



Board of
Architectural
Examiners

and

Board of
Registration for
Professional
Engineers and
Land Surveyors

present

Building Official Manual



South Carolina Department of Labor, Licensing and Regulation
Division of Professional and Occupational Licensing

100. INTRODUCTION

This manual has been developed jointly by the South Carolina State Board of Architectural Examiners and the South Carolina State Board of Registration for Professional Engineers and Surveyors to aid building officials and design professionals in better understanding and applying the laws and principles governing architecture and engineering in the State of South Carolina as they relate to buildings and structures.

Information provided in this manual does not attempt to address all the questions concerning the practices of architecture and engineering. While some items identified herein are taken from South Carolina statutes, other items are recommended practices or Board policies. Appendix A of this manual addresses questions frequently asked by building officials. Appendix B states definitions in each Board's statutes.

Before undertaking the design of a building or structure in any county or municipality, we recommend that the design professional contact the local building official as certain codes and standards may vary from jurisdiction to jurisdiction within the state. If you need information or assistance concerning requirements of the two state boards, please write or contact:

Board of Architectural Examiners

P.O. Box 11419
Columbia, SC 29211-1419
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and

**Board of Registration for
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**South Carolina Department of Labor, Licensing and Regulation
Division of Professional and Occupational Licensing**

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200. DUTY OF THE BUILDING OFFICIAL

Section 40-3-320. Building Officials required to have sealed plans. (Architectural Registration Law) The building official or other authority charged with the responsibility of issuing building or other similar permits of any county, municipality, or other subdivision, before issuing the permit, must be in possession of a sealed set of plans and specifications for which the seal of a registered architect is required and to verify that the architect who sealed the architectural plans and specifications is an architect registered in South Carolina.

Section 40-22-270 (8). Duty of Building Official. (Engineering Registration Law) The Building Official, or other designated authority charged with the responsibility of issuing building or similar permits, shall refuse to issue a permit for any undertaking, the plans and specifications for which would require the seal of a Professional Engineer, unless the permit applicant has furnished satisfactory evidence the documents are exempt from the requirements of this Chapter. The Building Official, or designated authority charged with the responsibility of issuing building or similar permits, shall report to the Board the name and address of a person who has or is suspected to have violated provisions of this Chapter relating to the unlicensed practice of engineering.

Commentary: There are building projects for which plans and specifications prepared by an architect alone may suffice. There are building projects for which plans and specifications prepared by an engineer alone may suffice. And there are building projects where plans and specifications prepared jointly by both engineers and architects are needed.

Registration laws for the professions of engineering and architecture recognize there are elements of both professions that might be embodied within the practice of either profession. In an effort to help practitioners of the two professions, and also those who work with these practitioners, the two licensing boards have jointly approved a policy on the “incidental” practice of engineering and architecture. That policy is published in Section 300 of this manual.

300. BUILDINGS THAT REQUIRE ARCHITECTURAL AND ENGINEERING SEALS

GENERAL STATEMENT

Unless exempted by law, all buildings, structures and building systems constructed in the state of South Carolina must be designed by licensed architects, licensed engineers or a combination of licensed architects and engineers. Building types and sizes that are exempt from provisions of the architectural and engineering design licensing laws are described below.

On most building projects, the services of both architects and engineers would be required – plans and specifications prepared by these practitioners are required to be sealed by the respective design professionals in responsible charge.

But not all projects absolutely require the services of both design professions. To help address the complex matter of which professions (and professional seals) should be used on building projects, the two licensing boards have adopted the “incidental” practice of engineering by architects and the “incidental” practice of architecture by engineers. That policy is published in this section of the manual.

Please Note: All references in this manual to the Standard Building Code should be understood to be references to the International Building Code as adopted by the South Carolina Building Codes Council. The Statute of the Board of Architectural Examiners has not yet been revised accordingly.

SECTIONS OF ARCHITECTURAL AND ENGINEERING LAWS

Architectural Registration Law

SECTION 40-3-290. Exceptions from coverage of chapter.

(A) Nothing in this chapter prohibits a general contractor or a home builder from the preparation and use of details and shop drawings, assembly or erection drawings, or graphic descriptions used to detail or illustrate a portion of the work required to construct the project in accordance with the plans and specifications prepared or to be prepared under the requirements of this chapter.

(B) Nothing in this chapter prevents or affects the practice of any other legally recognized profession.

(C) If the drawings and specifications are signed by the authors with the true title of their occupations, this chapter does not apply to the preparations of plans and specifications for:

(1) a building which is to be used for farm purposes only;

(2) a building less than three stories high and containing fewer than five thousand square feet of total floor area except buildings of assembly, institutional, educational, and hazardous occupancies as defined by the Standard Building Code, regardless of area;

(3) a detached single-family or two-family dwelling, as defined in Group R3 of the Standard Building Code, regardless of size, with each unit having a grade level exit and sheds, storage buildings, and garages incidental to the dwelling;

(4) alterations to a building to which this chapter does not apply, if the alterations do not increase the areas and capacities beyond the limits of this chapter or affect the structural safety of the building.

(D) Nothing in this chapter prevents or affects the practice of engineering, as defined in Chapter 22 of Title 40, or architectural work incidental to the practice of engineering.

Engineering Registration Law

Section 40-22-280 (B) & (C)

Buildings exempt from the requirements of engineering registration laws are those stated in Section 40-22-280 (B) and (C). Those exempted buildings are as follows:

(B) If drawings and specifications are signed by the authors with the true title of their occupations, this chapter does not apply to the preparation of plans and specifications for:

(1) farm buildings not designed or used for human occupancy;

(2) buildings and structures less than three stories high and less than five thousand square feet in area, except that buildings of assembly, educational, hazardous, and institutional occupancies as defined by the International Code Series regardless of area are not exempt from the provisions of this chapter; and

(3) alterations to a building to which this chapter does not apply, if the alterations do not result in a change which would otherwise place the building under the application of this chapter.

(C) This subsection may not be construed to prejudice a law, ordinance, regulation, or other directive enacted by another political body or a requirement by a contracting authority which would otherwise require preparation of plans and specifications under the responsible charge of a professional engineer or professional surveyor.

INTERPRETATION

The Board of Architectural Examiners and the Board of Registration for Professional Engineers and Surveyors have approved the following interpretation of Section 40-3-290 of the Architectural Registration Law and Section 40-22-280 of the Engineering Registration Law. This interpretation is provided as a guide for building officials, permitting authorities, owners, contractors, and citizens in determining when architectural and/or engineering services are required and when such professional services are not required.

Interpretation: Sections 40-3-290 and 40-22-280 of the South Carolina statutes outline specific instances when a design professional is NOT required for the design of a building. Such situations include farm buildings, detached single-family dwellings, two-family dwellings (duplexes), and buildings less than 3 stories in height and containing less than 5000 square feet of total floor area. A design professional is required, however, if the building that is less than 5000 square feet is classified as one of assembly, institutional, educational, or hazardous occupancy by the Building Code. A design professional is required for these buildings regardless of their size.

For instances where there may be confusion regarding the language in other parts of the statutes, the Architectural and Engineering Boards provide the following guidance:

- All buildings of assembly, regardless of size, require the services of a design professional. Assembly uses include, but are not limited to, movie theaters, banquet halls, night clubs, restaurants, art galleries, churches, courtrooms, funeral parlors, libraries, museums, and stadiums.
- All institutional buildings, regardless of size, require the services of a design professional. Institutional buildings include, but are not limited to, residential board and care facilities, assisted living facilities, halfway houses, group homes, congregate care facilities, social rehabilitation facilities, alcohol and drug centers, hospitals, nursing homes, mental hospitals, jails, adult care facilities, and day care facilities for more than five children younger than 2 ½ years of age.
- All educational facilities, regardless of size, require the services of a design professional. Educational facilities include day care facilities for more than five children older than 2 ½ years of age, use of a building by six or more persons at any one time for educational purposes through the 12th grade, and religious educational rooms.
- All hazardous use facilities, regardless of size require the services of a design professional.

- Residential buildings that house more than two families require the services of a design professional. Residential buildings include boarding houses, hotels, apartment houses, townhouses, convents, dormitories, fraternity/sorority houses, and monasteries.

UPFITS AND ALTERATIONS

Upfits or alterations to a building that is less than 5000 square feet and less than 3 stories in height do not require the services of a design professional unless the alterations will increase the area of the building beyond 5000 square feet or affect the structural safety of the building. If either the building size or structural safety is affected by the alteration, the services of a design professional are required. If the use of a building is one of assembly, institutional, educational, or hazardous occupancy or if the use of a building changes to become one of assembly, institutional, educational or hazardous occupancy, the services of a design professional are required (regardless of size).

Designs for alterations inside of a building that exceeds 5000 square feet must also be done by a design professional. Example: A former warehouse (30,000 square feet) is now used for retail shops such as fast foods, gift shops, or personal services (tanning beds, manicure salons). Alterations to any one of these spaces require the services of a design professional even though the retail space is less than 5000 square feet. The overall life/safety issues of the total building must be considered as a whole. The Boards believe that piecemeal changes to individual business spaces, over time, may adversely affect the safety of the individuals who use the building. For this reason, a design professional should coordinate the changes to the smaller retail space within the overall layout of the entire building. The same principle applies to strip shopping centers and malls where one of the retail spaces is being renovated for a new tenant.

JOINT POLICY ON INCIDENTAL PRACTICE

The following policy statement has been approved by both the South Carolina State Board of Architectural Examiners and the South Carolina Board of Registration for Professional Engineers and Surveyors. The policy statement reflects the interpretation by both boards of incidental practice provisions, which are construed to exist in the licensing laws for both engineering and architecture.

“No licensed engineer shall undertake a project which is primarily architectural and no registered architect shall undertake a project which is primarily engineering; however, no provision of the State Laws referred to above shall be so construed as to prevent any registered architect from doing such engineering work, for which he is qualified, as may be incidental and necessary to the completion of any architectural work lawfully undertaken by such architect; nor so construed as to prevent any licensed engineer from doing such architectural work, for which he is qualified, as may be incidental and necessary to the completion of any engineering work lawfully undertaken by such engineer, as defined in the Code of Laws of South Carolina listed above.

The two Boards must be guided and controlled by the definitions contained in their respective laws but may use discretion in interpreting them.

If engineering or architectural work is performed by persons who are not full-time employees of the licensed engineer or licensed architect employed by the client for the project, those persons shall be registered in the profession concerned and the licensed person’s name shall appear on all documents, plans, etc., prepared by them, when issued for that particular project.”

Any building official who suspects misuse by design professionals of the incidental practice provisions may contact enforcement offices at the two licensing boards for assistance.

Architectural related complaints may be filed on the complaint form found at <http://www.llr.state.sc.us/pol/architects/index.asp?file=disciplininfo.htm>.

Engineering related complaints may be filed on the complaint form found at <http://www.llr.state.sc.us/pol/engineers/index.asp?file=disciplininfo.htm>

400. DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE

On those projects involving multiple design professionals, a “design professional in responsible charge” shall be designated and charged with the responsibility for managing and coordinating the various activities involved in preparing and implementing the construction documents – of which the drawings and specifications are a part.

Normally, the design professional in responsible charge would be one of the design professionals active in the preparation of the construction documents or a separately designated design professional assigned to oversee the construction administration process.

Currently, the S.C. Contractors’ Licensing Board regulates individuals who provide construction management services as construction managers. These individuals must be licensed in South Carolina as a general or mechanical contractor, an architect or an engineer. Section 40-11-320 of the Contractors Licensing Board statutes states, “Construction managers may not perform design work themselves unless properly licensed as an architect or professional engineer.” For more information, please see www.llr.state.sc.us/pol/Contractors. For the full text of the statutes, see <http://www.scstatehouse.net/code/t40c011.htm>.

While construction managers may oversee construction of a project, there are laws that restrict the offer and delivery of architectural and engineering services to only those design professionals and professional firms licensed to provide such services.

The role of the design professional in responsible charge would typically include, but not be limited to, the following activities:

- 1) Serving as point of contact for the design team during the design to coordinate all team participants, including owners, contractors, architects, engineers, building officials and government authorities.
- 2) Verifying that all design elements and submittals to government officials are compatible and provide a logical and comprehensive document.
- 3) Reviewing elements of the design for completeness.
- 4) Serving as a point of contact during the code review and building permit application process.
- 5) Reviewing and coordinating submittal documents prepared by others, including phased and deferred submittal items, for compatibility with the design of the building.
- 6) Acting as point of contact for the design team, code officials and the owner during the construction administration.

500. SEALING OR STAMPING WORK OUTSIDE OF EXPERTISE IS NOT PERMITTED

Architects and engineers as licensed design professionals are granted a privilege by the state to offer and provide design services within their areas of expertise. All design work so performed is to be sealed, signed, and dated as required by the respective registration laws.

Architects and engineers are not authorized to perform design services outside their area of expertise, nor are they authorized to seal work performed by others under the design professional's supervision, but which is not within that design professional's area of expertise.

Architects and engineers are not permitted by law to seal or stamp any work that has not been authored or prepared under their direct supervision.

Commentary: The registration boards recognize that from time to time building projects are undertaken that involve the use of prototypical drawings. Provisions have been made by the boards for the use of prototypical drawings allowing sealing by architectural and engineering registrants, subject to strict conditions.

The sealing of prototypical plans is discussed more thoroughly in Section 600.

600. SEALING AND SIGNING OF PLANS BY REGISTERED ARCHITECTS AND ENGINEERS

In 2004, the South Carolina General Assembly passed the Uniform Electronic Transactions Act www.scstatehouse.net/code/t26c006.doc) that allows electronic signatures (with some exceptions) to have the same force of law as "personal signatures." This law supersedes all other laws in South Carolina requiring a personal signature, but it does not address seals. The use of electronic signatures must be approved by both the sending and receiving entities, but an electronic signature satisfies a law requiring a signature and must not be "denied legal effect or enforceability solely because it is in electronic form." Please click on the link above for more information and the full text of the Act. The Boards are in the process of reviewing current laws for necessary revisions.

All references to signatures in the excerpts below should be understood to include the use of electronic signatures if parties agree. There is no requirement to use electronic signatures.

Plans and other documents prepared by or under the responsible charge of architects and engineers shall be sealed and signed as follows:

Section 40-3-280. Required Seal. (Architectural Registration Law)

- (A) Every architect and firm practicing in this State shall have a seal, the impression of which shall contain the name, the place of business, and the words "Registered Architect, State of South Carolina" with which they shall stamp all drawings, prints, and specifications for use in their profession.
- (B) The seal of the individual architect in responsible charge, as well as the seal of the firm, must appear as an original on each print of the drawings and the index sheet, or sheets, or each set of specifications offered to secure a building permit and one record set for use on the construction site. The required seal identification may be a rubber stamp impression placed on original drawings and specification copy. The architect in responsible charge shall affix his signature over his seal.

Section 40-22-270 Seal of Engineer and Organization. (Engineering Registration Law) Each licensee and each firm practicing under a Certificate of Authorization shall obtain a seal of the design authorized by the Board.

- (1) Individual seals must be under the personal custody and control of the licensee and bear the licensee's name, registration license number, and the legend "Professional Engineer" or "Professional Land Surveyor" except for licenses issued before July 1, 2001, which may have the legend "Registered Professional Engineer" or "Registered Land Surveyor". The seal also shall bear evidence of the license category for professional engineers and the tier designation for professional land surveyors.
- (2) Seals for firms practicing under a certificate of authorization must bear the firm's name, authorization number, and location.
- (3) Plans, specifications, plats, and reports prepared by a licensee or prepared under the licensee's direct supervision must be stamped with seals when filed with public authorities during the life of the licensee's certificate.
- (4) Plans and specifications prepared by a licensee or prepared under the licensee's direct supervision must be stamped with seals when issued for use as job site record documents at construction projects within this State.
- (5) It is unlawful to seal documents with a seal after the certificate of the licensee or the certificate of authorization in the case of firms named on the seal has expired or has been revoked or suspended unless the certificate has been renewed, reissued, or reinstated.

(6) Where individual seals are affixed to plans, specifications, plats, and reports, the licensee shall affix his signature and date under or across the face and beyond the circumference of the seal. The signature and date must not be applied in a manner that obliterates or renders illegible the licensee's license number or name.

(7) The clerk of court or the register of deeds for any county shall refuse to accept for filing or recording a map, plat, survey, or other document within the definition of land surveying, dated after July 1, 1977, which does not have affixed to it the personal signature and prescribed impression seal of a professional land surveyor. No charge may be made by a professional land surveyor for the application of his impression seal.

(8) The building official, or other designated authority charged with the responsibility of issuing building or similar permits, shall refuse to issue a permit for any undertaking, the plans and specifications for which would require the seal of a professional engineer, unless the permit applicant has furnished satisfactory evidence that the documents were prepared by an engineer licensed as required by this chapter or that the documents are exempt from the requirements of this chapter. The building official, or designated authority charged with the responsibility of issuing building or similar permits, shall report to the board the name and address of a person who has or is suspected to have violated a provision of this chapter or a regulation promulgated pursuant to this chapter relating to the unlicensed practice of engineering.

Prototypical Drawings and Specifications:

The **State Board of Architectural Examiners** has adopted the following policy regarding drawings and specifications for prototypical buildings:

A) **Definition:** Prototypical plans are model plans of buildings designed for clients (such as fast food chains, postal services, etc.) that are intended to be built in several locations with substantially few changes, except those required to adapt the plans to each particular site.

B) **Policy:**

The Architect must:

- 1) Have written permission of the original architect to adapt the plans;
- 2) Completely review the plans for code compliance and coordination, see that the engineering drawings are properly sealed, and document all reviews and changes made to the plans;
- 3) Remove or void title blocks or seals of other architects on all drawings;
- 4) Take responsibility for plans that he seals.

The **Board of Registration for Professional Engineers and Land Surveyors** has adopted the following policy regarding prototypical buildings:

A. Definition of Prototypical Documents:

For purposes of this policy, prototypical documents are defined as site adapt drawings prepared by others or Federal Agency documents submitted via South Carolina Professional Engineers to state permitting authorities.

B. Site Adapt Drawings Prepared by Others:

- 1) Only drawings prepared and sealed by a Registered Professional Engineer may be site adapted;
- 2) The site adapt Engineer must be duly licensed to practice in the State of South Carolina.
- 3) Written permission must be granted by the Engineer who has sealed the original drawings or by the legal owner(s) of the documents;
- 4) All documents must be reviewed and any necessary revisions made to bring the documents into compliance with applicable codes and regulations and to meet specific job requirements;
- 5) After the review and incorporation of necessary changes, the site adapt Engineer shall remove or void the title block and seals of other engineers on the document, apply his title block and seal, and add the following, or a statement of similar meaning, signed by the site adapt Engineer:

“These documents have been prepared for site adaptation with the approval of the original designer (or the legal owner) of these documents.”

- a) The site adapt Engineer shall maintain design control over the use of the site adapt documents. (The site adapt Engineer accepts professional responsibility when he seals the site adapt documents, just as if they were his original designs.)

4) Federal Agency Documents Submitted via South Carolina Professional Engineers to State Permitting Authorities:

- a) The original documents shall have been prepared under the direct supervisory control of a professional engineer;
- b) The Registered Professional Engineer shall thoroughly check all calculations, specification and drawings produced by the agency;
- c) The Registered Professional Engineer shall make on-site observations and/or such revisions as deemed sufficient to safeguard the life, health, property and welfare of the public;
- d) The Registered Professional Engineer shall have final authority over the document contents;
- e) The Registered Professional Engineer should have a written agreement with the agency that documents will be issued by the agency without alterations;
- f) The Registered Professional Engineer shall seal the documents. (In sealing the documents, the Registered Professional Engineer assumes professional responsibility for the documents so sealed.)

700. MINIMUM RECOMMENDED STANDARDS FOR BUILDING PLANS

Plans and specifications submitted to the building official should be of sufficient nature to clearly describe the project with appropriate emphasis on the following:

- 1) Structural integrity
- 2) Life safety
- 3) Barrier-free accessibility
- 4) Building codes compliance
- 5) Definition of work scope

The type and number of drawings will depend greatly upon the size, nature and complexity of the project and the method of project delivery. The following is a recommended, but not a mandatory, standard for most building projects. Additions and renovations, and some other projects types, may not require all of the following components for plan submittal and review for permit.

Cover Sheet:

- 1) Project identification
- 2) Project address and location map
- 3) Listing of design professionals
- 4) Name of the design professional in responsible charge (that is, the professional who is responsible for project coordination). All communications should be directed through this individual.
- 5) Design Criteria list:
 - a) Occupancy group
 - b) Type construction
 - c) Location of property
 - d) Seismic zone
 - e) Square footage/Allowable area
 - f) Fire sprinkler requirements (if any)
 - g) Height and number of stories
 - h) Occupant load
 - i) Land use zone
 - j) Current adopted building code

Site Plan:

Indicate proposed new structure and any existing buildings or structures, property lines with dimensions, streets, easements and set-backs. Show water, sewer, electrical points of connection, proposed service routes and existing utilities on the site. Show required parking, drainage and grading information (with reference to finish floor and adjacent streets). Indicate drainage inflow and outflow locations and specify areas required to be maintained for drainage purposes. Show north arrow.

Foundation Plan:

Indicate foundations and footings. Indicate size, locations, thickness, materials and strengths and reinforcing. Show imbedded anchoring such as anchor bolts, hold-downs, and column base plates. Provide geotechnical criteria and assumptions used for foundation design.

Floor Plan:

Indicate all floors including basements. Show rooms, with their use, overall dimensions and locations of structural elements and openings. Show doors and windows. Provide door and window schedules. Fire assemblies, area and occupancy separations, and draft stops should be shown.

Framing Plans:

Indicate primary structural members, their size, methods of attachment, location and materials for floors and roofs. Provide basic design criteria and material specifications.

Exterior Elevations:

Indicate all views. Indicate vertical dimensions and heights. Show openings and identify all materials.

Building Sections and Wall Sections:

Indicate materials of construction, non-rated and fire rated assemblies and fire rated penetrations. Indicate dimensions of all heights.

HVAC System:

Indicate the heating, ventilating, and air conditioning systems. Include units, sizes, mounting details and air, water and refrigerant systems components and sizes. Provide equipment schedules. Provide basic design criteria.

Plumbing System:

Indicate fixtures, piping, slopes, materials and sizes. Show points of connections to septic tanks, sewer systems, water lines and other applicable utilities.

Electrical system:

Indicate electrical fixtures, wiring, conduit sizes and circuiting; grounding, panel schedules, single line diagrams, and fixture schedules. Show point of connection to utility. Provide basic design criteria.

Fire Protection (If Applicable):

Documentation for facilities with fire sprinkler systems shall include a fire sprinkler system specification sheet and supporting drawings as required by Section 40-10-250 of the Fire Protection Sprinkler Systems Act.

Specifications:

Either on the drawing or in booklet form, further define construction components, covering materials, finishes and all pertinent equipment.

Addenda and Changes:

It should be a responsibility of the prime professional to notify the Building Official of changes throughout the project that alter the scope, impact the building code or impact local zoning requirements, and to provide any appropriate documentation requested by the Building Official.

Revisions:

For clarity, all revisions should be appropriately identified.

APPENDIX A. Frequently Asked Questions and Answers

1. Can drawings and specifications sealed by an architect/engineer registered in another state be used to secure a building permit in South Carolina?

No. Out-of-state architects/engineers must first obtain registration in the State of South Carolina.

2. Can a South Carolina registered architect/engineer seal drawings prepared by an architect/engineer registered in another state?

No, with the exception defined in Section 700 for prototypical building drawings and specifications.

3. Can an owner/builder/contractor make changes to drawings sealed by engineers/architects?

No. Only the design professional who sealed the drawings or, in certain cases, an owner-designated 'design professional in responsible charge' may make changes to sealed drawings and specifications.

4. Can a South Carolina design professional make changes to drawings prepared by another design professional?

Yes. Changes can be made in a documented revision after first obtaining written permission from the originating design professional and the owner.

5. Can a South Carolina registered engineer prepare and seal architectural plans?

No. Unless such architectural work is merely incidental and necessary to the engineer's work and is within his area of expertise and practice experience.

6. Can a South Carolina registered architect prepare and seal engineering plans?

No. Unless such engineering work is merely incidental and necessary to the architect's work and is within his/her area of expertise and practice experience.

7. Can an engineer's calculations be used as a substitute for plans for construction work?

It depends on the circumstances.

a) Yes when the document provides a clear description of work acceptable to the building official for the work intended.

b) No when the document presents only engineering analysis and does not provide a satisfactory description of work for construction purposes.

c) No when amended submittals conflict with the original approved description of work.

8. What are examples of component or supplemental designs that are required to be sealed by a South Carolina design professional when submitted to the Building Official for approval?

Examples include:

- Prefabricated metal buildings
- Prefabricated wood or metal roof trusses
- Prestressed concrete structures
- An alternate to original submittal
- Component or system substitution, which substantially changes scope of work or code application
- Precast concrete building components
- Fire protection systems.

9. Is there a requirement for the submittal of shop drawings to a building official?

No. Shop drawings are not a part of the drawing review/approval process. Exception: See fire protection sprinkler shop drawings information below.

10. Is there a requirement for the submittal of fire sprinkler shop drawings to be sealed by a licensed engineer?

No. But fire protection sprinkler systems for building types, which require the seal of a design professional, must include, as part of the required submittals, a fire sprinkler system specification sheet completed as specified by S.C. law and sealed by a professional engineer. Fire sprinkler shop drawings may be prepared and sealed by a professional engineer or by a properly certified sprinkler design technician. If prepared by a design technician,

and the shop drawings are for a building type as described above, the drawings are to be reviewed and approved by a professional engineer.

11. Can a single architect/engineer seal all drawings (architectural, structural, mechanical and electrical)?
No, with the following exception:

Buildings less than 5,000 square feet, less than three stories, not classified as assembly, institutional, educational, or hazardous occupancy by the applicable building code, and utilizing simple construction systems, do not require seals by both architects and engineers unless, in the judgment of the building official, the design poses a potential risk to the public health, safety, or welfare (example unusual or complex: structural support; exit access and exit systems; mechanical energy recovery, etc).

Building officials should identify complex "at risk" systems and require that they be designed and sealed by appropriately registered design professionals.

12. Is a design professional required to make building design changes based on the building official's interpretation of the code?

Yes. If a design professional declines to make changes based on the building official's interpretation of the code, the code official should request a meeting with the design professional and obtain the design professional's code interpretation in writing.

After meeting, but failing to reach an agreement, refer the design professional to the appeals process available in that jurisdiction.

13. Can a registered landscape architect prepare site grading and site drainage plans?

Yes. This work is within the scope of their practice.

14. Can a registered land surveyor prepare site grading and site drainage plans?

There are two categories of registration for land surveyors – TIER A and TIER B.

TIER A land surveyors are authorized to prepare plot plans which may show topographical and related measurement data. But TIER A land surveyors are not authorized by law to prepare site grading and drainage plans.

TIER B land surveyors are licensed to provide all those services authorized for the TIER A land surveyor and are further eligible to provide sedimentation, erosion control and storm water management plans for subdivisions.

15. Can design professionals certify drawings prepared by a non-registrant as being adequate for obtaining a building permit?

No.

16. Are licensed professional engineers required for design of building utilities such as electrical service, steam systems, refrigeration systems, etc. where no changes or additions to the building structure are necessary?

Yes. The intent of the law is that licensed professionals be involved in design work pertaining to the lawful practice of architecture, engineering, landscape architecture and land surveying. Use of an electrical or mechanical engineer is not precluded simply because a general contractor is not involved in building. See definition of professional engineering.

17. Can a non-registrant prepare plans and specifications for interior space planning and/or remodeling of buildings?

For interior space planning when only cosmetic changes are being made, a non-registrant may prepare plans and specifications. For remodeling of buildings where structural changes are to be made, or walls are being erected or eliminated, a registered design professional is required for buildings more than 5,000 square feet or buildings of assembly, institutional, educational, or hazardous occupancies. Also, if the renovated space is

housed within a building that is more than 5,000 square feet, a registered design professional is required. See Section 300 of the manual.

18. Are separate engineering/architectural seals required for projects that include a pre-engineered steel building?

Yes. Pre-engineered steel structures and their components require the seal of a South Carolina licensed professional engineer. Seals for the other engineering disciplines may also be required for site design, soils analysis, plumbing, HVAC, and electrical. Architectural seals may be required for building circulation, exit access and exit arrangement, accommodations for the physically handicapped, and general construction detailing.

Seals are mandatory for all non-farm use buildings exceeding 5,000 square feet and for all buildings used for (IBC defined) assembly, institutional, educational, or hazardous occupancies, regardless of size.

19. Can anyone, other than the design professional in responsible charge, certify that construction conforms to the requirements of the sealed construction documents?

No. Registrants and non-registrants may be employed to periodically review work in progress and report back to the design professional in responsible charge. However, the evaluation, revision or certification of building code-related construction to authenticate compliance must be performed only by the design professional in responsible charge.

20. What action should a building official take when he/she suspects that a registrant or non-registrant is violating the registration law?

Report the event to the appropriate architectural or engineering registration board.

21. What should an architect/engineer do when he/she suspects that a building official is exceeding his/her authority?

Report the event to the South Carolina Building Codes Council.

22. Can a building official require an exempt structure to be designed by an architect or engineer?

Yes. Building officials can require designs by design professionals when they believe that action is necessary to protect the public safety.

23. Is the life safety design of a building affected by the position and/or construction of half-height or full-height, non-bearing, non-rated partitions?

Yes. The position and construction of partition components affects the path of exit travel, the length of travel, transparency (or lack of transparency), flame spread, smoke contributed and other design components essential to comply with code-mandated life safety design.

24. Regarding a Security of Seal - Can a second party or employee authorized by the design professional sign the seal of the design professional?

No. Every signature over a seal must be placed there by the design professional. See note in Section 700 regarding the legality of electronic signatures.

25. Are professional corporations required to use corporate seals on drawings in addition to individual design professional's seal?

Yes.

26. Is the design professional required to seal and sign each sheet of original drawings issued for permitting?

Yes. See note in Section 700 regarding the legality of electronic signatures.

27. Is the design professional required to seal and sign each sheet of original drawings issued for bidding?

No.

28. Must the design professional seal and sign the title page or index page of each set of specifications used for permitting?

Yes. See note in Section 700 regarding the legality of electronic signatures.

29. Must the design professional seal and sign the title page or index page of each set of specifications used for bidding?

No.

30. Are change orders, revisions, addenda and bulletin drawings required to be sealed by the design professional in responsible charge?

Yes, if changes alter drawings or specifications sealed by a design professional.

31. Are design professionals required to seal presentation drawings used to communicate conceptual information but which are not a part of a set of construction drawings?

No. These drawing are not required to be sealed but should include the firm's name.

32. Are drawings required to be sealed if they bear the name of registered design professionals and were prepared for building construction of any size or occupancy and were submitted to building officials for permitting?

Yes.

33. Can design professionals use signature reproductions such as rubber stamps or computer generated facsimiles?

No. All signatures must be original. See note in Section 700 regarding the legality of electronic signatures.

34. Can a design professional seal a document that was not personally prepared by the design professional or prepared under his/her direct responsible control?

No.

35. Can a design professional modify and seal a deceased design professional's sealed drawings if he/she has the written permission of the owner of the documents?

Yes, but only if the current design professional clearly marks modifications and adds a description of the revisions performed by him/her.

36. Can a design professional seal drawings begun or contracted for by a person not properly licensed?

No, unless the design professional completely revises and re-authors the drawings to produce a coordinated, comprehensive construction document, which is code compliant, making the document his/her own work product.

Interior Design-Related Questions

Are interior designers licensed by the State of South Carolina?

No.

What services can an interior designer provide?

Interior designers and all other non-registrants can design:

- Fixtures
- Cabinetwork
- Furniture
- Interior finishes and decoration

Interior designers and other non-registrants must not design alterations or additions to new or existing:

- structural, mechanical or electrical systems
- exit access or exit systems
- interior finishes in assembly, institutional or hazardous occupancies

- construction which alters the path of exit travel

Building Officials should be alert to these issues:

- Architectural drawings sealed by an engineer
- Engineering drawings sealed by an architect
- Drawings sealed by an architect or engineer who is an employee of a non-licensed firm or company
- Incomplete documents sealed and signed by a design professional
- Drawings that have not been sealed, signed and dated by a design professional
- Site adapt or proto-typical design drawings that do not bear the seal of a South Carolina design professional
- Drawings for upfitting a shell structure that do not bear the seal of a South Carolina design professional.
- Unsealed drawings for religious buildings
- Seals which appear to be cut and pasted
- Difficulty in reaching the design professional or situations in which the contact person is someone other than the principal design professional.
- Drawings, details, letter reports, etc. that do not appear to apply to the project
- Drawings that have numerous or serious code violations
- Revisions without seals, dates.

What should you do?

- Question the design professional as to circumstances and qualifications
- Require corrections
- Reject
- Contact licensing board

Appendix B. Definitions

Title 40 of the 2002 Code of Laws of South Carolina (as amended effective September 2002) defines architecture and engineering as follows:

Section 40-3-20. Definitions. (Architectural Registration Law)

"Architect" means an individual who, by reason of the individual's general knowledge of the principles of architecture acquired by professional education and practical experience, is qualified to engage in the practice of architecture as attested by the individual's registration as an architect.

"Board" means the Board of Architectural Examiners.

"Firm" means a business entity functioning as a partnership, limited liability partnership, professional association, professional corporation, business corporation, limited liability company, or other firm association which practices or offers to practice architecture.

"Full authority" means that amount of authority granted to a regularly employed individual in unrestricted, unchecked, and unqualified command of the architectural practice of a firm.

"Individual" means a single human being.

"Practice of Architecture" means a service or creative work requiring architectural education, training and experience and the application of the principles of architecture and related technical disciplines to the professional services or creative work as consulting, evaluating, planning, designing, specifying, coordinating of consultants, administration of contracts, and reviewing of construction for the purpose of assuring compliance with the specifications and design, in connection with a building or site development.

"Professional degree" means the successful completion of a National Architectural Accrediting Board accredited degree in architecture.

"Responsible charge" means direct control and personal supervision of the practice of architecture.

"Emeritus architect" means an architect who has been registered for 10 consecutive years or longer and who is 65 years of age or older and who has retired from active practice.

"Retired from active practice" means not engaging or offering to engage in the practice of architecture as defined in this section.

Section 40-22-10. Definitions. (Engineering Registration Law)

"ABET" means the Accreditation Board for Engineering and Technology.

"EAC" means the Engineering Accreditation Commission of ABET.

"TAC" means the Technology Accreditation Commission of ABET.

"Approved engineering curriculum" means an engineering program of four or more years determined by the board to be substantially equivalent to that of an EAC/ABET accredited curriculum.

"Associate professional engineer" means a Category B license holder who is qualified to practice within the profession of engineering in the manner defined in this chapter and as attested by his recognition and registration as an associate professional engineer in this State.

"Board" means the South Carolina State Board of Registration for Professional Engineers and Land Surveyors created pursuant to this chapter.

"Branch office" means a place of business separate from the principal place of business where engineering services or land surveying services are provided. A specific project or construction site office is not a branch office. Nothing contained in this chapter prevents a professional engineer or professional land surveyor from undertaking an engineering or a land surveying project anywhere in the State.

"Current certificate of registration" means a license to practice which has not expired or has not been revoked and which has not been suspended or otherwise restricted by the board.

"Department" means the Department of Labor, Licensing and Regulation.

"Design coordination" includes the review and coordination of those technical submissions prepared by others, including as appropriate and without limitation, consulting engineers, architects, landscape architects, land surveyors, and other professionals working under the direction of the engineer.

"Direct responsibility", "direct supervisory control", "direct supervision", and "responsible charge" all mean the direction of engineering work by an engineer or land surveying work by a land surveyor to the extent that successful completion of the work is dependent on the personal supervision, direct control, and final decisions by the qualified registrant to the extent that the qualified registrant assumes professional responsibility for the work.

"Engineer" means a professional engineer as defined in this section.

"Engineering surveys" include all minor survey activities required to support the sound conception, planning, design, construction, maintenance, operation and investigation of engineered projects but exclude the surveying of real property for the establishment of land boundaries, rights-of-way, and easements and the independent surveys or resurveys of general land masses.

"Engineer-in-training" means a person who has qualified for and passed the Fundamentals of Engineering examination as provided in this chapter and is entitled to receive a certificate as an engineer-in-training.

"Firm" means a business entity functioning as a sole proprietorship, partnership, limited liability partnership, professional association, professional corporation, business corporation, limited liability company, joint venture, or other legally constituted organization, which practices or offers to practice engineering or land surveying, or both.

"Fraud or deceit" means intentional deception to secure gain, through attempts deliberately to conceal, mislead, or misrepresent the truth in a manner that others might take some action in reliance or an act which provides incorrect, false or misleading information on which others might rely.

"GIS" means geographic information systems.

"Good character" refers to a person of good moral character and one who has not been convicted of a violent crime, as defined in Section 16-1-60, or a crime of moral turpitude.

"Gross negligence" means an act or course of action, or inaction, which denotes a lack of reasonable care and a conscious disregard or indifference to the rights, safety or welfare of others and which does or could result in financial loss, injury or damage to life or property.

"Incompetence" means the practice of engineering or land surveying by a licensee determined to be either incapable of exercising ordinary care and diligence or lacking the ability and skill necessary to properly perform the duties undertaken.

"Land surveyor-in-training" means a person who has qualified for and passed the Fundamentals of Land Surveying examination as provided in this chapter and is entitled to receive a certificate as a land surveyor-in-training.

"Licensed" means authorized by this board, pursuant to the statutory powers delegated by the State to this board, to engage in the practice of engineering, or land surveying, or engineering and land surveying, as evidenced by the board's certificate issued to the registered license holder.

"Misconduct" means the violation of a provision of this chapter or of a regulation promulgated by the board pursuant to this chapter.

"Practice of engineering" means any service or creative work, the adequate performance of which requires engineering education, training and experience in the application of special knowledge of the mathematical, physical and engineering sciences to such services or creative work as consultation, investigation, expert technical testimony, evaluation, design and design coordination of engineering works and systems, design for development and use of land and water, performing engineering surveys and studies, and the review of construction for the purpose of monitoring compliance with drawings and specifications, any of which embraces such services or work, either public or private, in connection with any utilities, structures, buildings, machines, equipment, processes, work systems projects, and industrial or consumer products or equipment of control systems, communications, mechanical, electrical, hydraulic, pneumatic, or thermal nature, insofar as they involve safeguarding life, health, or property, and including such other professional services as may be necessary to the planning, progress, and completion of any engineering services. The mere execution, as a contractor, of work designed by a professional engineer or supervision of the construction of such work as a foreman or superintendent is not considered the practice of engineering.

A person must be construed to practice or offer to practice engineering, within the meaning and intent of this chapter who:

- (a) practices any branch of the profession of engineering; or
- (b) by verbal claim, sign, advertisement, letterhead, card, or in any other way represents himself to be a professional engineer or through the use of some other title implies that he is a professional engineer or that he is licensed under this chapter; or
- (c) holds himself/herself out as able to perform or does perform any engineering service or work or any other professional service designated by the practitioner or which is recognized as engineering.

"Practice of TIER A land surveying" means providing professional services including, but not limited to, consultation investigation, testimony evaluation, expert technical testimony, planning, mapping, assembling and interpreting reliable scientific measurements and information relative to the location, size, shape or physical features of the earth, the space above the earth, or part of the earth, and utilization and development of these facts and interpretation into an orderly survey map, site plan, report, description or project. The practice of TIER A land surveying consists of three separate disciplines: land boundary surveying, photogrammetry and geographic information systems/land information systems (GIS/LIS). 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. The practice of TIER A land surveying does not include the use of the GIS or LIS to create maps pursuant to Section 40-22-290, analyze data, or create reports.

The scope of the individual disciplines are identified as follows:

(a) Land Boundary Surveyor:

- (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 subdivision of land;
- (2) determines, by the 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 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.

(b) A photogrammetric surveyor 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.

(c) A geographic information systems/land information systems mapper 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 subitems (a) and (b) above.

"Practice of TIER B land surveying" includes all rights and privileges of the TIER A land boundary surveying discipline defined in Section 40-22-20(23)(a); and in addition to these rights and privileges, TIER B land surveying includes, for subdivisions, preparing and furnishing subdivision plans for sedimentation and erosion control and storm drainage systems, if the systems do not require the structural design of system components and are restricted to the use, where relevant, of any standards prescribed by local, state, or federal authorities. Regulations defining the scope of the additional powers granted to TIER B land surveyors must be promulgated by the board.

"Private practice firm" means a firm as defined herein through which the practice of engineering or land surveying would require a certificate of authorization as described in this chapter.

"Private practitioner" means a person who individually holds himself/ herself out to the general public as able to perform, or who individually does perform, the independent practice of engineering or land surveying.

"Professional engineer" means a Category A license holder 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 practical experience, is qualified to practice engineering as defined in this section, all as attested by his legal license and registration as a professional engineer in this State.

"Professional land surveyor" means a person who is qualified to practice any discipline of TIER A or TIER B land surveying in this State, as defined in this section and as attested by his legal license and registration as a TIER A or TIER B professional land surveyor in this State.

"Professions of architecture, landscape architecture, and geology" mean those specified professions as defined by the laws of this State and applicable regulations.

"Registered" means the engineer or land surveyor is licensed and registered in the State.

"Resident professional engineer" or "resident professional land surveyor", with respect to principal office and branch office requirements, means a licensed practitioner who spends a majority of each normal workday in the principal or branch office.

Commentary: In 1993, the S.C. General Assembly revised the engineering registration laws to establish two categories of licensure – the unrestricted license (Category A, Professional Engineer), and the restricted license (Category B, Associate Professional Engineer). The private practice of engineering is limited to Category A, Professional Engineers. Plans and other documents prepared by individuals and firms engaged in the private practice of engineering must be sealed only by Category A, Professional Engineers.