyor shall retrace the boundaries of the property he is surveying and set or reset monuments or corners consistent with the class of survey and accepted practices of boundary retracement. All monuments found or placed must be described on the survey drawing with data given to show their location upon the ground in relation to the boundary lines. When a property corner cannot be set, a witness monument shall be placed and so noted on the survey document.

(q) All new or re-established corners shall be:

1. Metal, concrete, or other durable material and detectable with conventional instruments for finding ferrous or magnetic objects;
2. No less than 1/2 inch in diameter for metal corners and 4 inches in diameter for concrete;
3. No less than 24 inches in length;
4. In place prior to the signing, sealing and issuance of the plat.

(r) Where a boundary is formed by a curved line, the curve will be defined by curve data to include the radius, delta, arc length and the long chord, by course and distance. The curve may also be defined as a traverse of chords around the curve. Chord shall be defined by course and distance.

(s) All known or discovered encroachments or projections onto or from adjoining property or abutting streets must be indicated with the extent of such encroachment or projections, if required, shown or noted on the survey document.

(t) Visible easements and rights-of-way on the site, obvious and apparent or known to the surveyor, shall be shown and shall include their widths, if known.

(u) Cemeteries and burial ground located within the premises surveyed shall be located and shown upon the drawing if obvious and apparent, or if knowledge of their existence and location is furnished to the land surveyor.

(v) Lot and block numbers and/or the full names of adjoining land owners, and the names and/or numbers of principal highways, roads, streets or railroads, shall be shown, on the plat, with their rights-of-way. The plat book and page number of the subdivision as recorded by the Register of Mesne Conveyance or Clerk of Court of the county where the survey document is recorded should be included.

1. Visible easements and rights-of-way which cross or form a boundary of property being surveyed, or other pertinent details of the site which are obvious, apparent, or known to the surveyor, shall be plotted to the scale as shown in the title block and defined by name and width, if known.

2. Control corners, monuments or property corners, on adjoining properties, used in the establishment or verification of property corners, shall be identified, located and defined, by course and distance, to an accuracy, consistent with the class of survey.

(w) Boundaries formed by water courses shall be located and plotted to scale as shown in the title.

(x) If calculated lines are not shown, traverse lines and/or off-set lines used to close water course boundaries shall be shown, plotted to scale, and defined by course and distance. Note "Creek the line" where applicable.

(y) Maps prepared partially or entirely from reference or source data, such as compiled maps, do not represent land surveys as defined herein, and shall not be sealed or signed. Compiled maps shall be clearly marked as such. Only plats reporting a complete ground survey of a property shall be sealed or signed as land surveys.

(z) Compiled maps must have a prominently displayed statement that the said document does not represent a land survey and is unsuitable for deeding of property or recordation.

B. Closing/Loan or Mortgage Surveys: In addition to the requirements set forth in Section 49-460 A., General Property Surveys, the following applies to closing/loan or mortgage surveys:

(1) If a survey is all or a portion of a lot which is part of or adjoining a recorded subdivision, lot and block numbers or other designations including those of adjoining lots must be shown on the drawing.

(2) Structures shall be dimensioned to show size and location in relation to the boundary.

(3) Location distances are to be measured perpendicular from the closest side and front lines.

(4) Types of construction may be noted.

(5) Physical features obvious and apparent to the surveyor such as storm drains, power lines, etc. on the subject property shall be shown and plotted to scale.

(6) Accuracy requirements of residential lots shall be consistent with the class of survey or a maximum closure of 0.05 foot, whichever is less restrictive.

(7) A certification shall be executed by the Registered Land Surveyor which will contain a statement of the class of survey performed as follows:

"I hereby state that to the best of my knowledge, information, and belief, the survey shown herein was made in accordance with the requirements of the Minimum Standards Manual for the Practice of Land

Surveying in South Carolina, and meets or exceeds the requirements for a Class \_\_\_\_\_ survey as specified therein; also there are no visible encroachments or projections other than shown.”

C. Topographical Surveys: The following applies to topographical surveys:

- (1) Structures shall be shown in relation to the boundary.
- (2) Physical features obvious and apparent to the land surveyor such as storm drains, sanitary sewers, power lines, gas lines and water lines on the subject property shall be shown and plotted to scale.
- (3) Elevations may be shown as spot elevations and/or contours.
- (4) Contour intervals shall be noted.
- (5) The vertical and horizontal error of contour lines and physical features shown shall not exceed one-half the contour interval.
- (6) An on-site temporary bench mark shall be established with reference to datum, preferably NGVD, and plotted to scale as shown on the title.
- (7) The following items from Section 49-460 A. (3) shall be used when a general property survey is not made in conjunction with the topographic survey: a through h, l through n, r through v-1, w and x.

D. “Site” Surveys: In addition to all of the requirements set forth in Section 49-460 A., General Property Surveys, the following applies to “Site” surveys:

- (1) If a survey is all, or a portion of a lot which is part of or adjoining a recorded subdivision, the lot and block numbers or other designations including those of adjoining lots must be shown on the drawing.
- (2) Structures shall be dimensioned to show size and location in relation to the boundary.
- (3) Location distances are to be measured perpendicular from the closest side line and front line.
- (4) Type of construction may be noted.
- (5) Physical features obvious and apparent to the land surveyor shall be shown and plotted to scale.
- (6) A certification shall be executed by the Registered Land Surveyor which will contain a statement of the class of survey performed as follows:

“I hereby state that to the best of my knowledge, information, and belief, the survey shown herein was made in accordance with the requirements of the Minimum Standards Manual for the Practice of Land Surveying in South Carolina, and meets or exceeds the requirements for a Class \_\_\_\_\_ survey as specified therein; also there are no visible encroachments or projections other than shown.”

E. Subdivision Surveys: In addition to the requirements set forth above in Section 49-460A., General Property Surveys, the following applies to subdivision surveys: A subdivision for the purpose of this manual shall be defined as any partitioning of land that divides one parcel or tract into two or more parcels or tracts. Surveys of parcels described by metes and bounds within a tract of land shall show the relationship of those parcels to at least two established identifiable real property corners by bearings and distances consistent with the class of survey. For subdivision survey plats which do not reflect bounds of the previous parcel, a statement shall be provided to clearly indicate that a subdivision or resubdivision of property has occurred.

49-470. Methods of Marking Property Boundaries.

- A. Corner Tree: “X” and three (3) chops on the sides where the line enters and leaves the tree.
- B. Corner Witness Tree: One (1) blaze and three (3) chops or three (3) chops facing the corner.
- C. Side Line Tree: Two (2) chops facing the property line.
- D. Property Line Tree or Center Line Tree: One (1) blaze and two (2) chops, at points where the line enters and leaves the tree.
- E. Inaccessible Point: In the event a corner cannot be marked or monumented, one or more witness monuments or metal stakes shall be placed on the boundary line and described by bearings and/or distances so that the inaccessible point may be located accurately on the ground.
- F. Boundary Monument or Witness Monument: It is recommended that every new boundary monument or witness monument be identified with a durable marker or cap bearing the name of the surveying company or the land surveyor in responsible charge of the survey. In the event the location falls on pavement, concrete, or other material where it cannot be marked with a cap, it is permissible to use spikes or scribes in or on the surface.

#### 49-480. Land Descriptions.

A. Land Description: A land description is the detailed statement of appropriate information necessary to locate, relocate, or define the boundaries of a certain area or tract of land.

(1) A land description can be part of a land survey and can be used in connection with the preparation of deeds or similar documents.

(2) It is the land surveyor's responsibility to make certain that the land surveyor's description is complete and proper. The fact that some element or object which should be described is not included in the above does not justify the land surveyor's omitting it from his description.

B. Preparing a Description: In a land survey the land description may be prepared by the land surveyor. The writing of a deed is the practice of Law and is not the practice of land surveying. In a description the full name, address, and signature of the land surveyor, his registration number and seal, the date the land description was prepared, and the date of survey from which the information was procured, or the book and page number of the recorded map or deed, if it is used in preparing the description, shall appear as part of the document. A typical land description which represents acceptable practice under the minimum standards set forth in this manual is included in Appendix (B).

C. Types of Land Descriptions and Their Content: In describing a lot located in a subdivision by number, the plat or map must be referenced with the name of the subdivision, the land surveyor's name, the date, the township and the general location of the property. In addition, the book and page number in which the particular lot is recorded shall be included.

D. Metes and Bounds Description: A metes and bounds description shall include the general location of the tract or lot with sufficient accuracy such that the tract can be readily located on the ground. This is commonly known as a "being clause" and it should also include the source of title of the tract or lot. The point of beginning must be selected such that it can be readily and accurately located from some previously established monument or corner of record and can be readily described. The description shall include the names of adjoining property owners on all lines and at all points. The monument or marker at each corner shall be described. A metes and bounds description shall describe all courses in logical sequence around a tract or lot in a clockwise direction such that the ending point is the beginning point. All lines adjacent to streets, roads, or other rights-of-way shall be referenced to these and all pertinent distances and curve data shall be listed in addition to the parcel's area.

#### 49-490. Instruments and Apparatus.

A. Surveyor's Instruments: Land surveying in South Carolina shall be conducted in the field with a properly adjusted instrument appropriate to the tolerance of work being performed. The instrument shall be tested at regular intervals and adjusted to maintain its optimum accuracy.

B. Tapes: All tapes shall be of alloy or carbon steel and shall be certified as USBS quality with a known coefficient of temperature and tension corrections, and graduated in feet and decimal parts of a foot or calibrated to another tape or means that has been certified by the USBS or NGS.

C. Baselines: Baselines have been established by NGS throughout the State for the purpose of calibrating electronic distance measuring devices. Some of these baselines have 100' monuments to calibrate tapes. Registered land surveyors shall utilize these baselines to insure calibration of their electronic measuring equipment and tapes. Calibration records for each instrument and tapes shall be maintained by the Registered Land Surveyor and shall be made available when required by the Board or the courts.

### ARTICLE 5.

#### ~~AGREEMENTS AND UNDERSTANDINGS WITH OTHER BOARDS~~

#### ~~49-500. Agreements and Understandings with Other Boards.~~

~~The Board has the authority to enter into agreements and understandings with other boards where the scope of authority granted other registered professionals overlap with those granted to engineers and land~~

surveyors. Such agreements and understandings will be published for the information and guidance of all registered engineers, land surveyors and other interested parties. RESERVED

ARTICLE 6.

CONTINUING PROFESSIONAL COMPETENCY

49-600. Purpose.

A. Professionals licensed to practice engineering, land surveying, or engineering and land surveying in South Carolina are required to demonstrate a continuing development of professional competency.

B. Each licensee shall meet the continuing professional competency requirements of these regulations as a condition for biennial registration renewal of license, effective July 1, 2002. Engineers and Land Surveyors continuously licensed by this Board prior to January 1, 1969 will be exempt from continuing education requirements, effective July 1, 2001.

49-601. Definitions.

Terms used in this section are defined as follows:

- (1) Professional Development Hour (PDH) -A contact hour (nominal) of instruction or presentation. The common denominator for other units of credit.
- (2) Continuing Education Unit (CEU) -Unit of credit customarily used for continuing education courses.
- (3) College/Unit Semester/Quarter Hour -Credit for courses in EAC/ABET approved programs or other related college courses approved in accordance with provision 49-604 of this section.
- (4) Course/Activity -Any qualifying course or activity with a clear purpose and objective which will maintain, improve, or expand the skills and knowledge relevant to the licensee's field of practice.
- (5) Dual Licensee -A person who is licensed as both an engineer and a land surveyor.

49-602. Requirements.

A. ~~Every licensee is required to obtain 15 PDH units each year. Effective July 1, 2002,~~ Each licensee is required to obtain 30 PDH units during each biennial renewal period.

B. If a licensee exceeds the requirements in any renewal period, a maximum of 15 PDH units may be carried forward into the subsequent renewal period. ~~Effective July 1, 2002, a licensee may carry forward 15 PDH units into the subsequent biennial renewal period.~~

C. PDH units may be earned as follows:

- (1) Successful completion of college courses.
- (2) Successful completion of continuing education courses.
- (3) Successful completion of correspondence, televised, videotaped, and other short courses/tutorials.
- (4) Attending qualifying seminars, in-house courses, workshops, or professional or technical presentations made at meetings, conventions, or conferences.
- (5) Teaching or instructing in (1) through (4) above.
- (6) Authoring published papers, articles, or books.
- (7) Active participation in professional or technical societies.
- (8) Successful application for patents.

49-603. Units of Credit.

The conversion of other credit to PDH units is as follows:

- (1) 1 College or unit semester hour ..... 45 PDH
- (2) 1 College or unit quarter hour ..... 30 PDH
- (3) 1 Continuing Education Unit ..... 10 PDH
- (4) 1 Hour of professional development for attendance in course work, seminars, or professional or technical presentations made

- at meetings, conventions, or conferences ..... 1 PDH
- (5) For teaching as in 49-602C(5) ..... PDH Credits are doubled
- (6) Each published technical or professional paper, article or book ..... 10 PDH
- (7) Active participation in a professional and technical society ..... 2 PDH
- (8) Each patent ..... 10 PDH

49-604. Determination of Credit.

The Board has final authority with respect to approval of courses, credit, PDH value for courses and other methods of earning credit.

- (1) Credit for college or community college approved courses will be based upon course credit established by the college.
- (2) Credit for qualifying seminars and workshops will be based on one PDH unit for each hour of attendance. Attendance at qualifying programs presented at professional and/or technical society meetings will earn PDH units for the actual contact time of each program.
- (3) Credit determination for activities 49-603-(6) and 49-603-(8) is the responsibility of the licensee, subject to review as required by the Board.
- (4) Credit for activity 49-603-(7), active participation in professional and technical societies is limited to 2 PDH units per organization, with a maximum of 4 PDH units per year, and requires that a licensee serve as an officer, or actively participate in a committee of the organization, or have at least a 50% documented attendance at meetings held not less than eight times per year. PDH credits for participation in a professional or technical society are not earned until the end of the administrative year of the society.
- (5) Teaching credit is valid for teaching a course or seminar for the first time only. Teaching credit does not apply to full-time faculty.

49-605. Record Keeping.

A. The responsibility for maintaining records used to support credits claimed is that of the licensee. Records required include, but are not limited to:

- (1) A log showing the type of activity claimed, sponsoring organization, location, duration, instructor's or speaker's name, and PDH credits earned;
- (2) Attendance verification records in the form of completion certificates or other documents supporting evidence of attendance, or;
- (3) Records as maintained by the National Society of Professional Engineers (NSPE) Professional Development Registry for Engineers and Surveyors (PDRES), or other recognized repositories for such records.

B. These records must be maintained for a minimum period of three years during which copies may be requested by the Board for audit verification purposes.

C. If, upon review or audit by the Board, any or all PDH units claimed by the license holders are disallowed, the license holder will be allowed a twelve month period during which such deficiencies must be remedied.

49-606. Exemptions.

A licensee may be exempt from the professional development educational requirements for one or more of the following reasons:

- A. New licensees by way of examination or comity shall be exempt for their first renewal period.
- B. A licensee serving on temporary active duty in the armed forces of the United States for a period of time exceeding one hundred twenty (120) consecutive days in a year shall be exempt from obtaining the professional development hours required during that year.

C. Licensees experiencing physical disability, illness, or other extenuating circumstances as reviewed and approved by the Board may be exempt. Supporting documentation must be furnished with any such exemption request made to the Board.

D. Licensees who list their occupation as "Retired" on the Board approved renewal form and who further certify that they are no longer receiving any remuneration from providing professional engineering or land surveying services shall be exempt from requirements for professional development hours. In the event such a person elects to return to the active practice of professional engineering or land surveying, professional development hours must be earned, before returning, for each year exempted, not to exceed the annual requirement for two years.

#### 49-607. Reinstatements.

A. A licensee may bring an inactive license to active status by obtaining all delinquent PDH units, provided other provisions of the statutes are met.

B. If the total number of PDH units required to become current exceeds 30, then 30 shall be the maximum number of PDH units required.

#### 49-608. Comity/Out-of-Jurisdiction Residents.

The Continuing Professional Competency (CPC) requirements for South Carolina will be satisfied when a non-resident certifies that he or she is licensed in and has met the mandatory CPC requirements of any other jurisdiction which has CPC requirements substantially equivalent to those of this State. Notwithstanding these provisions, non-resident license holders must maintain appropriate records and shall be subject to provisions of 49-605.

#### 49-609. Dual License Holders.

The total number of PDH units required shall be the same as that required for a single license holder; but at least one-third of the units shall be obtained separately for each profession.

#### 49-610. Reporting Forms.

A. All renewal applications will require the completion of a continuing education form specified by the Board. Contain a statement of verification that the licensee has obtained the required professional development hours at the time of renewal. Upon audit, the licensee must supply, as applicable, report the course date, sponsoring organization, location, activity title, brief description and PDH's claimed; and provide documentation of attendance or completion as well as any other information required by the Board.

B. The licensee must certify and sign the continuing education form, and submit the form with the renewal application and fee. Failure to fulfill the professional development requirements or to comply with the Board's audit shall be considered a violation of the Registration Law for Professional Engineers and Surveyors.