2011 SOUTH CAROLINA SCHOOL FACILITIES PLANNING AND CONSTRUCTION GUIDE

(Additions are noted in blue)
(Deletions are noted in red)

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Effective March 15, 2011

SOUTH CAROLINA DEPARTMENT OF EDUCATION

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These regulations are updated on an annual basis. Public comments are welcomed. Your submittal must be written. It will be directed to the appropriate subcommittee for consideration. All submittals need to be received no later than March of the year to be considered by both subcommittee and the South Carolina Public School Facilities Committee for inclusion in the South Carolina School Facilities Planning and Construction Guide of the following year. Any entries beyond this deadline may not be timely for proper review for that year and will be deferred to the next year.

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2011 UPDATE SUMMARY

South Carolina School Facilities Planning and Construction Guide

The following is a summary of the substantive changes made to the 2010 South Carolina School Facilities Planning and Construction Guide.

SECTION 303 EDUCATIONAL SPACES

303.2 Classrooms

303.2.3.3 Time-out Rooms. If time out rooms are provided, they shall meet the requirements of the Office of ~~the State Fire Marshal's~~ School Facilities' Policy Memorandums.

303.3.2 Kindergarten and Child Development Classroom Area

303.3.2.1 Floor area shall be a minimum of 1,050 square feet (net), exclusive of the teacher's workroom (optional), toilet, and storage room. Mandated cabinetry may be included in this area.

303.3.2.5 Teacher Work Rooms are recommended to be placed throughout the school to allow for peer collaboration, team planning, etc.

303.6.2 Elementary Facilities

303.6.2.1.2 ~~A~~ Storage area of no less than 300 square feet shall be provided for the gym. Doors shall be wide enough for easy access to mats and apparatus.

303.6.3 Secondary Facilities

303.6.3.2.1 Double doors shall lead off the gym floor into apparatus storage room. Storage of no less than 400 square feet shall be provided for the gym.

SECTION 304 SUPPORT SPACES

304.13.5 Gymnasium Dressing Room Toilets and Showers (secondary schools)

304.13.5.6 Individual enclosures with curtains or doors shall be required for all showers. ~~females and considered for males. Fixture requirement shall be as follows:~~

304.13.5.7 Fixture requirements shall be as follows:

MANDATED FIXTURE RATIOS FOR PE/ATHLETICS TOILETS/SHOWERS

Persons	Water Closets*	Lavatories	Shower Heads	
			PE	Athletics
Males	1:40	1:40	1:12	1:12
Females	1:20	1:40	1:12	1:12

*TROUGH URINALS SHALL NOT BE PERMITTED. (Up to 67% of male facilities may be urinals.)

SECTION 305 OTHER REQUIREMENTS

305.3 Doors

305.3.1.2 ~~Gymnasium~~ Each student's PE and athletic dressing room shall have at least two means of egress~~, although if less than 50 persons occupy any one dressing room and if it is less than 75 feet of travel from the most remote point in the area to an exit~~. The passage into the gymnasium itself may be considered to be the second egress.

SECTION 403 SPECIAL CONSIDERATIONS

403.1 PE and Athletic Facilities: Shall be provided with accessible facilities per ICC/ANSI A117.1 ~~accessible to people with physical disabilities,~~ including toilet, sink, and shower areas.

403.3 Science Laboratories: Shall have a minimum of at least one workspace meeting the accessibility requirements of ICC/ANSI A117.1. Equipment and features may be portable but must be comparable to those available in other student workspaces. ~~worktop, set at height to serve people with physical disabilities. This top may be a portable table and should be located near a work sink (it is not required that the sink itself be at the lower level, however).~~

403.4 Art Rooms: Shall have a minimum of at least one workspace meeting the accessibility requirements of ICC/ANSI A117.1. Equipment and features may be portable but must be comparable to those available in other student workspaces. ~~No special work surfaces are required for people with physical disabilities as portable tables should serve adequately.~~

403.5 Home Economics Areas: For the food preparation curriculum, one unit kitchen shall be ~~designed to serve people with physical disabilities~~ accessible in accordance with ICC/ANSI A117.1. One worktop containing a sink and range top shall be accessible in accordance with ICC/ANSI A117.1. A wall oven shall be provided adjacent to the worktop that is accessible in accordance with ICC/ANSI A117.1 with bottom of the oven door at 32" above floor.

SECTION 1106 MATERIALS AND INSTALLATION

1106.2 Ductwork shall be galvanized steel constructed to the requirements of SMACNA, as a minimum. Lined duct usage shall be kept to a minimum. Where used, the interior surface shall be smooth and cleanable and treated with an EPA-approved biocide to resist fungal/bacterial growth. Duct board is prohibited. Flexible duct meeting SMACNA requirements may be used for supply ductwork, provided it is not more than six feet long and terminates at a diffuser.

1108.7.3 Each system riser shall contain a fully trimmed alarm check valve ~~including water motor gong (WMG)~~ and retard chamber. "Shotgun" risers or risers that utilize the backflow prevention device as the system check are not acceptable.

SECTION 1206 EXIT SIGNS

~~**1206.1.2** The Primary and secondary systems shall be on separate circuitry and in separate conduit from normal power and lighting from the feed point to the sign.~~

SECTION 1207 EMERGENCY LIGHTING

1207.1.3 In spaces required to have emergency lighting, not all lighting fixtures shall be on the emergency power circuit.

DIVISION 1

GENERAL REQUIREMENTS

SECTION 101 INDEX OF SECTIONS

SECTION 102 AUTHORITY

102.1 Section 59-5-60, Code of Laws of South Carolina, 1976, gives the State Board of Education authority to adopt policies, rules, and regulations for the conduct and furtherance of the public school program in South Carolina. Such policies, rules, and regulations as herein adopted are deemed to have the effect of law.

102.2 South Carolina Code Ann. §59-23-210 (Supp. 2009) allows the latest standards for construction and renovation of public schools to be published by the State Department of Education. A committee appointed by the State Department of Education annually updates this publication. It also requires that plans and specifications receive approval before bidding.

102.3 South Carolina Code Ann. §59-23-220 (Supp. 2009) requires the State Superintendent of Education or the superintendent's designee inspect all public school buildings before occupancy.

102.4 Section 6-9-110, Code of Laws of South Carolina, 1976, exempts school district facilities, reviewed and approved by the State Department of Education, from county, municipal or other local ordinances or regulations which require the purchase or acquisition of a permit, license, or other device utilized to enforce a building standard. However, it does not exempt the district from zoning ordinances.

SECTION 103 ACRONYMS AND DEFINITIONS

A/E The architect and/or engineer of record for a given project

AGA American Gas Association

AHERA Asbestos Hazard Emergency Response Act

AIA American Institute of Architects

ANSI American National Standards Institute, Incorporated

ASHRAE American Society of Heating, Refrigeration & Air Conditioning

ASME American Society of Mechanical Engineers

ASTM American Society for Testing and Materials

AWWA American Water Works Association

Building Codes are the applicable standards and specifications set forth in the *International Building Code, International Plumbing Code, International Mechanical Code, International Gas Code, International Fire Code, International Existing Building Code* and successor codes promulgated by the International Code Council; the *International Energy Conservation Code*, as published by the Council of American Building Officials; and the *National Electrical Code* as published by the National Fire Protection Association, with deletions or additional standards specified in the *South Carolina School Facilities Planning and Construction Guide and the South Carolina Minimum Specifications Guide for Relocatable Classrooms,* which are published by the South Carolina Department of Education. Applicable editions or revisions shall be as set by the State Department of Education at the time of plans submittal.

CABO Council of American Building Officials

CAD Computer Aided Design

CEFPI Council of Educational Facility Planners International

Code See Section 107

Construction Document Phase consists of the final drawings, specifications and bidding documents.

Construction is the means of the creation of something new, rather than repair or improvement of something existing.

CM/PM Construction Management/Program Management

Design Development Phase is the preparation of detailed preliminary drawings along with supporting data. Note that this term, as used herein, is not intended to be all-inclusive as defined in some AIA documents in that development of structural, plumbing, mechanical and electrical elements are not required at this stage.

DHEC South Carolina Department of Health and Environmental Control

District Delegated authorities of the applicable school district

DOT South Carolina Department of Transportation

FEMA Federal Emergency Management Agency

Final Completion is the date when the architect declares that all work has been completed, all deficiencies corrected, and everything is acceptable in accordance with the contract documents.

IBC International Building Code

IEBC International Existing Building Code

IECC International Energy Conservation Code

IES Illuminating Engineering Society
IFC International Fire Code

IGC International Gas Code

IL Inspection Log

IMC International Mechanical Code

Implied Method of Construction This regulation is written throughout as if construction, when referred to or implied, is to be by the single contract method. Specific mention is made in one area of each of Divisions 7, 8, and 9 concerning the multiple prime contracts method of construction (construction management), construction by a school district, and "fast track" construction.

IPC International Plumbing Code

LEED Leadership in Energy and Environmental Design (LEED) /Other High Performance Standard Certification

LLR Labor, Licensing, and Regulation

NFPA National Fire Protection Association

OSF Abbreviation for the Office of School Facilities, South Carolina Department of Education

OSHA Abbreviation for the Occupational Safety and Health Administration

PE Physical Education

Renovation is the means of the repair or improvement of something already existing (S.C. Attorney General Opinions, 1954 and 1968).

Schematic Design Phase is a study by the architect of the project requirements, followed by the preparation of schematic design drawings with supporting data as outlined herein.

Substantial Completion is the date all work or some designated portion, thereof, is certified by the architect as being sufficiently complete, in accordance with the contract documents, so that people may safely occupy the workspace or a designated portion, thereof, for the use for which it is intended.

T & I Trade and Industrial

UL Underwriters Laboratories, Incorporated

SECTION 104 CLASSIFICATIONS OF SCHOOLS

104.1 Throughout this regulation, the terms "elementary" or "secondary" as applied to schools shall be defined as follows:

104.1.1 Elementary: Includes schools with any combination of grades, from pre-kindergarten through grade 5 or through grade 8 when housed with grades K–6

104.1.2 Secondary: Includes middle, junior high, and senior high schools

104.2 Charter schools are public schools and shall be subject to the OSF plan review and inspection of construction or renovation and approval of occupancy, in order to ensure compliance with all codes as set forth in this division. Charter schools are subject to building code and all health and safety standards as stated in this *Guide*. Requirements that are not related to health and safety that are listed in this *Guide* do not apply to charter school facilities. A listing of the non-health and non-safety requirements of this *Guide* is maintained by the OSF and is published on the OSF's website. Inspections by jurisdictions other than the OSF may be allowed if approved by the OSF.

SECTION 105 SCOPE OF OSF RESPONSIBILITY

The following are included within the requirements of this regulation and, therefore, are under the jurisdiction of the OSF regardless of the source of funding for the project.

105.1 Site inspections and approval prior to acquisition

105.2 All new structures, and additions and/or renovations or alterations to existing structures, in connection with the public education program in South Carolina, including student-related as well as non-student-related facilities

105.3 Existing school buildings once vacated and being placed back in service

105.4 Any existing building to be converted to an educational occupancy

105.5 Adjunct work related to the following facilities whether included as a part of an overall construction contract or awarded as a separate contract, unless otherwise waived by OSF

105.5.1 Site work and associated construction, including grading, paving, storm drainage, utilities, athletic facilities, stadiums and bleachers, press boxes, playing field lighting, and concession stands

105.5.2 Water supply and sewage disposal systems

105.5.3 Building fire suppression sprinkler systems are to be submitted to the State Fire Marshal's Office for review and approval. Submittal, whether during design or construction, is determined by the A/E.

105.5.4 Fixed equipment where plumbing, mechanical, or electrical systems, and/or the building structure must be modified (as in the case of kitchen or science equipment)

105.5.5 Any project in which asbestos mitigation or other hazardous material is involved and is, therefore, subject to AHERA and DHEC regulation

105.5.6 Energy conservation equipment installations under energy savings contract when mechanical, electrical, and/or structural modifications are involved

105.5.7 Roofing projects when the membrane material is changed

Exceptions:

A. Contracts for furnishings and portable equipment (such as for classroom and library furnishings, vocational shop equipment, etc.) are excluded from the requirements of this regulation and are a district responsibility.

B. The design and construction of "relocatable" classroom units are excluded from the requirements of this regulation and are addressed in the Department of Education document *South Carolina Minimum Specifications Guide for Relocatable Classrooms*.

C. Charter schools are subject to the OSF review and inspection for building code compliance.

SECTION 106 PROFESSIONAL SERVICES

106.1 Design Professionals: There shall be a design professional whose responsibility is to coordinate all design requirements throughout the entire construction project. This professional shall be an architect and/or engineer registered to practice in South Carolina and shall be designated as the prime contact for the OSF.

106.1.1 In certain types of projects, the principal design professional may be an engineer rather than an architect. For such projects, within the bounds of this *Guide*, where the term "architect" is used, it may refer instead to the principal design professional for the project.

106.2 Other Design Professionals: Where the scope of a project is not architectural or engineering in nature, the services of an architect/engineer are not required and the basic services of other design professionals may be used. These professionals shall be under direct contract to the district. The preceding applies to professionals, such as landscape architects, roofing consultants, and kitchen planners acting as independent practitioners whose credentials are recognized by the OSF.

106.3 Construction/Program Management (CM/PM): Districts may employ a CM/PM as their agent. Contracts vary widely with regard to CM/PM project responsibilities. Regardless of the defined contractual responsibilities, the CM/PM shall be an architect or professional engineer registered in South Carolina or a South Carolina licensed general contractor (building classification) with a cost of work limitations not less than the construction cost of the project.

106.4 Incidental Work: By joint resolutions of the South Carolina Architectural Registration Board and the Engineering Examiners' Board, dated July 25, 1962, it is permissible for an architect to perform work in the field of engineering if it is incidental to his practice of architecture, if it is of

a minor nature and if he is qualified to perform the work. Conversely, professional engineers may perform incidental work in the field of architecture under the same conditions.

106.5 Construction by a School District: A district may undertake small construction or renovation work using their own maintenance forces, or with vocational student or sub-contractor assistance. Note that under certain conditions licensure from the S.C. Contractors Licensing Board is required.

106.5.1 Drawings or a scope of work shall be submitted and prior approval first obtained from the OSF.

106.5.2 Complete architectural and/or engineering services shall be required unless otherwise waived by the OSF.

106.5.3 The district shall identify a qualified, licensed construction superintendent in accordance with the paragraph.

106.5.4 A district may engage in a contracting project up to $350,000 for general contracting and $125,000 for mechanical, plumbing, or electrical contracting, and $5,000 for asphalt paving contracting. The district must employ a certified party qualified in the classification of work that is to be performed (South Carolina Code Ann. § 40-11-230 and South Carolina Code Ann. § 40-11-360 {A}{8}).

106.5.5 The "cost of the work" shall be determined by the cost of all materials, labor, subcontracts, and any other direct expenses. This estimated cost may be determined by a detailed estimate prepared by the district or may be estimated by the OSF based on current square foot cost of school construction, adjusted for any anticipated savings.

106.6 When Professional Services Are Not Required: The services of professional and specialists mentioned in items preceding are not normally required in the following situations (exceptions are noted). It is incumbent upon the district to ascertain that the work complies with applicable codes when professional services are not used.

106.6.1 For very small projects or projects of sufficiently limited scope, if the OSF agrees that the scope of the project does not justify the use of such professionals or specialists mentioned above. In such cases, the district shall submit prior written request for waiver; use Form F1 "Request for Waiver from Use of Professional Services" in Division 13 of this *Guide*.

106.6.2 For minor renovation or alteration work where building codes, laws, or regulations are not involved, or for work that is cosmetic in nature (painting, etc.), or for work which is of a routine maintenance nature.

106.6.3 Reroofing projects when no weight is added, the drainage does not change and the roofing membrane remains essentially the same as the existing roof.

106.6.4 Carpeting, code requirements for flammability must be met

106.6.5 Locker installations must comply with minimum corridor widths defined in this regulation.

106.6.6 For auditorium seating or folding gymnasium seating installations, the successful bidder shall submit drawings and specifications to the OSF for prior approval, along with certification by the manufacturer that all applicable code requirements have been met.

106.6.7 For prefabricated walks and canopies, or prefabricated spectator bleachers for outdoor athletic facilities, the successful bidder shall submit drawings and specifications to the OSF for prior approval. Furthermore, a structural engineer registered to practice in South Carolina shall be retained by the successful bidder to approve and stamp the drawings and specifications and to certify by letter that all applicable code requirements have been met. The engineer may be in the employ of the manufacturer of the units if he meets the above registration requirement.

106.7 Re-occupied Buildings: Buildings that have been out of use for two years or greater must be brought up to code as a new building before they are re-occupied.

SECTION 107 BASIC CODES AND STANDARDS

107.1 The following codes and standards (based on editions in effect at the time of submission of design development drawings to the OSF by the architect) shall establish minimum requirements.

107.1.1 The International Building Code, International Existing Building Code, International Plumbing Code, International Mechanical Code, International Gas Code, International Fire Code, International Energy Conservation Code, and the National Electrical Code as published by the National Fire Protection Association, with deletions or additional standards specified in the *South Carolina School Facilities Planning and Construction Guide* and the *South Carolina Minimum Specifications Guide for Relocatable Classrooms*, and all codes and standards referenced therein.

107.1.2 South Carolina State Fire Marshal's Regulation

107.1.3 South Carolina Elevator Code and Regulation

107.1.4 Where the above basic governing codes do not adequately provide for every contingency, conformance with NFPA Standards, American National Standards Institute, or other nationally recognized and accepted standards shall be evidence of compliance with the intent of this *Guide*; the provisions of such standards should be followed unless deviation is approved by the OSF.

107.1.5 Also consult Divisions 10, 11, and 12 for further referenced codes and standards under the plumbing, mechanical, and electrical disciplines.

107.1.6 See Section 109 for reference to OSHA standards

107.1.7 See Section 112 for reference to DOT standards

107.2 Resolutions of Conflicts

107.2.1 Where state statutes are at variance with the adopted codes or standards or other provisions of this document and this regulation is silent, the most stringent requirements shall govern. The architect shall notify the OSF of any such conflicts as soon as they become known.

107.2.2 Where this document is specific and is at variance with a code or standard referenced herein, this document shall govern whether more or less stringent.

107.3 Types of Construction and Allowed Occupancies

107.3.1 The following minimum types of construction as defined by the Building Code shall govern:

107.3.1.1 **Type I** construction is acceptable for all buildings per the size requirements of the Building Code

107.3.1.2 **Type II** construction is acceptable for all buildings per the size requirement of the Building Code

107.3.1.3 **Type IV (Heavy Timber)** construction is acceptable for all buildings per the size requirements of the Building Code.

107.3.1.4 **Type III and Type V** construction is acceptable per the size requirements of the Building Code for all nonacademic independent structures that do not have Group E or Group A occupancies.

107.3.1.4.1 **Type III and Type V** construction may be used for Group A-5 accessory use areas including concession stands, retail areas, and press boxes.

107.3.1.5 **Type III and Type V** construction is acceptable for all fully sprinklered buildings per the size requirements of the Building Code. Owners will need to consider materials that cover the wood and their ability to sustain impact

107.3.1.5.1 **Type III and Type V** construction may be used for Group A-5 accessory use areas including concession stands, retail areas, and press boxes.

107.3.2 **Type III and V** buildings shall be separated from all other structures by a minimum of 30 feet except in the case of press boxes.

107.3.3 Due to the numerous problems associated with the use of fire retardant treated wood in construction due to exposure to moisture and deterioration of fasteners or attached materials, the use of fire retardant treated wood will not be allowed.

SECTION 108 PROCUREMENT

108.1 South Carolina Code Ann. §59-19-93 requires school districts to adopt and file with the Division of General Services of the State Budget and Control Board a procurement code modeled on the South Carolina Consolidated Procurement Code or the model set forth in the *Report of the Local Government Task Force on Procurement.* Districts define their procurement of services such as contracting with A/Es in these codes. Design professionals and school districts need to coordinate on the proper procurement for school building projects.

108.2 **Project Delivery Methodology:** The OSF recognizes the following methodology as alternatives to the competitive sealed bidding for construction contracts (as defined in Chapter 6, "Manual for Planning and Execution of State Procurement Improvements, Part II, 1999 Edition" as

published by the Office of the State Engineer, Office of General Services, State Budget and Control Board):

108.2.1 Construction Management At-Risk allows a district to select a CM based on qualifications; make the CM a member of a collaborative project team; centralize responsibility under a single contract and obtain a bonded guaranteed maximum price. Districts should confer with their general counsel to ensure proper procurement.

108.2.2 Design Build provides for a single contract between a district and an A/E/Contractor team. The design-build team contracts for all design and construction services based on a set of criteria developed by the district. This same criteria is used by the district to select the design-build team. The OSF allows design-build for any district capital improvements other than educational occupancy. Examples may include district offices, maintenance facilities, bus facilities, and assembly, etc.

108.2.3 Fast Track Construction will be permitted for public school work as a system of awarding sequential prime contracts for succeeding stages of work, with the earlier contracts being awarded before the architect has completed all of his construction documents.

108.2.3.1 "Fast tracking" is permitted for both the single-contract concept (i.e., for each component of the work) and also for the multiple-contract concept of construction.

108.2.3.2 Prior notice of the intent to use this method of construction shall first be given to the OSF before the architect proceeds with construction documents.

108.2.3.3 The requirements of this *Guide*, while written primarily for the single contract method of construction shall also apply to each contract of the fast track method except where otherwise waived by the OSF.

108.2.4 Best Value Contracting allows districts to review both price and qualification factors at the time of contractor proposal submittals.

108.2.5 Indefinite Delivery/Job Order Contracting allows the district to contract for services based on limited information about future projects. Projects are typically relatively small in scope and cost and require accelerated completion. Contract bidding may be accomplished by definition of minimum scope of work, unit prices, or overhead and project margins.

108.2.6 Multi-Prime Contracting allows for the division of project work into a number of contract packages to save time and cost. In essence, the district assumes the role and risk of being the general contractor. The cost of the project is potentially reduced by eliminating the general contractor's fees.

108.3 Pre-qualification: Project delivery methodology may be subject to pre-qualification. These pre-qualifications are set by the procurement code of each district (see 108.1).

SECTION 109 BOARD OF ADJUSTMENT AND APPEALS

109.1 There shall be a Board of Adjustment and Appeals constituted to hear appeals concerning matters related to codes and standards. The general structure, operating procedures and powers of this Board shall be in accordance with the building code.

109.2 Where the "building code sections" refer to the "building official," this shall be construed to mean the State Superintendent of Education as represented by the director of the Office of School Facilities.

SECTION 110 SOUTH CAROLINA OSHA STANDARDS

110.1 Schools shall be in compliance with OSHA Standards.

110.2 For further information, contact the Division of Occupational Safety and Health, South Carolina Department of Labor, Licensing and Regulation.

SECTION 111 DHEC STANDARDS

111.1 Section 44-1-140, Code of Laws of South Carolina, 1976, gives the Department of Health and Environmental Control authority to adopt policies, rules, and regulations in connection with the furtherance of public health.

111.2 In reference to school food services and facilities, DHEC has set forth its requirements in this regard in Regulation 61-25 entitled "Retail Food Establishments." The owner must contact the Division of Food Protection, Bureau of Environmental Health to obtain this regulation and to secure plan approval.

SECTION 112 DOT STANDARDS

112.1 Standards relating to roadway access have been developed by DOT in accordance with Sections 57-3-110, 57-5-1080 and 57-5-1090 of the Code of Laws of South Carolina (1976 as amended through the 2006 Session of the General Assembly.) They can be found in the document titled *"2008 Access and Roadside Management Standards,"* available on the DOT website.

SECTION 113 GUARANTEED ENERGY SAVINGS CONTRACTS

113.1 The South Carolina Energy Conservation and Efficiency Act, as amended, January 1, 1993, allows governmental units, including public school districts, to enter into guaranteed energy saving contracts. "A guaranteed energy savings contract may be awarded pursuant to Section 11-35-1530 (an RFP) if it includes a written guarantee that savings will meet or exceed the cost of energy conservation measurers." The following requirements, relative to guaranteed energy savings contracts, shall be minimum and mandatory.

113.1.1 Energy conservation measures installed under a guaranteed energy savings contract **shall** be approved by the Office of School Facilities (OSF) prior to signing of a contract. Any vendor that has executed an energy savings contract with a school district, that includes heating, ventilating, or air conditioning system modifications or replacements, replacement or modification of lighting and/or electrical systems, energy recovery systems, and/or measures that are affected by any applicable codes, shall submit complete drawings and specifications, with a professional seal of an Architect and/or Engineer licensed to practice in South Carolina, to the OSF for approval prior to installation of those measures. Drawings are not required if the scope of work is defined, in writing, to the approval of the OSF. This same professional shall notify the OSF of the installation of the aforementioned conservation measures to give the OSF the option of inspecting the actual installation of the installed measures in the field.

113.1.2 Districts shall make certain the lighting levels required by this *Guide* are met.

113.1.3 Districts shall request the State Energy Office review the methodology used by the energy vendor to project and measure the guaranteed savings. These reviews will be provided at no cost to the districts. More detailed study can be negotiated with the State Energy Office.

113.2 In executing guaranteed energy savings contracts, the district should also consider the following:

113.2.1 District should obtain an independent building energy systems evaluation or audit, recommended energy savings actions, estimated cost, and projected savings to use as the basis for any energy savings RFP, bid request or vendor agreement.

113.2.2 District should understand and be in agreement with the determination of and adjustments to the base line energy consumption figure designated by the vendor.

113.2.3 District should understand and be in agreement with proposed contract comfort and lighting levels, as well as, occupancy rates or schedules. Use of an independent lighting consultant is recommended to determine lighting needs and modifications, prior to and as the basis for any energy savings RFP, bid request or vendor agreement.

113.2.4 District should understand the method for measuring savings and should be in agreement with any metering techniques. Savings calculations should not be ambiguous.

113.2.5 District should be in agreement with who performs post installation audit of energy savings and an independent auditor is strongly recommended.

113.2.6 Contact should be clear as to who owns equipment at end of lease or contract term. If equipment is not owned by district at end of contract, does the district have option to buy equipment, extend lease under new terms, or have equipment removed? Responsibility for the expense of removal should be specified as well.

113.2.7 District should consider having an early termination clause added to the contract and/or a clause specifying that district can buy the equipment from vendor before end of contract.

113.2.8 District should consider adding an arbitration clause to contract to document how disputes over savings measurements and calculations should be resolved.

113.2.9 The OSF recommends a process that can effectively evaluate energy service value from project comprehension through pricing.

113.2.10 District should require clear separation and definition of equipment and/or fixture costs, labor cost, sub-contractor and prime contractor fees, and/or profit and financing costs in terms of actual percent interest.

113.2.11 Total payments by districts for the project should not exceed total savings including a reasonable cost of financing, maintenance, repair costs, reasonable overhead and profit.

113.2.12 District should receive an adjustment in amount owed vendor to account for any changes in energy consumption due to any energy conserving equipment or measures taken by district and not included in a guaranteed energy saving contract. A method for making such adjustments should be part of the agreement.

113.2.13 District should explore coordination of their contract in conjunction with facility capital needs projects (renovation and addition).

SECTION 114 WAIVERS

114.1 Section 43-261, Code of Regulations in the Current State Register provides that the State Board of Education may waive any regulation, which would impede the implementation of an approved District Strategic Plan or School Renewal Plan.

114.1.1 When a district's Strategic Plan is at variance with the regulations contained herein, the district board or its designee shall submit to the State Board of Education through the Office of School Facilities a detailed description of the programmatic variance to include the code section(s) or standard(s) at issue and the physical facility requirements necessary, as well as, the educational requirement necessary to implement the district's Strategic Plan.

114.2 South Carolina Code Ann. §59-23-230 (Supp. 2009) authorizes the State Superintendent of Education to waive regulations relating to building square footage requirements for construction of a new public school.

114.3 Alternative Compliance: The OSF has the authority to accept alternative methods of compliance within the intent of these regulations, after finding that the materials and method of work offered is for the purpose intended, at least the equivalent of that prescribed in these regulations in quality, strength, effectiveness, fire resistance, durability, and safety. The OSF shall require sufficient evidence or proof be submitted to substantiate any claim that may be made regarding use of alternative. All requests for acceptance must be supported by and submitted by a South Carolina registered design professional.

SECTION 115 DESIGNING SAFER SCHOOLS

115.1 The Office of School Facilities (OSF) believes in enhancing safety and discouraging violence and crime by careful consideration in the design of sites and buildings. By applying principles of CPTED (Crime Prevention Through Environmental Design) and other design features to reduce or eliminate conflicts or hazardous conditions, a safe, functional and orderly environment can be established. The OSF endorses the concept that a safer environment can create a psychological advantage for positive behavior and for learning.

115.2 CPTED Principles: Campus crime and violence can be significantly reduced through the application and interaction of the following seven key components of CPTED.

115.2.1 Access Control: Controlling campus access, either through natural or formal components, is a basic concept of creating a safe school climate. Access by non-students during, as well as after school hours should be carefully controlled, as should the timely and orderly access by students, visitors, staff and service personnel.

115.2.1.1 Campus Perimeter: Design the campus so that visitors and guests must pass through a particular point or entrance, which is clearly visible to a passerby and administration.

115.2.1.2 Entrances and Exits: Minimize the number of entrances and exits to the campus and direct traffic flow, both vehicular and pedestrian, to eliminate confusion and congestion and provide ease of observation. Design parking areas to limit and control access. Place student parking areas where clearly visible from administration and consider breaking up very large lots into smaller, more manageable ones.

115.2.1.3 Visitor Parking: Clearly identify visitor parking with proper signage and set up visitor traffic, both vehicular and pedestrian, in a way that it can be easily supervised from the main office or by assigned security personnel.

115.2.1.4 Visitor Screening: Clearly worded and placed signage should direct visitors to the main office or designated visitor reception area where they can be screened, using uniform visitor screening procedures, to ensure that they have legitimate business on campus.

115.2.2 Natural Surveillance

115.2.2.1 Formal Gathering Areas: Gathering areas should be formally identified in locations with natural surveillance and access control or assigned to locations out of view of the would-be offender. Informal areas then become off-limits and subject to automatic scrutiny. Clear spatial definition will cause unauthorized users to feel at greater risk and staff to assume greater challenging powers.

115.2.2.2 Natural Supervision: Enhance supervision by eliminating architectural barriers. Ensure open sight lines through the design and proper placement of building, landscaping components, lighting, and access control. Clear the under story and low branches in wooded areas; maintain visibility of play fields and tennis courts from major site circulation routes.

115.2.3 Formal Surveillance

115.2.3.1 High-risk Areas: Design high-risk areas to accommodate natural surveillance to the extent possible and to facilitate formal supervision where required. Such areas may include the main entrance or campus perimeter—especially where problems with intruders are typical. Toilet rooms and corridors, stairways, and locker clusters are often key trouble spots. Commons areas and courtyards frequently have similar problems. Remote locations, such as parking areas and outside play courts, may create additional risks.

115.2.3.2 Remote Surveillance: Where limited staff availability or high number of identified problem areas generate a need for other, more formal surveillance options, security specialists should be consulted on equipment specifications, placement, operation, and management.

115.2.4 Territoriality: Ensure the personalization of space assigned to each person, in order to emphasize the perception of ownership. This translates to the identification of

territories within the school campus, assignment of internal territories to "proprietors," and assignment of general supervision and care responsibilities that go with "ownership" of the identified spaces.

115.2.4.1 Delineation of Space: Space should be clearly delineated among the various areas of the campus to encourage territoriality and better control. For example, it should be clear when one is moving from the fine arts wing to the science department to the math department, or from one "house" to another in the lower grades. Smaller spaces may be assigned to individual teachers or staff. For instance, the locker area immediately outside a classroom door may be identified with that classroom teacher by means of color, pattern or other design features. Doorways and vision panels may need to be designed to facilitate natural surveillance of these areas from within the classroom.

115.2.5 Defensible Space: Environmental concepts can contribute to the productive management of schools by providing clearly marked transitional zones that indicate movement from spaces designated for public, combined, and private use.

115.2.5.1 Access Points: Reduce access points to parking areas to decrease the perception that they are public spaces; reduce the possible escape routes for potential offenders; and increase the perception that they are risky for the potential intruder. Use gates to close off unnecessary entrances during low-use times to control access and reinforce the perception that the parking areas are private.

115.2.6 Target Hardening: Effective target hardening maintains a balance between the development and implementation of appropriate security measures and visually creating a prison or fortress. It must include the vigorous pursuit of identifying, apprehending, and prosecuting criminals, to the end that the school campus becomes unattractive as a target for entertainment or challenge.

115.2.6.1 Target Hardening: Design facilities with the idea of making the perpetrator's objective difficult to attain and of controlling crime by slowing the perpetrator's progress. Reduce the number of doors that are not observable from drives and parking; avoid deep recesses and potential hiding areas.

115.2.7 Program Interaction: Effective program interaction can be achieved through a combination of designing facilities that enhance both natural and formal supervision and the development and utilization of a close partnership among law enforcement and emergency service personnel, administration, staff, and students.

115.2.7.1 Enhanced Natural Surveillance: Activities which are easily supervised can be assigned to areas where unauthorized infringement might normally occur. Natural surveillance for these activities will be enhanced through the increased perceptions of safety for the legitimate user and risk for the potential offender. Activities which are more difficult to supervise can be assigned to areas where infringement is typically less likely to occur.

115.2.7.2 Conflict Reduction: Provide separate entrance and exit patterns to spaces with concentrated high-volume use, such as cafeterias and corridors, to reduce time required for movement into and out of spaces and to reduce the opportunity for personal conflict. Separation of student traffic flow can help define orderly movement and save time, and the illegitimate user will feel at greater risk of detection.

115.2.7.3 Communication: Design communication systems to overcome distance and isolation. Two-way intercom systems and telephones are even more critical for remote relocatable classroom (portable) units or isolated buildings.

115.2.7.4 Modifications: Redesign problem spaces and uses of spaces to provide natural barriers for conflicting activities. As an example, where congestion and conflict are likely to occur when classes are entering and leaving a cafeteria at the same time using the same entrance, separate the entrance and exit so that different traffic routes are utilized for moving from and returning to instructional areas.

115.2.7.5 Clear Borders: Provide clearly defined borders for controlled space. Design features such as changes in color, volume, or cased openings can be effective in defining boundaries.

SECTION 116 LEADERSHIP IN ENERGY AND ENVIRONMENTAL DESIGN (LEED)/OR OTHER HIGH PERFORMANCE STANDARD CERTIFICATION

116.1 The OSF encourages school districts to follow the principles of LEED (Leadership in Energy and Environmental Design) or other high performance standard certification in school construction. Design professionals can assist in determining the most advantageous principles and/or certification level.

LEED for Schools is a green building rating system developed by the U.S. Green Building Council specifically for K-12 schools and higher education facilities. The rating system is designed to help improve all occupants' health, the staff and children's productivity, and children's learning capacity while also helping school facilities to reduce operations and maintenance costs, be more energy efficient, and be more resource friendly.

For further information about LEED visit the following website:
http://en.wikipedia.org/wiki/Leadership_in_Energy_and_Environmental_Design

DIVISION 2

SITE SELECTION, DEVELOPMENT, AND DISPOSAL

SECTION 201 INDEX OF SECTIONS

SECTION 202 SITE APPROVAL

202.1 Subject to Approval before Acquisition

202.1.1 All real property subject to acquisition by a district, whether unimproved land or land with existing improvements, shall first be approved by the Office of School Facilities (OSF). All property shall be acquired as per state statute.

202.2 On-site Inspection before Acquisition

202.2.1 Site inspections shall be made of all property prior to acquisition. If the district has selected a design professional, he shall be present at the site inspection.

202.2.2 A boundary map of the property shall be furnished to the OSF and SCDOT at inspection. If present, wetland areas shall be shown on the map.

202.2.3 Any property being considered shall be checked through the Flood Mitigation Office of South Carolina Department of Natural Resources and applicable FEMA Flood Insurance Rate maps to determine if the site is in a flood zone and, if so, the effect on insurance rates and related considerations.

202.2.4 **Leased Property:** All real property (land) leased by a district for the purpose of permanent capital improvements by the district shall be approved by the OSF. The lease is recommended for a minimum sufficient time for any proper capital improvements depreciation. Shorter leases for transitional facilities and relocatable classrooms will be allowed at the discretion of the district.

202.3 Written Approval before Acquisition

202.3.1 In all cases, where the OSF approval is required, after tentative approval of site by the OSF, the district superintendent shall submit the Form F-2, "Application for Approval of Property Acquisition" to the OSF and DOT for final approval. A boundary plat prepared by a registered land surveyor indicating acreage, bounds, adjoining roads, and other pertinent information shall be attached to form. Surveyor shall provide GEO positioning reference data for locating site.

202.3.2 See DIVISION 13 for "SAMPLE FORMS"

202.4 Local Government Comprehensive Planning

202.4.1 The school district is required by South Carolina Code Ann.§6-29-540 (supp.1999) to

comply with local zoning ordinances and to consult with the local planning commission as to the compatibility of the proposed school site with the comprehensive plan of the community. If the local planning commission finds the proposal to be in conflict with the comprehensive plan, the school district may proceed with the project as long as the district publicly states its intention to proceed and the reason. A copy of this finding must be sent to the local governing body, the local planning commission, and published as a public notice in a newspaper of general circulation.

202.5 Parking

202.5.1 Parking is determined by local zoning ordinance. In the absence of a local zoning ordinance, districts may use Table 801.2.1 of the International Zoning Code as a minimum.

SECTION 203 SCHOOL SITES

203.1 South Carolina Code Ann. § 59-23-250 (Supp. 2009) eliminates minimum acreage requirements for public school sites. However, school districts must receive approval from the South Carolina Department of Education prior to property acquisition or additions on existing properties.

203.2 The State Department of Education encourages districts to consider acreage for school sites as established by the Council of Educational Facility Planners International (CEFPI).

SECTION 204 ROADWAY IMPROVEMENTS

204.1 General: Roadway improvements requisite to access requirements and adequate to address any potential safety hazards are the responsibility of the school district. The SCDOT shall be consulted for roadway improvements whenever stacking loops or access to a school is modified, or whenever a new school is planned, or an addition that increases the number of students is planned. Access to a school site shall be as defined by the South Carolina Department of Transportation (DOT) Traffic Engineering Division, as part of the application process for an encroachment permit. Chapter 4: "School Access Design" in the *2008 Access and Roadside Management Standards* developed by the DOT's Traffic Engineering Division provides additional criteria.

204.2 Cost of Improvements

204.2.1 Preliminary cost estimates for roadway improvements are recommended to be prepared by the district prior to the site acquisition for inclusion in the project budget. The site plan showing such improvements shall be submitted to and approved by DOT Traffic Engineering Division prior to bidding the project.

204.2.2 Technical assistance necessary to this objective is available from the DOT, Traffic Engineering Division.

SECTION 205 EXISTING SITES RELATED TO BUILDING ADDITIONS

205.1 When additions are made at an existing site, plans shall include site improvements necessary to separate all traffic as set forth in Section 208, Site Development Factors unless otherwise waived by the OSF.

205.2 Any site considered for additions shall be checked with the Flood Mitigation Office of the South Carolina Department of Natural Resources and/or the respective local jurisdiction to determine if the

existing site is in a flood zone and, if so, the effect on site designs, building design, and insurance coverage.

SECTION 206 SITE SELECTION PROCESS AND FACTORS

206.1 The district, after careful consideration of all factors, should select the tentative site for inspection by the OSF. In some cases, more than one site may be considered and a comparative evaluation made jointly by the district and the OSF before final selection.

206.1.1 OSF may rely upon the following agencies for site reviews:

206.1.1.1 Architect, landscape architect, professional engineer, or construction manager

206.1.1.2 DHEC district engineer

206.1.1.3 Department of Transportation, Traffic Engineering Division

206.1.1.4 Local or regional planning agency

206.1.1.5 Local or regional zoning agency

206.1.1.6 Natural Resources Conservation Service

206.1.1.7 Local law enforcement agency

206.1.1.8 S.C. Department of Natural Resources

206.1.1.9 S.C. Department of Education transportation area supervisor

206.1.1.10 DHEC – Division of Onsite Wastewater Management

206.2 Site Selection Factors

206.2.1 The site selection process shall take into consideration all natural and/or man-made features. Any potential environmental hazard such as air, water or soil contamination shall be considered. If a hazard is suspected, it shall be researched or tested by DHEC or other qualified verified engineers or laboratories.

206.2.2 **Access:** County or State road frontage shall be ample enough to allow for separate car and bus entrances and exits, unless otherwise agreed to in conjunction with DOT and/or the appropriate city/county authority.

206.2.3 **Electric Transmission Power Lines:** Transmission lines shall not cross any portion of a school site unless approved by the OSF. The following setbacks shall act as a *Guide* for establishing what is appropriate for school facility sites. The setback shall be measured from the edge of the easement and/or right of way nearest to the property line of the parcel to be used for educational purposes and shall be calculated based on both the existing kilovolt designation plus any anticipated increase in kilovolts.

Kilovolt Designation	**Setback**
100-115 kV	100 Feet

220-235 kV	150 Feet
345 kV	250 Feet

206.2.3.1 These setbacks shall not include any permanent improvements unless approved by the OSF. Setbacks should only be utilized for vehicular or pedestrian passage, if needed.

206.2.4 On those sites where a septic tank system must be considered, the District shall not proceed with land acquisition or plan preparation until receiving preliminary approval from DHEC Division of Onsite Wastewater Management.

SECTION 207 LAND DISPOSAL

207.1 In accordance with §59-19-190, the reassignment or disposal of land purchased with any state funds after 1952 shall be subject to the prior written approval of the State Board of Education. Request for disposition of such parcels shall be made through the OSF for submission to the State Board of Education.

207.2 Parcel(s) may contain internal roads identified as being on the State Highway System regardless of purchase date. These are roads that are owned and maintained by the SCDOT. Therefore, the SCDOT would like the opportunity to remove the road(s) from the system prior to the disposal of the property. Providing a boundary survey (if available) of the parcel with the disposition request to the OSF will aid the SCDOT in determining if any road(s) are on the State Highway System. Owners may determine that retaining the state road is in their best interest.

SECTION 208 SITE DEVELOPMENT FACTORS

208.1 School buildings shall be setback on the site a sufficient distance from the adjacent roadways to ensure safe and adequate on-site storage or stacking of loading and unloading vehicles.

208.2 On-site school bus traffic shall be physically separated from visitor, parent, and student traffic at all schools unless approved by the OSF.

208.3 School automobile and bus loops shall operate in a one-way counterclockwise direction or in a manner that assures that the loading/unloading of students occurs from the right hand side of the vehicle adjacent to the building.

208.4 Design layout of bus circulation and parking areas shall be done to prohibit the backing-up of busses on school sites.

208.5 Each parking stall for a full sized bus shall be a minimum of 15 feet wide. Smaller spaces may be provided for mini busses and other specially sized vehicles used to transport students. Submit Form F7 “Preliminary School Bus Transportation Information Form” with the initial design submittal to the OSF. Form F7 is in Division 13 of this *Guide*.

208.6 Student parking areas shall be separated from staff/visitor/bus parking and student loading/unloading areas.

208.7 Pedestrians from student parking areas should not be allowed to cross automobile and bus traffic loops to reach the school building unless approved by the OSF.

208.8 Pedestrians and bicyclists shall have a designated safe path between the adjacent road and the school building.

DIVISION 3

DESIGN CRITERIA

SECTION 301 INDEX OF SECTIONS

SECTION 302 GENERAL

302.1 Educational program delivery in the State of South Carolina is in a period of transition, especially in certain program areas, such as Special Education and Career and Technical Education. The Office of School Facilities is studying current and potential educational program delivery models in an effort to insure that the State Guidelines are flexible and responsive. During this transition a district may request a deviation by the OSF from the minimum standards. That request must be accompanied by educational specifications that detail the intended educational program, effects of the program on the facility capacity, the requested space requirements, and the rationale for the request. The National School Boards Association (NSBA) states that "the purpose of educational specifications is to define the programmatic, functional, spatial, and environmental requirements of the educational facility, whether new or remodeled, in written and graphic form for review, clarification, and agreement as to scope of work and design requirements for the architect, engineer, and other professionals working on the building design." For information on developing Educational Specifications please consult the *CEFPI Guide for Educational Facility Planning – Creating Connections*, 2004, Council of Educational Facility Planners, International.

SECTION 303 EDUCATIONAL SPACES

303.1 Art

303.1.1 General: Facilities appropriate to the schools art education program shall be provided for all schools. A well-planned art room must provide for the following activities: graphic art, which includes computer graphics, block printing, etching, and lithograph; such general crafts as, metals, weaving, and three dimensional art forms such as ceramics and sculpture.

303.1.2 Elementary School

303.1.2.1 There shall be a minimum of one art room for each school. The art room shall have at least 40 square feet of workspace per student.

303.1.2.2 At least one wall shall be provided for displaying student work.

303.1.2.3 A wet area with sink is required.

303.1.2.4 Art rooms serving kindergarten/child development units and first grade classrooms shall be located on the level of exit discharge.

303.1.3 Middle School

303.1.3.1 There shall be a minimum of one art room for each school. The art room shall have at least 50 square feet of workspace per student, excluding storage and teacher's workspace.

303.1.3.2 The art room shall be flexible enough for use with groups or individual instructional activities. Adequate space shall also be planned for special furniture and equipment, i.e., easels, potters wheels, floor looms, darkroom developing tanks, and enlargers or as outlined in district education program.

303.1.3.3 A wet area with sink is required.

303.1.3.4 At least one wall shall be provided for displaying student work and visual aids.

303.1.4 High School

303.1.4.1 There shall be a minimum of one art room for each art program (i.e., 2.d, 3.d, graphic arts, etc.) for each school. The art room shall have a minimum of 55 square feet per student, excluding storage and teacher's workspace.

303.1.4.2 At least one wall shall be designed for displaying student work and visual aids.

303.1.4.3 A secondary exhaust fan shall be provided in the art room for periodic use to remove fumes.

303.1.4.4 A wet area shall be required where program requires.

303.1.5 Kiln Room

303.1.5.1 Provide a special wiring circuit to meet kiln manufacturer's requirements. There shall be a minimum three feet wide working border around any kiln, unless the manufacturer allows less. State and local codes must be met.

303.1.5.2 The kiln room shall be ventilated to the outside to remove fumes, as well as heat build-up.

303.1.5.3 The wall and/or ceiling around the kiln space shall be 1-hour rated with ¾-hour label doors and sealed tight to the roof deck over or have a 1-hour horizontal assembly. Where a fire sprinkler system is provided, the rated wall and/or ceiling and door may be eliminated. These walls shall remain sealed tight to the deck.

303.1.5.4 Provide the kiln room with a proper fire extinguisher within five feet of the outside edge of the entry door to the space.

303.1.6 Storage Area

303.1.6.1 Art rooms require storage space with appropriate shelving. Provide 400 square feet minimum of storage.

303.1.7 Sinks

303.1.7.1 Sinks shall be equipped with hot and cold running water, fitted with mixing faucets. Sinks shall be stainless steel or some material that does not chip, crack, or break. They shall be surrounded with a waterproof work surface. Heavy duty drains with clay or plaster traps shall be used in order to prevent clogging. They shall be large enough to accommodate several students at one time.

303.2 Classrooms

303.2.1 General Classrooms

303.2.1.1 Basic requirements: The following shall be mandatory and minimum unless otherwise indicated. Classroom sizes shall be determined by student to teacher ratio and use of space, but shall not be less than the minimum areas listed.

Item	Elementary	Middle, Junior High, Senior High
Floor Area	800 SF minimum	Same as Elementary
Minimum width	24 ft.	Same as Elementary
Individual Toilets	Grades 1-2: Same as Kindergarten Grade 3: Optional Grades 4-6: Not Required	Not Required
Sink Cabinets	Grades 1-3: Required Grades 4-6: Recommended	Not Required

303.2.1.1.1 Sink Cabinets: Recommended height in kindergarten classrooms shall be 2'-1". Recommended height in grades 1-3 shall be 2'-3". Recommended height in grades 4-6 shall be 2'-6". Recommended height in grades 7-12 shall be 3'-0".

303.2.1.2 Floor Area: Shall be clear, open area exclusive of toilet rooms. However, the area covered with mandated cabinetry may be included within the 800 square feet minimum. Provisions for computer technology may require an increase in area in classrooms.

303.2.1.3 Location: First grade classrooms shall be located on ground level. Second grade classrooms shall not be higher than the second floor.

303.2.2 Interior Classrooms

303.2.2.1 Definition: An "interior" classroom is hereby defined as a classroom or other instructional space that does not adjoin an exterior wall and does not have windows or direct egress to exterior.

303.2.2.2 Elementary Schools: Interior classrooms shall not be permitted except in the following situations:

303.2.2.2.1 For art, music, resource rooms, or for upper grade classrooms where students will spend only one or two periods.

303.2.2.2.2 When interior elementary classrooms are permitted, they shall meet the criteria stipulated for secondary classrooms below.

303.2.2.3 Secondary Schools: Interior classrooms are permitted under the following conditions:

303.2.2.3.1 Space shall be mechanically ventilated and shall be equipped with emergency illumination if there is no natural light. See DIVISION 12–ELECTRICAL.

303.2.2.3.2 Two means of egress shall be provided, one of which must open directly to an exit access corridor. However, only one means of egress will be required from instructional spaces not exceeding 500 square feet in floor area. It is desirable that the second egress also open to a corridor, in which case it shall be as remote from the first egress as possible, and preferably on a different wall from the first egress.

303.2.2.3.2.1 The second egress shall be permitted to open to another space (such as, a classroom) that preferably in turn has direct egress to a different exit access corridor, in which case a plastic or metal placard shall be attached to each side of the door with non-removable screws stipulating that no lock is permitted and that clear passage must be maintained at all times. However, this arrangement is not generally recommended and should only be used upon specific approval by the district superintendent because of additional sound transmission problems, and lack of security from one space to another. If occupancy of one space exceeds 50 persons or distance-of-travel exceeds 75 feet, the second egress shall open to an exit access corridor.

303.2.3 Specialized Classrooms

303.2.3.1 Self-Contained Classrooms

303.2.3.1.1 Classroom Size: A minimum sized classroom of 800 square feet, exclusive of toilet rooms shall be provided in all cases where the anticipated enrollment will approach 15 elementary or 18 secondary students.

303.2.3.1.2 Plumbing Requirements.

303.2.3.1.2.1 Unless otherwise waived by the OSF, individual toilet rooms shall be provided in all elementary self-contained classrooms and shall contain a water closet and lavatory and shall be designed for wheelchair use. The width of the toilet room must allow for side transfer from wheelchair to water closet.

303.2.3.1.3 Sink cabinets shall be included in all elementary self-contained classrooms. Counter height should be determined by the age level expected to occupy the room (See 303.2.1.1).

303.2.3.2 Resource Rooms

303.2.3.2.1 Enrollment: Six to eight students generally.

303.2.3.2.2 Room Size: 360-400 square feet (half the size of a regular sized classroom**)** will accommodate typical student groupings.

303.2.3.3 Time-out Rooms. If time out rooms are provided, they shall meet the requirements of the Office of ~~the State Fire Marshal's~~ School Facilities' Policy Memorandums.

303.3 Kindergarten and Child Development Classrooms

303.3.1 Location: Kindergarten and Child Development Units shall be located on the ground-floor level and be in a common area near drop-off points.

303.3.2 Kindergarten and Child Development Classroom Area

303.3.2.1 Floor area shall be a minimum of 1,050 square feet (net), exclusive of the teacher's workroom (optional), toilet, and storage room. Mandated cabinetry may be included in this area.

303.3.2.2 The minimum width shall be 24 feet.

303.3.2.3 Each classroom shall have a counter equipped with a minimum of one sink at student height and one at adult height. Minimum length of counter shall be 12 feet. Counter top sink(s) shall be stainless steel or porcelain. A bubbler shall be provided.

303.3.2.4 "Cubby" units with a coat hook and a storage cubicle for each student shall be provided.

303.3.2.5 Teacher Work Rooms are recommended to be placed throughout the school to allow for peer collaboration, team planning, etc.

303.3.3 Individual Classroom Toilets

303.3.3.1 One toilet serving as a unisex arrangement, and opening into the classroom, shall be required as a minimum for every Kindergarten/Child Development classroom, unless group toilets sufficient to meet total student population are provided, in which case one toilet serving every two classrooms will be allowed. A hand wash sink shall be required either in the toilet or directly outside the toilet in each classroom.

303.3.3.2 All of the individual toilet rooms are not required to accommodate people with physical disabilities. Provide at least 25 percent, but in no case less than 2 toilets for people with physical disabilities per Kindergarten/Child Development area and/or wing.

303.3.4 Enclosed Play Yard

303.3.4.1 An enclosed play yard shall be provided, sufficient to accommodate the expected student population. Pedestrian gates shall be provided to the enclosure.

303.3.5 The electrical outlets in kindergarten rooms shall be of the tamper resistant type or be provided with blank plastic safety plugs.

303.3.6 Classrooms for K-4 and younger shall meet the State Fire Marshal regulations for daycares, in addition to the requirements of this *Guide.*

303.3.7 Early Childhood Environmental Ratings Scale (ECERS) and Infant and Toddler Environment Rating Scale (ITERS): Both ECERS (2 ½ – 5 years of age) and ITERS (below 2 ½ years of age) utilize more stringent standards than this *Guide*. The design professional is recommended to verify with the school district if it plans to incorporate these standards.

303.4 Media Centers

303.4.1 The State Department of Education, through its School Library Media Services office, is available to review library media center plans for school districts. Contact Martha Alewine, Consultant for School Library Media Services (864) 229-4230 or malewine@ed.sc.gov for information.

303.4.2 Every school shall have a library/media center of a size commensurate with the long-range student population of the school and sufficient to house the minimum required materials specified by the Southern Association of Colleges and Schools. Media centers serving kindergarten/child development units and first grade classrooms shall be located on the level of exit discharge.

303.4.3 Reading Rooms

303.4.3.1 The minimum size of the reading room for each media center shall be determined as follows:

303.4.3.1.1 Elementary: For schools having an enrollment of up to 1,000 students, 10 percent of the enrollment multiplied by 30 square feet, with a minimum size being 1,200 square feet.

303.4.3.1.2 Secondary: For schools having an enrollment of up to 2,000 students, 15

percent of the first 400 students plus 10 percent of the remainder, the total to be multiplied by 30 square feet.

303.4.3.1.3 For schools having enrollments in excess of the above, the additional area required shall be determined by the district, based on students to be seated at any one time, volumes to be accommodated, and type of programs expected to be utilized.

303.4.3.2 The librarian shall have visual control of the entire facility.

303.4.4 Office/Workroom

303.4.4.1 These areas shall be required in all media centers and are most often combined, although in larger secondary schools a separate office may be desired. Recommend an area a minimum of 180 square feet in smaller schools and up to 250 square feet in larger schools.

303.4.4.2 Generous glass area shall be provided for overview of reading room.

303.4.4.3 Shall have 36 inch high work counter with stainless steel double sink and swing faucet with hot and cold water.

303.4.5 Conference Room(s)

303.4.5.1 A minimum of one shall be required in all media centers, with two recommended in larger elementary schools and two or more in larger secondary schools.

303.4.6 Audio-Visual (AV) Storage Space

303.4.6.1 Secure AV storage space shall be required in all media centers.

303.4.7 Main Technology Distribution Room

303.4.7.1 A secure main distribution room (space where major components of technology hardware and networked systems interconnect to each other and to other systems external to the school) shall be in all schools. Size, location, and security shall be determined by program requirements. Heat load shall be established for the equipment in order that proper ventilation can be provided.

303.5 Music

303.5.1 General: Facilities designed specifically for music education shall be planned for all schools. The music facilities shall be adequate to accommodate the variety of activities and experiences.

303.5.2 Elementary School: The facilities provided for the music program in the elementary school shall meet the following standards:

303.5.2.1 A room shall be designed for teaching general music. This room shall have appropriate acoustical properties and be large enough to accommodate the largest group taught and provide ample space for physical movement. It shall also contain storage space for the necessary materials, classroom instruments and equipment. One thousand (1,000) square feet of floor space shall be minimum size.

303.5.2.2 This room shall be specifically designed to provide a quiet environment; room acoustics for critical listening and ventilation rate should be appropriate for the space.

303.5.2.3 Lockable cabinets or a secured storage room shall be provided for the various large and small instruments.

303.5.2.4 Music rooms serving kindergarten/child development units and first grade classrooms shall be located on the level of exit discharge.

303.5.3 Middle/Junior High: The facilities provided for music programs in grades 6–8 or 7–9 shall meet the following standards:

303.5.3.1 Music rooms shall be available for teaching general music, vocal music, and instrumental music (band/orchestra). If there is more than one music educator, there shall be a rehearsal room for instrumental groups and another rehearsal room for choral groups.

303.5.3.2 Each room in which music is taught shall be acoustically treated to provide appropriate sound dispersion and reverberation. Each room shall be acoustically isolated. The vocal and instrumental areas shall be separated by an acoustical barrier or wall.

1. **Shared Music Room:** 1,800 square feet minimum for combined programs
2. **Band/Orchestra Room:** 1,800 square feet, minimum 20 square feet per student
3. **Choral Rehearsal Room:** 1,200 square feet, minimum 12 square feet per student (If risers are built-in, they are to be 40" wide with a 6" rise; removable risers are recommended.)
4. **Ensemble Rooms:** At least one 300 square feet room
5. **Practice Rooms:** 55 square feet for each 30 students in the largest capacity music space
6. Office space shall be provided for each music teacher

303.5.4 High School: The facilities provided for the music of grades 9-12 shall meet the following standards:

303.5.4.1 Music rooms shall be provided for band/orchestra and chorus.

303.5.4.1.1 Room size specifications:

1. Music Classroom: 1,000 square feet
2. Instrumental Rehearsal Room: (band/orchestra) 2,100 square feet, minimum 25 square feet per student
3. Choral Rehearsal Room: 1,400 square feet; minimum 15 square feet per student, risers 40" wide with 6" rise
4. Ensemble Rooms: 350 square feet
5. Practice Rooms: Where required, 55 square feet for each 30 students in the largest capacity music space
6. Instrumental Storage Room: 400 to 500 square feet with shelves and cabinets, located for ease of access to rehearsal area, secured
7. Band Uniforms Storage Room: 100 square feet minimum with appropriate garment cabinets; room secured
8. Choral Program Storage: 200-300 square feet with facilities for choral robes, blazers, a sound system and portable standing risers

9. Music Library: 100-150 square feet with space for filing cabinets, sorting racks, counters and storage cabinets; room secured
10. Office Space: 100 square feet minimum for each music educator

303.6 Physical Education

303.6.1 General: Facilities designed specifically for the physical education program shall be included in all schools. The facilities shall be determined by the instructional needs of physical education program and number of students to be served. Additional considerations shall be determined by the needs of the athletic program and the needs of the community. Therefore, the facilities shall be adequate to accommodate a variety of activities; experiences and a teaching station shall be available for a class regardless of weather considerations. Both indoor and outdoor facilities shall be provided.

303.6.2 Elementary Facilities

303.6.2.1 General: The indoor activity space shall give basic consideration to the primary age group using the facility, with consideration for students with physical disabilities, community and spectators being of less importance. The gymnasium and/or multi-purpose room shall be apart from classrooms to reduce noise and accessible to parking area and outdoor activity space and fields.

303.6.2.1.1 Gymnasium: Basketball courts should be sized by the district with a minimum size to be 42' x 74' with a minimum of six (6) safety perimeter, or a minimum area of 54' x 86'. Large size equals 82' x 94', this size will accommodate a basketball court and can be divided by a folding partition. The large size shall be used if two indoor teaching stations are needed. There shall be a minimum of 22 feet clear above the floor.

303.6.2.1.2 ~~A~~ storage area of no less than 300 square feet shall be provided for the gym. Doors shall be wide enough for easy access to mats and apparatus.

303.6.2.1.3 Instructors shall have a minimum 100 square feet office.

303.6.2.1.4 The Multi-purpose room can serve as an adequate instructional facility and activity space for the elementary students, particularly for grades K–3. It shall be no less than 2,400 square feet (40' x 60'), a rectangular shape is preferred. A minimum of 14-feet clearance for ceiling height shall be provided. The wall space shall be free from obstruction to 10 feet and hard and smooth. Storage space and office space shall be the same as for a gymnasium.

303.6.2.1.5 Outdoor Activity Space: Three types of activity spaces are required for the physical education program. Outdoor play areas shall be located so there is no interference with traffic and pedestrians.

303.6.2.1.5.1 A field space composed of a level well-graded turf area with a minimum size of 80'x100' shall be suitable for one teaching station.

303.6.2.1.5.2 An asphalt/synthetic activity space shall be required. It is recommended the minimum size be 2,400 square feet.

303.6.2.1.5.3 Separate age-appropriate playgrounds shall be designed for early elementary and upper elementary grades.

303.6.3 Secondary Facilities

303.6.3.1 General: The secondary school physical education facilities shall reflect curriculum and instructional needs of students and provide adequate activity space.

303.6.3.2 Gymnasium: Basketball courts should be sized by the district–with a minimum size to be 50' x 84' with a minimum of six (6) feet safety-perimeter on the sides and ten (10) feet safety perimeter at each end for a minimum area of 62' x 104'. Adequate space shall be added for bleachers depending on type and brand being used. The design of bleachers shall be in accordance with IBC. Walls shall be hard and smooth up to 10 feet and free from obstruction. There shall be a minimum of 22' clear above the floor.

303.6.3.2.1 Double doors shall lead off the gym floor into apparatus storage room. Storage of no less than 400 square feet shall be provided for the gym.

303.6.3.2.2 Office space shall be a minimum 120 square feet. (Provide a separate shower, lavatory and water closet for instructors.)

303.6.3.2.3 The locker rooms shall provide a minimum of 15 square feet per pupil. The floors shall be of slip resistant materials.

303.6.3.2.4 Showers shall be provided in accordance with Section 304.13.4 of this regulation. A shower master valve shall be provided at the coach's office.

303.6.3.2.5 A Physical Education Classroom (minimum 800 square feet) shall be provided.

303.7 Science Facilities

303.7.1 Elementary Schools

303.7.1.1 General: A minimum of one (1,000 square feet minimum) science classroom shall be provided.

303.7.1.2 Specific Requirements include:

1. One sink with running water
2. Eye wash
3. Ample counter space
4. Ample electrical outlets
5. Ample lockable storage for science materials
6. Ample shelving
7. Flat student desks
8. TV, telecommunications and computer wiring
9. Teacher's demonstration table
10. When grades 6, 7, and 8 are grouped as a middle school, then the 6th grade science classes must be taught in a science laboratory facility.

303.7.2 Middle and Secondary Schools

303.7.2.1 General: All science classes grades 7–12 shall be taught in or have access to classrooms designed specifically for student oriented laboratory experiences. Features required for instructing all science classes regardless of the type of classroom design include instructor's demonstration desk, flat top student desk, and ample lockable storage space. All rooms shall be provided with acid resistant waste lines.

303.7.2.2 Specific Requirements:

1. 1,200–1,400 square feet in middle schools, 1,600–1,800 square feet in high schools
2. Large 8–12 feet instructor's laboratory desk equipped with cold water, electrical, and gas outlets
3. Laboratory Stations
4. Computer stations
5. Sinks with cold water only
6. Electrical duplex outlets or strip outlets over all laboratory stations
7. TV, Telecommunications and computer wiring
8. Gas outlets (required in high schools only)
9. 1 large, acid resistant, deep sink, hot and cold water
10. Combination eye wash and shower located in each laboratory
11. 1 large wall clock
12. Ample erasable dry boards recommended avoiding chalk dust
13. Ample bulletin board areas
14. Exhaust fan for fume removal
15. Ample lockable storage
16. Master water, and gas cut-off shall be located in the instructor's demonstration desk or close proximity. These shall be readily accessible to the instructor without the use of keys, special tools, etc., and shall be clearly labeled.
17. Acid and heat resistant counter tops and sinks shall be provided for all laboratory furniture.
18. Fire extinguisher and fire blankets shall be provided.

303.7.2.3 Separate Classroom/Lab Spaces: Classrooms shall be 800 square feet and labs 1,000 square feet. Equipment would be the same as above.

303.7.2.4 Laboratory Preparation Room

303.7.2.4.1 At least 200-300 square feet of space shall be provided for a laboratory preparation room for each self-contained, perimeter, and regular science lab. It is highly desirable to locate a laboratory preparation room between two science laboratory facilities so that laboratory equipment and supplies can be shared. When the science facilities are designed in this manner, an area of 300-600 square feet shall be provided for laboratory preparation room.

SECTION 304 SUPPORT SPACES

304.1 Bookrooms

304.1.1 Every school shall have a minimum of one secured book storage room, with shelving anchored to meet all codes.

304.1.2 Mechanical ventilation shall be provided.

304.2 Cafeteria-Kitchens

304.2.1 General: In reference to the design construction and maintenance of kitchens, food storage areas, food serving areas, cafeterias, and related spaces in public schools, DHEC has set forth their requirements in this regard in Regulation 61-25 entitled "Food Service Establishments." Plan review is required by DHEC, Division of Food Protection, Bureau of Environmental Health.

304.2.2 Cafeteria

304.2.2.1 Group toilets shall be located nearby for both student use and the public.

304.2.2.2 The State Department of Education, through its Office of School Food Services and Nutrition is available to review for comment school kitchen plans. Contact Gregg Ferguson, Education Associate (803) 734-3942 or gferguson@ed.sc.gov for information.

304.3 Corridors

304.3.1 Major Corridor shall be defined as a corridor that serves more than four (4) instructional areas or more than 120 students.

304.3.1.1 The mandated minimum corridor clear width shall be 8'-0" for elementary schools and 10'-0" for secondary schools when classroom doors do not project into the corridor. Increase corridor widths to 9'-0" and 11"-0" when classroom doors project into corridor. These are minimum widths and wider sizes are recommended.

304.3.2 Minor Corridor is defined as one serving four instructional areas or less, or 120 students or less.

304.3.2.1 Minimum clear widths for "minor" corridors shall be 7 feet in elementary schools and 8 feet in secondary schools for corridors housing 4 instructional areas or 60 to 120 students. For corridors with just 2 instructional areas and 60 students or less, corridors shall be 6 feet and 7 feet respectively.

304.3.2.2 Lockers shall not be permitted in minor corridors.

304.3.2.3 Tertiary corridor shall be defined as the access way from rooms or areas not in the main line of travel and not serving as an egress way for more than 30 people (such as access to toilet rooms and access within office suites). Such passageways should be a minimum clear width of 4'-8".

304.3.3 The combined obstruction of doors on opposite sides of a corridor shall not reduce the required width of the corridor by more than 50 percent at any point during the opening process.

304.4 Fire Walls and Fire-Rated Walls

304.4.1 The following shall be included in the contract documents.

304.4.2 All firewalls and fire-rated walls shall be completely fire-stopped and draft-stopped, including complete sealing against underside of floors or roof decks where this condition occurs.

304.4.3 All firewalls and fire-rated walls shall be permanently identified on both sides with signs or stenciling above decorative ceilings and in other concealed areas. Suggested wording (X) HOUR FIRE AND SMOKE BARRIER PROTECT ALL OPENINGS. Fire walls are not to be used for the support of structure.

304.4.4 Toilet Room Walls

304.4.4.1 Fire rated bathroom/restroom doors are not required when opening onto fire rated halls, corridors, exit access provided:

304.4.4.1.1 No other rooms open off of the bathroom/restroom.

304.4.4.1.2 No gas or electric appliances other than hand dryers are located in the bathroom/restroom.

304.4.4.1.3 All perimeter walls, partitions, floor and ceiling of the bathroom/restroom have a fire rating at least equal to the rating of the hall, corridor or exit access.

304.4.4.1.4 The bathroom/restroom is not used for any other purpose than it is designed.

304.5 Guidance

304.5.1 General: Guidance counselors are mandated for all secondary schools in proportion to the enrollment; they are also provided for elementary schools under certain circumstances. The district shall instruct the architect as to the number of guidance personnel to design. Growth potential of the school shall also be taken into consideration when providing private offices for counselors.

304.5.2 Location: The guidance suite shall be near the main building entrance for convenience of parents, college or employment recruiters, district staff, and others involved in the counseling function. Guidance shall be either adjacent to the school administrative area or in close proximity thereto, but in any case, the guidance suite shall have its own separate entrance from a corridor or lobby.

304.6 Health Units

304.6.1 General: Health units shall be included in all schools, designed around the needs of the student population and the districts student, family and community health programs.

304.7 Locker Spaces

304.7.1 Locker Layouts: In a locker alcove (adjacent to hallways) and/or separate locker rooms, the isle width between faces of opposing lockers shall be 5'-6" minimum.

304.7.2 Corridors: Lockers shall not reduce the required minimum corridor clear width as set forth in Section 304.3. Required clear widths of corridors shall be increased by one foot for corridors with lockers on one wall and two feet for corridors with lockers on two opposite walls. Open locker doors do not affect clear widths. No projections are allowed into the minimum corridor clear width with lockers.

304.8 Mechanical and Electrical Equipment Rooms

304.8.1 Areas housing mechanical and/or electrical equipment shall be of sufficient size to accommodate the designed equipment and shall provide adequate clearances for servicing, repairing and/or replacing all equipment. Such areas and clearances shall meet all requirements of the Building Code as to fire protection, fire prevention, and exit requirements for personnel. Mechanical and electrical rooms shall not be combined with, or be a part of, storage or custodial areas.

304.8.1.1 Note that in sprinkler buildings, all electrical rooms must be sprinklered unless they qualify for an exception per NFPA 13.

304.8.2 Boiler rooms, furnace rooms, and other major mechanical rooms shall be separated from the remainder of the building by walls having a minimum fire-resistance rating of two hours. It is recommended that no upper floor construction be placed over such areas due to safety and sound transmission, but if the architect elects to do so, then a ceiling/floor assembly having a minimum of three hours shall be provided. These rooms shall have doors opening only to the exterior and of such size as to provide for the removal of the largest piece of equipment or the largest demountable portion thereof. Where equipment is excessively large, knockout wall panels shall be provided. The above areas shall also be located so that service trucks may be driven to the equipment room door.

304.8.3 Rooms and spaces containing the main electrical switchboard, main panel boards, or primary transformer shall be separated from the remainder of the building by walls having a minimum fire-resistance rating of one-hour and shall be located on an outside wall with an outside door so as to be readily accessible.

304.9 Records Room/Vault

304.9.1 General: All student records shall be maintained in a vault or records room that provides protection from fire, theft, vandalism, mold, and mildew.

304.9.2 Location: Shall be in the administrative area, under the direct control of the administrative personnel and convenient to guidance counselors.

304.9.3 Construction: Regardless of the storage medium or location, student records shall be stored in a space that provides a minimum 3-hour protection on all sides and the top. Doors shall be 3-hour rated with an automatic closing device.

304.9.4 Four-hour fire-rated cabinets on off-site storage of permanent records may be used when expressly directed by the district (provide letter).

304.10 Stages and Platforms

304.10.1 Whenever a stage or platform is planned adjacent to or as a part of a cafeteria or gymnasium, the occupancy calculation shall be based on the floor area in addition to any fixed seating (e.g. bleachers) for both the calculation of egress requirements and, in middle and high schools, the calculations of readily available plumbing fixture requirements.

304.11 Stairways (serving as exits)

304.11.1 Interior doors into or out of stairways shall be capable of being held in the open position at all times by means of smoke-release devices. Recommend wall-mounted magnetic-release type holdbacks. See DIVISION 12–ELECTRICAL for operational sequences.

304.11.2 There shall not be any storage facilities under stairs or stair landings, or in or opening to, the stairway itself, except as allowed by IBC.

304.11.3 The area beneath the stairs or landing(s) not used for circulation, shall be sealed off from bottom of stringer to floor.

304.11.4 For proper traffic flow, the minimum width of any stairway shall be 7'-4" for both elementary and secondary schools, measured from wall to wall if the enclosed type, or wall to outside of stringer if one side is open. The OSF will review special exceptions.

304.12 Storage and Custodial Facilities

304.12.1 Central Storage and Receiving

304.12.1.1 This space shall be located near an exterior loading/receiving area and be sized appropriately for school operational needs.

304.12.2 Custodial (Janitor) Closets

304.12.2.1 At least one janitor's closet shall be provided per floor. More should be provided for large floors.

304.12.2.2 All custodial closets in unsprinklered buildings shall have 1-hour rated walls with ¾ hour doors.

304.12.2.3 The space shall be mechanically vented and secured.

304.12.2.4 Provide the custodial closet with a proper fire extinguisher within five feet of the outside edge of the entry door to the space.

304.12.3 Storage rooms (including custodial closets) greater than 100 square feet shall have 1-hour rated walls with ¾ hour doors.

304.13 Toilet Facilities

304.13.1 At a minimum every individual building shall be provided with toilet facilities as hereafter stipulated in this section unless otherwise waived by the OSF.

304.13.2 Divide design load by one-half to ascertain male/female ratio.

304.13.3 General Student Toilet Rooms (Group Type)

304.13.3.1 Toilet room doors and ceilings for reasons of security, doors may be omitted from student toilet rooms provided that all surrounding walls have a fire rating equal to that of the corridor. Sight lines into these spaces will need to provide privacy. Fully sprinklered buildings will not require rated walls. Lay-in ceilings are not recommended for toilet areas.

304.13.3.2 Fixture count shall be calculated in accordance with the following:

304.13.3.2.1 The design load for the number of students to be served, both elementary and secondary, shall be calculated as follows:

304.13.3.2.1.1 Per instructional classroom or area used as a "homeroom": 30 each, except exclude students in classrooms with individual toilets;

304.13.3.2.1.2 Per T & I vocational shop: 25 each;

304.13.3.2.1.3 Consider allowance for future expansion or for possibility of addition of "relocatable" classrooms. Consult district.

304.13.3.2.2 Divide design load by one half to ascertain boy/girl ratio, except in the case of vocational facilities, based on district's estimate of sex ratio.

304.13.3.3 Do not include fixtures in individual teacher, administrative or guidance area or staff toilet rooms, or those in gymnasium dressing room areas not available to the general student population.

304.13.3.4 The fixture count may include fixtures in toilet rooms designed mainly for the public (auditoriums, gymnasiums), but only if they are close to the mainstream of student traffic.

304.13.3.5 Fractions: In calculating fixture counts, go to the next higher number for any fraction of a fixture.

MANDATED FIXTURE RATIOS-STUDENT TOILET ROOMS
(All Grades)

Persons	Water Closets*	Lavatories	Urinals
Males	1:90	1:50	1:45
Females	1:30	1:50	

*TROUGH URINALS SHALL NOT BE USED.

304.13.4 Public Toilet Rooms (Group Type for Large Gatherings)

304.13.4.1 The design load for the number of persons to be served shall be calculated as follows:

304.13.4.1.1 **Auditoriums:** Number of seats

304.13.4.1.2 Gymnasiums with adjacent, connected stages or platforms, number of spectator seats, plus the seating capacity of the floor area not covered by bleachers (calculate floor occupancy using "chairs only" concentration)

304.13.4.1.3 **Gymnasiums:** Number of spectator seats (not necessary to include possible chair seating on gym floor)

304.13.4.1.4 Fixture count shall be calculated on the basis of the following table:

Persons	Water Closets*	Lavatories	Urinals
Male	1:360	1:240	1:180
Female	1:120	1:240	

***TROUGH URINALS ARE NOT PERMITTED.

304.13.4.1.5 The fixture count may include standard student toilet fixtures if in a readily accessible and convenient location to the area being served and no more than 200 feet from the area to be served.

304.13.4.1.6 **Fractions:** In calculating fixture counts, go to the next higher number for any fraction of a fixture.

304.13.4.1.7 Where a gym and auditorium are constructed in close proximity and toilet rooms will be readily accessible to both facilities at all times, the fixture requirements for the larger of the two will be deemed adequate.

304.13.5 Gymnasium Dressing Room Toilets and Showers (secondary schools)

304.13.5.1 Each boys' and girls' PE and varsity athletic dressing room may have its own self-contained facilities, or in some cases a combined-use layout may be designed by means of doors (for security) that permit the combined facilities to be available to either or to varsity athletics. This should reduce the number of fixtures required and probably the square foot area to some degree. If a combined-use facility is designed, the design shall be based on largest number anticipated at any one time.

304.13.5.2 The design load for the number of students to be served shall be calculated as follows:

304.13.5.3 **PE:** Maximum number enrolled at any one period (each class may run as high as 40) divided by one-half to ascertain male/female ratio.

304.13.5.4 **Varsity Athletics:** Maximum number expected to be served at any one time. Take into consideration any "overlapping" sports such as football and basketball. Determine male/female ratio by expected squad sizes.

304.13.5.5 Fixture count shall be calculated by using the next higher number for any fraction of a fixture.

304.13.5.6 Individual enclosures with curtains or doors shall be required for all showers ~~females and considered for males. Fixture requirement shall be as follows:~~

304.13.5.7 Fixture requirements shall be as follows:

MANDATED FIXTURE RATIOS FOR PE/ATHLETICS TOILETS/SHOWERS

Persons	Water Closets*	Lavatories	Shower Heads	
			PE	Athletics
Males	1:40	1:40	1:12	1:12
Females	1:20	1:40	1:12	1:12

***TROUGH URINALS SHALL NOT BE PERMITTED.
(Up to 67% of male facilities may be urinals.)

304.13.6 Football Stadium Toilet Rooms

304.13.6.1 The design load shall be the number of seats provided.

304.13.6.2 The fixture count shall be as follows:

Persons	Water Closet	Lavatories
Males	1:200	1:300
Females	1:100	1:300

(Up to 67% of male facilities may be urinals.)

304.13.7 Other Toilet Facilities

304.13.7.1 **Teachers' Toilets**: There shall be a minimum of two per floor. Floors with ten or fewer classrooms may use a single unisex toilet.

304.13.7.2 **Administration/Visitors' Toilets**: It is the district's option to provide a private toilet for principal, toilet for office administrative personnel, and/or toilet for visitors. These may be located so as to be combined into one, or larger teachers' toilets may be designed to serve for all, if conveniently located.

304.13.7.3 **Guidance**: Consult district

304.13.8 Drinking Fountains/Water Coolers

304.13.8.1 At a minimum, drinking fountains/water coolers shall be provided on basis of 1:100 students for design enrollment.

304.13.8.2 In elementary schools where some classrooms contain drinking bubblers, each major corridor shall still have at least one fountain/cooler.

304.13.8.3 Cafeterias, “commons,” gymnasium/dressing rooms, choral and music areas and vocational shops shall have a minimum of one fountain/cooler for each room or area.

304.13.8.4 Gymnasium and auditorium lobbies shall have a minimum of one fountain/cooler for each area. More coolers may be required and shall be provided in accordance with the code.

304.13.8.5 Bi-level water coolers shall be counted as one fixture for fixture count purposes.

SECTION 305 OTHER REQUIREMENTS

305.1 Energy Efficiency

305.1.1 As noted in Section 107.1.1 (p. 1-6), school buildings shall be designed in accordance with the energy code with reference to ASHRAE 90.1. Designers shall submit their required worksheets with the construction document submittal demonstrating compliance.

305.2 Finish Ceiling Heights

305.2.1 Minimum Ceiling Heights

305.2.1.1 Except as otherwise noted herein, the following shall be minimum ceiling heights for all areas of new schools.

Elementary: 8'-8", including corridors, Secondary: 9'-0", including corridors

305.2.1.2 Where designs are based on exposed decks and exposed structural members, consult the OSF about the possibility of slightly lower dimensions to the underside of structural members.

305.2.2 Exceptions to Minimum Ceiling Heights:

305.2.2.1 Renovation work to existing buildings, upon the review conditions and approval from the OSF.

305.2.2.2 Classrooms and other instructional areas, which are normally under constant supervision, may have minor areas of the ceiling furred to 8'-0" minimum for ductwork purposes. Gypsum wallboard or plaster shall be used in lieu of lay-in tile for such furring, particularly for the vertical surfaces.

305.2.2.3 Band/orchestra rooms in secondary schools shall have a minimum ceiling height of 14'-0" measured from the highest level in the area (if tiered).

305.2.2.4 Choral rooms in secondary schools shall have a minimum ceiling height of 12'-0" measured from the highest level in the area (if tiered).

305.2.2.5 Gymnasiums in all secondary schools shall have a minimum height of 22'-0" from the playing floor to underside of finish ceiling or to the bottom of structural members, whichever is lower. Acoustical ceiling tiles shall be securely clipped to the grid.

305.2.2.6 Vocational shops shall have a minimum ceiling height of 12'-8" to finish ceiling or underside of exposed structure, whichever is lower. Exceptions may be made, depending on the program involved; consult the OSF.

305.2.2.7 Cafeterias, media centers, auditoriums, multipurpose rooms, and other larger areas shall have ceiling heights as determined by the architect to meet acoustic and aesthetic requirements.

305.2.2.8 Administrative offices, storage rooms, teachers' lounges, and other areas not frequented by students may have lower ceilings at the architect's discretion.

305.3 Doors

305.3.1 General: Except as otherwise noted herein, the content of this section refers to hinged swinging doors.

305.3.1.1 Fire doors, including doors at stairwells, horizontal exit doors (usually corridor-to-corridor situations), and any corridor smoke doors shall be capable of being held open by devices which release upon detection of smoke.

305.3.1.2 ~~Gymnasium~~ Each student's PE and athletic dressing rooms shall have at least two means of egress, ~~although if less than 50 persons occupy any one dressing room and if it is less than 75 feet of travel from the most remote point in the area to an exit.~~ The passage into the gymnasium itself may be considered to be the second egress.

305.3.1.3 Closers are not required on classroom doors.

305.3.2 Door Widths

305.3.2.1 All exterior and interior doors shall be a minimum of 3'-0" wide, unless otherwise stated in this regulation. Interior stairwell doors should be as wide as possible.

305.3.3 Door Swings

305.3.3.1 Doors shall swing in the direction of exit travel where required by the IBC (this includes, but is not limited to, exit doors to the exterior, and exit doors into or out of stairs and through horizontal exits, from hazardous areas, from areas occupied by more than 50 persons or areas where travel distance within the area exceeds 75 feet). Also, all doors from media centers, gymnasium dressing rooms, industrial art, prevocational or T&I shops, and from boiler, furnace, mechanical, or electrical equipment rooms shall swing in the direction of exit travel.

305.3.3.2 Except for the requirements in Section 305.3.3.1, all other doors may swing into or out of the areas they serve, including classrooms.

305.3.3.3 In multiple openings, two doors should not be hung back-to-back on the same mullion, although a single mullion is usually acceptable as the only separation between the hinge side of one door and the strike side of another. Allow reasonable separation between doors to allow for backswings.

305.3.3.4 Where a floor-mounted closer is used with a built-in stop in the closer itself and a coordinated stop at the top, surface-applied floor or wall stops are not deemed necessary if a 95° door swing or preferably 105° swing, is specified.

305.3.3.5 Where overhead closers are used with exterior doors, surface-applied floor stops or equivalent shall be specified.

305.3.4 Door Panic Devices

305.3.4.1 Exterior Locations

305.3.4.1.1 "Touch-bar" type exit devices shall be installed on all exterior doors requiring panic hardware (this type pushes in rather than down and is considered to be more secure against unauthorized entry and more maintenance-free). It shall be of a design that does not facilitate the use of a chain and padlock.

305.3.4.1.2 All exposed surfaces shall be nonferrous metals or stainless steel.

305.3.4.1.3 Interior Locations

305.3.4.1.5 **"**Touch-bar" type exit devices are also required for interior doors where panic hardware is required, provided fire label requirements can be met; exposed surfaces shall be the same materials as for exterior door devices above.

305.3.5 Lock and Latch Sets

305.3.5.1 All doors, unless otherwise specifically exempted by the OSF, shall be equipped with hardware that is operable at all times from the egress side by a single operation (i.e., use of keys, thumb turn bolts, and the like, shall be prohibited).

305.3.5.2 Individual student toilet rooms (such as in kindergartens and elementary class-rooms) with privacy locks which shall release upon turn of knob from inside and also shall be equipped with emergency release feature on outside.

305.3.5.3 Where double doors open to fire-rated corridors from mechanical, electrical, or storage rooms, or other unoccupied areas; head and foot bolts may be used on the inactive door without a closer.

305.3.6 Closers

305.3.6.1 Closers for Fire Doors

305.3.6.1.1 All fire doors shall be self-closing unless otherwise an exception is allowed by code or state regulation.

305.3.6.1.2 Fire doors in areas subject to high-use traffic during the school day, including stairwells, horizontal exit doors (usually corridor-to-corridor situations), and any corridor smoke doors, shall be capable of being held open by magnetic devices which release upon detection of smoke. Ceiling-mounted smoke detectors in combination with wall-mounted magnetic releases should be specified rather than the combination

closer/detector at the head of the door because of vandalism factors (particularly in all secondary schools).

305.3.7 Roll-down or Folding Doors or Grilles: These shall not be allowed where their use negates required exit ways or exit access corridors, or where dead-end corridor violations result. This prohibition shall be in effect, regardless of whether or not the district intends to close such doors or grilles only after school hours.

305.3.7.1 Roll-down doors/shutters used for the transfer of items, as is typically seen in concessions areas must be equipped with smoke actuated closers when the door/shutter serves as the opening protective in a rated wall. Each door shall be equipped with a safety edge that will allow door to reverse when it hits an obstruction within its downward path.

305.4 Windows

305.4.1 General: See DIVISION 11 – MECHANICAL for ventilation requirements where air-conditioning, mechanical, or natural ventilation is utilized.

305.4.2 Required Windows

305.4.2.1 Each classroom or other instructional area adjoining an exterior wall shall have a minimum of one window unless otherwise waived by the OSF.

305.4.2.2 Where classrooms or instructional areas have a door directly to the outside, the minimum of one window shall still be required.

305.4.3 Windows for Emergency Egress

305.4.3.1 Except as noted there shall be at least one window that qualifies for emergency egress in any space where windows are required, including those on all floors of multistory buildings. However, if there is an egress door directly to the outside, the required window need not qualify as an emergency egress.

305.4.3.2 If there is more than one window in an area, all do not have to qualify for emergency egress, but those that do shall have a plainly visible plastic or metal placard stating “emergency exit”; the placard shall be riveted or attached to the window with non-removable screws. If all windows qualify for egress, placards are not required.

305.4.3.3 The following window types are permitted for egress: Single-hung sash, double–hung sash, casement, or projected.

305.4.3.4 Projected awning windows shall only be used where the escape portion opens to at least 45° and the size of the opening is as stipulated in Section 305.4.3.6.2. Sliding windows are not acceptable because of dirt collecting in tracks.

305.4.3.5 Size of egress openings:

305.4.3.5.1 For a single, double-hung, or casement window, there shall be a minimum of a 5.7 square feet opening in the clear, with a minimum clear dimension of 24" for the height and 20" for the width.

305.4.3.5.2 If projected windows are used, they shall have a minimum clear sash opening of 24" for the height and 20" for the width not less than 5.7 square feet clear passage under the sash when the sash is at a 45° open position.

305.4.3.6 Heights from floor to bottom of egress opening.

Location	Elementary	Secondary
First Floor: Minimum	4"	4"
First Floor: Maximum	3'-0"	3'-0"
Second Floor and above: Minimum	2'-6"	2'-6"
Second Floor and above: Maximum	3'-0"	3'-0"

305.4.3.6.1 Note that the heights in this table are to be measured from the floor to the actual opening and the thickness of the frames must be included. A tolerance of two inches will be allowed on maximum heights.

305.4.3.7 Locking: Egress openings shall have a one-point locking release, preferably within reach of the age of the student served, but in no case higher than 5'-8".

305.4.3.8 A force no greater than 15 pounds shall be allowed to open the lower sash of an emergency window.

305.4.4 Windows (or Doors) Opening to Interior Courts

305.4.4.1 Where required first-floor emergency egress windows or egress doors open to interior courts, the court shall have access to a protected passageway which leads to the open area outside the building, except as noted in Section 305.4.4.2.

305.4.4.2 In the case of rooms above the first-floor level, the classrooms or other instructional areas bordering a court shall be considered the same as if they were “interior” classrooms and shall meet the requirements of Section 303.2.2 of this regulation.

305.4.5 Window Screens

305.4.5.1 Window screens shall be required for any operable windows in cafeterias, kitchens, or in toilet rooms (although windows are not recommended in the latter). “Screened windows” shall not be used at emergency egress windows.

DIVISION 4

BARRIER-FREE DESIGN

SECTION 401 INDEX OF SECTIONS

SECTION 402 GENERAL

402.1 Barrier-free design is regulated by the South Carolina Building Code Council. The document *Rules and Regulations for Making Building and Facilities Accessible to and Usable by Physically Handicapped People* is available to design professionals and other interested persons or groups free of charge from the S.C. Building Code Council.

402.2 Schools shall adhere to the American National Standards Institute, Incorporated (ANSI) Standard A117.1 and the requirements for the physically disabled as set forth in IBC.

402.3 Design professionals are reminded that design criteria in Title II of the Americans with Disabilities Act (ADA) and the ADA Accessibility Guidelines (ADAAG) for buildings and facilities may be more stringent.

SECTION 403 SPECIAL CONSIDERATIONS

403.1 PE and Athletic Facilities: Shall be provided with accessible facilities per ICC/ANSI A117.1 ~~accessible to people with physical disabilities,~~ including toilet, sink, and shower areas.

403.2 Stage Areas: Shall be accessible to people with physical disabilities.

403.3 Science Laboratories: Shall have a minimum of at least one workspace meeting the accessibility requirements of ICC/ANSI A117.1. Equipment and features may be portable but must be comparable to those available in other student workspaces. ~~worktop, set at height to serve people with physical disabilities. This top may be a portable table and should be located near a work sink (it is not required that the sink itself be at the lower level, however).~~

403.4 Art Rooms: Shall have a minimum of at least one workspace meeting the accessibility requirement of ICC/ANSI A117.1. Equipment and features may be portable but must be comparable to those available in other student workspaces. ~~No special work surfaces are required for people with physical disabilities as portable tables should serve adequately.~~

403.5 Home Economics Areas: For the food preparation curriculum, one unit kitchen shall be ~~designed to serve people with physical disabilities~~ accessible in accordance with ICC ANSI A117.1. One worktop containing a sink and range top shall be accessible in accordance with ICC ANSI A117.1. A wall oven shall be provided adjacent to the worktop that is accessible in accordance with ICC ANSI A117.1 with bottom of the oven door at 32" above floor.

DIVISION 5

EMERGENCY PREPAREDNESS

SECTION 501 INDEX OF SECTIONS

SECTION 502 GENERAL

502.1 This division deals with all phases of emergency preparedness as related to disasters and emergencies, both natural and man-made.

502.2 The South Carolina "Emergency Operations Plan" coordinates emergency response with all state agencies and public-owned facilities. The authority for this plan was granted in Act No. 199, July 30, 1979, Acts and Joint Resolutions of the General Assembly of the State of South Carolina. The Emergency Management Division, Office of the Adjutant General, is charged with implementing this plan. In the plans, the Department of Education is charged with coordinating the use of U.S. Department of Agriculture food stocks within school lunch programs and assisting in facilitating the utilization of school facilities for shelter and feeding.

502.3 Districts and their architects and engineers are reminded the IBC requires that all components and systems be designed and constructed to minimum design loads and to resist wind load, flood and seismic forces. These components include, but are not limited to, the structure; exterior and interior walls; ceilings; elevators; mechanical, plumbing and electrical equipment; and ducts and pipes over a certain size.

502.4 Districts and their architects and engineers are also reminded that the ADA requires an "area of rescue assistance" in all multistory buildings. This is a fire-protected area where people with physical disabilities can await rescue and communicate their presence by alarm or intercom.

502.5 Provided the school meets the minimum requirements to be a Red Cross Shelter, the school shall be designed with a connection post and a manual transfer switch to connect to an emergency generator (delivered by an offsite party. A simple 4-post connection is all that is required. A switch must be labeled as an emergency connection. Critical loads to be powered must be determined in consultation with the school district and the local emergency preparedness agency personnel.

SECTION 503 DESIGNING AND RETROFITTING BUILDINGS TO RESIST NATURAL HAZARDS

503.1 Seismic design shall be mandatory in accordance with the building code. Seismic considerations shall be taken into account in the early design stages, making it possible to choose a type of construction that resists seismic forces with minimum additional cost.

503.2 Every building shall be of sufficient strength to support the wind and seismic generated loads and forces encountered or combinations thereof, without exceeding the stresses prescribed in the building code.

503.3 Every building shall be so located and designed as to prevent flooding under the normal range of weather conditions found in the several regions in South Carolina.

503.4 Extensive renovation projects valued in excess of 50 percent of a school's insured value are expected to add significantly to school building life expectancy and shall include a seismic/wind load evaluation of the building, improvement recommendations and costs for school district consideration.

SECTION 504 REFERENCE AGENCIES AND STANDARDS

504.1 Seismic design shall be in accordance with Building Code. The following publications will be helpful in the design, construction and/or renovation of public school buildings.

- ASCE SC Standard 1-96, 1996, Standards for Practice of Earthquake Engineering of Buildings in South Carolina and the Eastern United States.

- HQ AFCESA Engineering Technical Letter (ETL) 00-5, Seismic Design for Buildings and Other Structures, June 2000, Headquarters, Air Force Civil Engineering Support Agency.

- FEMA 156/December 1994, Second Edition, Typical Costs for Seismic Rehabilitation of Existing Buildings, Summary, Federal Emergency Management Agency.

- FEMA 157/September 1995, Second Edition, Typical Costs for Seismic Rehabilitation of Existing Buildings, Support Documentation, Federal Emergency Management Agency.

- FEMA 178/June 1992, NEHRP Handbook for the Seismic Evaluation of Existing Buildings, Federal Emergency Management Agency.

- FEMA 273/October 1997, NEHRP Guidelines for the Seismic Rehabilitation of Buildings, Federal Emergency Management Agency.

- FEMA 274/October 1997, NEHRP Commentary on the Guidelines for the Seismic Rehabilitation of Buildings, Federal Emergency Management Agency.

- ICC 500-2008 Standard for the Design and Construction of Shelters.

DIVISION 6

SCHEMATIC AND DESIGN DEVELOPMENT PHASE

SECTION 601 INDEX OF SECTIONS

SECTION 602 REQUIRED CONSTRUCTION PERMITS AND APPROVALS

602.1 The design professionals shall be responsible for obtaining all design-related permits and approvals. Copies of permits and approvals shall be submitted to the OSF along with final review documents.

602.2 The school district is required by law to comply with local zoning ordinances. The OSF further requires the design professionals to submit a set of construction documents to the local zoning authority to review for compliance prior to construction bidding.

602.3 The contractor is not required to purchase a building permit from the local building official for general construction, as district projects are exempt from this requirement by S.C. Code Ann. § 6-9-110 (1990).

602.4 Construction permits and approvals required by South Carolina state laws and regulations include, but are not limited to, those listed in the schedule below. Permits and approvals required by Federal laws and regulations have not been included in this schedule; however, the school district must comply with requirements of federal agencies (e.g., EPA, Corps of Engineers), whenever required by law.

SCHEDULE OF REQUIRED CONSTRUCTION PERMITS/APPROVALS

Type of Development and Regulation	S.C. Code of Laws	Where to Obtain Permit/Approval
Air pollutant discharge	Section 48-1-100 R.61-62.1	DHEC, Air Quality Control
Asbestos abatement	R.61-62.1	DHEC, Air Quality Control
Construction in critical coastal areas	Section 48-39-10-130-190	DHEC, Ocean and Coastal Res. Management
Educational facilities K-12	Section 59-23-40	SDE, Office of School Facilities
ETV		SDE, Office of School Facilities
Fire suppression system	R. 19-300.7	State Fire Marshal
Floodplains, construction in	Exec. Order 82-19	Local Authority
Food service, cafeterias	R. 61-25	DHEC, County Health Dept.
Hazardous waste management, Storage and disposal	Section 44-56-20,60, R. 61-79	DHEC, Solid an Hazardous Waste
Landfills, solid waste disposal	R. 61-70, 107.6	DHEC, Solid and Hazardous Waste
Road encroachment, local	Section 57-7-60	Local County Authority
Road encroachment, state	Section 57-5-1080	DOT, Traffic Engineering
Sanitary sewer, treatment and disposal	R. 61-56 and 61-57	DHEC, Domestic Wastewater

Septic tank system	R. 61-56	DHEC, Wastewater Management, Division of Environmental Health
Storm water discharge, erosion Sediment control	R. 61-9, R. 72-100 through 72-108	DHEC, Water Pollution Control State Engineer; Local Authority
Underground storage tanks	R. 61-92	DHEC, Groundwater Protection
Vocational facilities	Section 40-13-20 through 40-13-50	DLLR, Board of Cosmetology
Waste discharge (sewage industrial waste, etc.)	Section 48-100, 110, R.61-9	DHEC, Water pollution Control
Water supply	Section 44-55-40, R. 61-57 and 61-58	DHEC, Water Supply Construct
Wells, underground injection	R. 61-71 and 61-87	DHEC, Groundwater Protection
Zoning	Sections 6-7-830 and 6-9-110	Local Authority

SECTION 603 FLOOD PLAIN DEVELOPMENT

603.1 The "State of South Carolina Building Standards in Flood Plain Areas" requires compliance with the criteria set forth in Sections 60.3 and 60.5 of Title 44, Code of Federal Regulations (available from the State Coordinator's Office for the National Flood Insurance Program (NFIP). All plans for new construction, substantial improvement and other development in a flood hazard area (floodplain) shall be submitted to the responsible local authority to obtain a permit to develop in a flood hazard area. Flood hazard areas are those identified by the Federal Emergency Management Agency (FEMA) on Flood Insurance Rate Maps (FIRMs) or Flood Hazard Boundary maps (FHBM) that are subject to inundation by a 100-year flood. A permit shall be obtained and the OSF shall be provided with a permit copy prior to advertising a project for bids.

SECTION 604 SCHEMATIC PLAN SUBMITTAL (optional)

604.1 Schematic plan submittal is for new facilities, major additions and major renovations. Schematic plans submitted shall be single copy and consist of the following:

604.1.1 Site Plan

604.1.1.1 Should show entire site plan with building layout, drives, parking areas, walks, environmental learning areas, playing fields, and other such basic data.

604.1.1.2 Topographical information is optional with the design professional.

604.1.2 Floor Plan(s)

604.1.2.1 Should be at appropriate scale (1/16" preferably), drafted accurately, indicating doors and windows.

604.1.2.2 Should indicate names of areas and show in small rectangular block the square footage of each main area. Show grade classification for elementary classrooms.

604.1.2.3 When using the schematic plan submittal, submission of a building code analysis (Form F3) is required at this stage.

604.1.2.4 For additional required plan information see Sections 605.1.6.1.5, 605.1.6.1.6, and 605.1.6.7.

604.1.3 Form F6: Preliminary Information Form shall be submitted.

SECTION 605 DESIGN DEVELOPMENT SUBMITTAL (required)

605.1 The design development submittal shall be a single copy and shall consist of the following:

605.1.1 Site Plan

605.1.1.1 Include a small location map that relates the site to the surrounding locale.

605.1.1.2 Show the entire site plan at suitable scale. Indicate all topographic information with existing and proposed finished grades, boundary lines, wooded areas, orientation, site acreage, existing utilities, including fire hydrants, and other pertinent data.

605.1.1.3 Indicate the drives, parking areas, walks, playing fields, highways, etc.

605.1.1.4 Indicate the building location, floor grade level, areas of future anticipated expansion, etc.

605.1.1.5 Indicate the source of water, gas, electric, or sewage facilities.

605.1.1.6 In cases of additions to existing buildings, or new buildings added to an existing school complex, all of the above information should be shown, including the entire site plan and indication of all existing buildings with floor grade elevations shown. However, total topographic information will not be required and may be limited at the design professional's discretion to the general area of the site where new construction or other changes occur.

605.1.2 Floor Plans

605.1.2.1 The building code analysis (Form F3) shall be incorporated into the drawings.

605.1.2.2 At appropriate scale (1/8" preferably). If entire plan cannot be shown on one sheet, prepare smaller scale (1/16" preferably) overall plan along with larger scale partial plans to form the whole.

605.1.2.3 Indicate names of areas and show in small rectangular block the square footage of each main area. Show grade classification for elementary classrooms.

605.1.2.4 Indicate windows, doors, and door swings

605.1.2.5. Indicate on floor plans all built-in cabinet work, sinks, chalkboards, tackboards, lockers, and other like features. Where classrooms are repetitious, chalkboard and tackboard may be indicated as typical in just one space.

605.1.3 Exterior Elevation Drawings

605.1.3.1 Show all sides at a convenient and readable scale.

605.1.4 Equipment and/or Furnishing Layouts

605.1.4.1 Indicate on not less than 1/8" floor plans (unless otherwise waived by the OSF), equipment and furnishing layouts. Identify various items by name and give other pertinent data. Include areas as follows:

art rooms	media center
auditorium seating	computer labs
gym seating and dressing rooms	science labs
any and all vocational training facilities	home economics rooms

Exception: With the exception of the media center layout, portable equipment or furnishings that are not directly related to utility requirements need not be indicated.

605.1.4.2 Indicate on a separate ¼"-scale drawing equipment layout for kitchen areas, including kitchens in connection with vocational curricula. Include an itemized legend of equipment with all layouts.

605.1.5 Cross-Section Drawings

605.1.5.1 Diagrammatic type drawings are sufficient without undue detail. Indicate ceiling heights, roof slope, general structure, etc.

605.1.5.2 At appropriate scale (1/8" or 3/16" preferably)

605.1.5.3 Cross sections shall be included so that all major elements of the building are shown.

605.1.5.4 Structural conditions at firewall(s)

605.1.6 Building Code Analysis

605.1.6.1 Building code compliance is the responsibility of the design professional(s) representing the district and an outline code analysis, Form F3, shall be incorporated into the drawings for review. Submitted data shall set forth all pertinent code requirements, including the following:

605.1.6.1.1 The date of the building code and amendments thereto, in effect at the time of the initial submittal (design development or schematic), shall establish code requirements for the remainder of the project, including the construction phase.

605.1.6.1.2 Construction classification (Example: Type II-B, etc.)

605.1.6.1.3 Occupancy classification of the various parts (example: Educational, Assembly, etc.)

605.1.6.1.4 Where area limitations occur due to construction classification, indicate firewall separation on drawings and submit area calculations (either on the drawing or on separate form). Design professionals are cautioned to review code requirements, including roof structure requirements at firewall(s).

605.1.6.1.5 Indicate on all plans all firewalls, fire-rated walls and/or smoke partitions by color-coding and/or a readable legend as follows:

Fire walls/Fire Area Walls	=	red	
2-hour wall	=	green	
1-hour wall	=	yellow	

(Similar symbols to the above are acceptable if properly noted in a legend.)

605.1.6.1.6 Indicate on all plans all fire-rated doors by putting figures at applicable door openings as follows:

3	=	3-hour
1 ½	=	1 ½-hour
1	=	1-hour
¾	=	¾-hour
20	=	20 minute

605.1.6.1.7 Indicate on all floor plans the individual room occupancy number and floor occupancy totals, travel distances, and egress widths.

605.1.6.1.8 Resistance ratings shall be based on specific assemblies that have successfully performed under tests made by an approved laboratory (such as U.L., Factory Mutual, Warnock Hersey, etc.), except that if the design professional's designs require materials or construction other than that shown in a specific assembly, reference is made to the building code, subsection entitled "Alternate Materials and Alternate Methods of Construction." Under this option the burden of proof of the fire rating rests with the design professional. Alternate methods proposed shall be so indicated at or before the design development stage and concurrence of the OSF obtained before proceeding.

605.1.6.1.9 In the case of an addition to an existing building, firewall separation shall normally be provided between the new and existing construction unless the design professional can validate that this would not be required by the building code.

605.1.6.1.10 Show assumed property lines for multiple buildings on the same lot.

605.1.7 Form F6: Preliminary Information Form, shall be submitted.

605.1.8 Fire Protection System

605.1.8.1 All fire protection systems shall be in accordance with the requirements of the building code, fire prevention code, and appropriate NFPA standards.

605.1.8.2 Types of portable fire extinguishers and their distribution are dependent upon the "class of fire." Refer to *NFPA 10: Standard for Portable Fire Extinguishers* (latest edition) as follows:

Chapter 1: Fire Classes A, B, C, and D
Chapter 2: Selection of Extinguishers
Chapter 3: Distribution of Extinguishers

SECTION 606 ADDITIONS TO EXISTING BUILDINGS

606.1 Plans of Existing Buildings

606.1.1 If the design professional has access to original tracings or has extra prints, he should include with his submittal one print of site plan, floor plans, elevations, and sufficient sectional information to show general construction. Also, indicate on existing plans where additions are to be added.

606.1.2 If the above data is not available and the OSF does not have microfilm records on file, the design professional should furnish enough schematic plan drawings of the existing building to facilitate a code analysis of the overall complex.

606.2 Plumbing Fixtures: A detailed count of all student toilet fixtures in the existing building shall be furnished with plan submittal to the OSF.

606.3 Construction Safety Plan for Joint Occupancy: The design professional in conjunction with school district staff and, if applicable, the construction/program manager shall develop a written and/or graphic plan to maintain the safety, separation and egress requirements of students, staff, and visitors while construction activities are in progress. The plan shall address exit access, exit width, travel distance, building separation, site traffic circulation, etc.; as code would require for the occupied portion of the project. This plan shall be submitted no later than the design development phase. This approved plan shall be made part of the construction documents.

SECTION 607 PLAN REVIEW PROCEDURE

607.1 The OSF will review for compliance with applicable building codes and regulatory or statutory requirements. Review of building code and regulatory or statutory requirements by the OSF shall not relieve the design professional representing the district from code omissions as interpreted by the OSF.

607.2 Plan reviews may be done on a personal basis with the design professional, on request. In most cases, it will be possible to accomplish the review by telephone. Should a meeting be necessary for a plan review, school district representatives shall be invited to attend such meetings.

607.3 After each review, a decision will be made as to the necessity of further resubmittal of corrected plans. This will depend on the complexity of the job and the changes required.

607.4 After completing the review of design development drawings, verbal authorization will be given by the OSF to the design professional to proceed into the construction documents phase. The design professional assumes responsibility for all corrections required by the OSF if he proceeds without such authorization.

DIVISION 7

CONSTRUCTION DOCUMENTS PHASE

SECTION 701 INDEX OF SECTIONS

SECTION 702 GENERAL

702.1 Completed Documents Required: Incomplete plans and/or specifications shall not be submitted to nor accepted by the OSF.

702.2 Seals: In accordance with state regulations, (Department of Labor, Licensing and Regulation) each print of the final drawings and the title page of each set of specifications shall be identified with the design professional's seal. In addition, the seals of any landscape architect and structural, plumbing, mechanical, and electrical engineer shall be placed on the prints encompassing their work.

702.3 Energy Conservation

702.3.1 The entire design, including architectural, mechanical, and electrical portions, shall be designed in accordance with the International Energy Conservation Code (IECC) and any other relevant standards referenced therein. Compliance with ASHRAE 90.1 shall be required in the design of all new and renovated facilities. Submit appropriate work sheets to demonstrate compliance. Energy management systems may be specified to be consistent with existing systems where applicable and shall comply with all other requirements of this regulation.

702.4 Fire Protection Systems

702.4.1 All fire protection systems shall be in accordance with the requirements of the building code, the fire code, and relevant NFPA standards.

702.4.2 Included in this general heading are building sprinkler systems, protection for kitchen hoods, paint spray booth, computer installations, and portable fire extinguishers.

702.5 Finishes

702.5.1 The design professional shall select finishes that meet or exceed the following minimum surface reflectances (all foot-candle lighting requirements are based on these criteria).

Ceiling cavity*	80 percent
Walls	50 percent
Floor cavity*	20 percent

*ELECTRICAL ENGINEERS COMMONLY DEFINE "CEILING CAVITY" AS ANY FINISH AREA ABOVE THE BOTTOM SURFACE OF THE LIGHT FIXTURES, AND "FLOOR CAVITY" AS THE AREA BELOW DESKTOP LEVEL (30" ASSUMED).

702.6 Building Code Analysis

702.6.1 Refer to Division 6, Item 605.1.6, "Building Code Analysis." Note that if there have been code related changes since design development, drawings, and calculations, Form F3 must be resubmitted revised and incorporated into the drawings.

702.6.2 Life safety code information required on the plan sheets by Sections 605.1.6.1.5, 605.1.6.1.6, and 605.1.6.1.7 shall be replicated on construction documents.

702.7 Glazing Requirements: Compliance with the latest state and federal regulations, as well as the building code, shall be required.

702.8 Mounting of Exit/Directional Signs

702.8.1 All exit signs and directional signs related thereto should be wall-mounted (whether on surface or recessed) wherever possible, as ceiling-mounted signs are especially vulnerable to vandalism in schools. The design professional should take this into consideration in his design and avoid glass areas over doors or glass wall areas where such signs would usually be located.

702.9 Occupant Capacity Posting

702.9.1 A permanent sign stating the maximum occupant content based on the capacity of the exits shall be conspicuously posted in all gymnasiums, auditoriums, cafeterias, theaters, or other like places of assembly within a school. Each sign shall read, "Occupancy by more than _____ persons is dangerous and unlawful, by order of the Building Official" with the appropriate occupant number filled in.

702.9.2 Such signs shall be of metal or plastic, installed with non-removable fasteners, and shall have lettering a minimum of 1" high. Signs shall be installed at a readily visible location.

SECTION 703 CONSTRUCTION DOCUMENTS REVIEW PROCEDURE

703.1 Review by the OSF

703.1.1 Final construction documents (one set) shall be submitted to the OSF along with information as required by the OSF. The architect shall not submit incomplete plans, incomplete specifications or incomplete project manuals.

703.1.2 After review by the OSF, a meeting may be scheduled at the request of the design professional to review the project. Otherwise, comments will be relayed by telephone. Should a meeting be necessary for a plan review, school district representatives shall be invited to attend such meetings.

703.1.3 After review with the design professional, the OSF shall render "approval" or "conditional approval," or may withhold approval of project.

703.1.3.1 "Approval" signifies there are no corrections necessary and the project may be advertised.

703.1.3.2 "Conditional approval" signifies there are relatively minor corrections to be made and the project may be advertised provided the design professional gives his assurance that corrections will be made promptly and that the corrected documents will be available to bidders the day after advertisement first appears. Corrected documents should simultaneously be delivered or mailed back to the OSF.

703.1.3.3 Withholding of approval signifies that the project shall be returned to the OSF after corrections are made for a re-review before advertising.

703.1.4 Reference the resubmittal of corrected documents, the OSF shall decide whether the design professional shall return a complete set of new documents or just sheets on which changes have been made. All changes shall be circled with red pencil or pen, including any changes made between the time of initially submitting review documents and the review date itself. Failure to do so may delay the review process.

703.1.5 Upon approval of the contract documents, the design professional shall furnish the OSF with electronic (CAD and/or word processor) copies of the contract documents for archival purposes.

703.1.6 Review of building code and regulatory or statutory requirements by the OSF shall not relieve the design professional, as representative of the district, from the ultimate responsibility in regard to all such requirements.

703.1.7 The design professional, construction project manager or the district shall not advertise for bidding a project before the OSF has reviewed the contract documents and issued a verbal or written approval.

703.2 Review by Other Agencies

703.2.1 Construction documents shall also be submitted to the following agencies for review in addition to the OSF, unless otherwise waived.

703.2.1.1 S.C. Department of Transportation, Traffic Engineering

703.2.1.2 S.C. Department of Health and Environmental Control, Division of Storm Water Management

703.2.1.3 S.C. Department of Health and Environmental Control, Bureau of Environmental Health, Food Protection Branch

703.2.1.4 ETV Staff Engineer

703.2.2 These submittals shall be sent directly to each agency by the design professionals (with notification of transmittal to the OSF). The design professionals shall also be responsible for obtaining all necessary approvals from these agencies and for transmitting copies of same to the OSF.

703.2.3 If advertising is delayed longer than six months after initial approval of construction documents by the OSF the design professional shall request in writing a new permission to advertise with a statement as to whether there have been any changes in the contract documents since the original approval. If there have been changes, a resubmittal of contract documents shall be required.

DIVISION 8

BIDDING AND AWARD PHASE

SECTION 801 INDEX OF SECTIONS

SECTION 802 BIDDING PROCEDURES

802.1 General Procurement is the jurisdiction of each school district as set forth in the District's Procurement Policy and/or the S.C. Procurement Code. The Office of the State Engineer should be considered as a resource and districts are advised to seek legal counsel or an agent versed in the procurement prior to advertizing for bids and services.

SECTION 803 REQUIRED TRANSMITTALS

803.1 The following administrative records of the Bidding Phase shall be sent to the OSF:

803.1.1 Addenda (with a code impact statement from the design professionals)

803.1.2 Revised drawings (with a code impact statement from the design professionals)

803.1.3 Any approvals from other state agencies not previously submitted

DIVISION 9

CONSTRUCTION PHASE

SECTION 901 INDEX OF SECTIONS

SECTION 902 CHANGES/CHANGE ORDERS

902.1 Any change, addition, or modification to plans previously approved by the OSF, which affect adherence to codes, regulations, and/or statutes shall be submitted to the OSF and the agency which has jurisdiction (DHEC, DOT, etc.) prior to execution of the change order or change directive. Changes will not be considered by the OSF without the approval of the architects and engineers whose stamps appear on the drawings. All submitted change orders shall have a code impact statement from the architect and/or engineer.

SECTION 903 INSPECTION REQUIRED BY CODE

903.1 **Except for inspections required herein and provided by the OSF, it will be the responsibility of the owner to contract for all code required inspection services.** Inspections shall only be carried out by individuals specifically registered by LLR, the Building Codes Council, to perform IBC Chapter 1 and/or Chapter 17 inspections. IBC Chapter 1 inspectors shall also be formally approved by OSF and must have on file with OSF a fully executed "Memorandum of Understanding" defining and agreeing to their responsibilities. The OSF approved inspectors shall be responsible for approved construction document compliance. They shall advise the owner, design professional and the contractor of any compliance deficiencies and/or any obvious code related deficiencies. All code interpretations and code enforcement requirements shall be determined by OSF. Copies of inspection reports shall be provided to the owner's representative, and the design professional, within five (5) business days of each inspection. An inspection log reflecting all inspection reports, including all deficiency corrections, shall also be maintained at the construction site. Reports shall be made available to OSF on request.

SECTION 904 INSPECTION DURING CONSTRUCTION

904.1 Before basic construction is concealed by ceilings, the OSF shall be notified when all fire protection and fire stopping is complete and ready for an inspection. This inspection will be basically concerned with compliance with all fire and building construction codes. It is the responsibility of the primary design professional to make certain these items are ready for inspection prior to calling the OSF. The inspections shall be made jointly by the primary design professional, the OSF, and the district.

SECTION 905 REQUIREMENTS DURING CONSTRUCTION

905.1 Record Drawings: These shall be maintained during the construction phase and delivered to the district at project completion. See Section 908 for details.

905.2. Change Orders

905.2.1 All change orders which affect adherence to codes, regulations, and/or statutes shall be forwarded by the design professional to the OSF and the agency which has jurisdiction (DHEC, DOT, etc.). If the OSF determines that the change order submittal does not properly adhere to codes, regulations, and/or statutes, the design professional shall be notified. The corrected change order shall then be resubmitted to the OSF.

905.2.2 The accuracy of change orders as to arithmetic and general equity is the responsibility of the district and design professional, and the OSF will not review these aspects of the change order.

SECTION 906 OCCUPANCY INSPECTION AT SUBSTANTIAL COMPLETION

906.1 Inspection by the OSF shall be required as follows:

906.1.1 For all student-related facilities if new construction is involved.

906.1.2 For all non-student-related facilities if new construction is involved, unless of minor scope, in which case inspection shall be optional with the OSF unless specifically requested by the district.

906.1.3 Inspection of renovation projects (both student and non-student-related) where no new construction is involved shall be optional with the OSF, depending on size and complexity of the project, unless inspection is specifically requested by the district.

906.1.4 Inspections by specialty manufacturers" representatives for folding bleachers, fire extinguishing systems, communication systems, lightning protection systems, and such should be made before inspection is requested of the OSF and in all cases shall be made before occupancy.

906.1.5 In case of hardship, but only if the design professional and general contractor both concur, the district may place furnishings and equipment in buildings before inspection by the OSF.

906.2 Inspection Procedures

906.2.1 When the design professional can certify substantial completion of the project or portion of project that is ready for occupancy (see Section 907 for "conditions of occupancy"), he shall, with the concurrence of the school district, request an occupancy inspection by the OSF. The OSF must receive Form F-4 24 hours prior to inspection date.

906.2.2 When the OSF receives a request for an occupancy inspection, it shall coordinate the inspection with the Fire Marshal's Office, and establish a date and time for the inspection.

906.2.3 The design professional or his engineers shall also request permission to put the water and sewer services into use from the District Director of Environmental Quality Control of DHEC. Water test approval should be received before request for DHEC's inspection is made.

906.2.4 The water system shall be disinfected for 24 hours and two consecutive samples taken 24 hours apart by an approved independent testing laboratory. Both tests shall show freedom from bacteria as set forth by DHEC. Approval by DHEC for putting water and sewer services into use shall be obtained before occupancy, and it is recommended that such approval be obtained before occupancy inspection by the OSF is scheduled (See Section 10).

906.2.5 Primarily, the OSF will inspect "life safety" systems and features such as fire walls, fire doors, hardware, and the like. Inspecting for general adherence to other specifics of the plans and specifications shall fall within the responsibility of the design professional.

906.2.6 Upon completion of inspection, the OSF will render a contingent approval or withhold approval. Withholding of approval would mean further corrective action on non-complying items, and reinspection if necessary.

906.3 Administrative Records at Substantial Completion

906.3.1 A copy of Form F4, Certificate of Readiness for the OSF Occupancy Inspection shall be transmitted by the design professional to the OSF and to the district at substantial completion.

SECTION 907 BEFORE OCCUPANCY

907.1 Occupancy means that the facility is complete and ready for students and faculty to use as intended and that **all** construction operations required for code compliance have been completed. Before occupancy of a building is permitted, the following conditions shall be met.

907.1.1 The building or portion of the building to be occupied shall be substantially complete. Substantial completion means that all building systems and life safety requirements have been physically checked out **BY THE ARCHITECT** and they are acceptable and/or function properly. The architect shall establish the date of substantial completion in concurrence with the district and at that time shall submit a Certification of Substantially Completed Project as required under Section 906.3 of this document.

907.1.2 All "life safety" systems shall be completely operational, including the fire alarm, exit lights, emergency power, emergency lighting, fire extinguishing and smoke detection systems, and portable fire extinguishers. All firewalls and fire-rated walls shall be completely sealed and also identified in concealed areas. Fire doors, dampers, and access doors shall be in place and properly installed. All areas of the building and site shall be free of any potential hazard, and no means of egress or pathway shall be blocked or compromised in any manner.

907.1.3 The design professional or his engineer shall have approval from the District Director, Environmental Quality Control of DHEC, to put the water and sewer service into use and approval from the local DHEC food sanitarian to put the food service facilities into use.

907.1.4 Occupancy approval shall have been already requested by the design professional from the OSF and approval rendered by the OSF.

907.1.5 Final occupancy approval will not be granted until Form F5 "Building Square Foot Cost," information has been submitted to the OSF. Form F5 can be found in Division 13 of this document.

907.1.6 If multiple occupancy inspections are required due to deficiencies, the OSF will charge the design professional for the cost of additional services, including time and mileage costs.

SECTION 908 PROJECT COMPLETION

908.1 The inspection for final completion (after the occupancy inspection by the OSF) of minor deficiencies noted during the OSF inspection shall be the responsibility of the design professional and the OSF will be available to make another inspection only when specifically requested by the design

professional or district. A final inspection may be desirable or necessary when size or "occupancy need" has required several partial occupancy inspections.

908.2 If it is necessary to occupy the building before final completion has been declared by the design professional, it shall only be occupied with specific OSF approval and all aspects of safety shall be strictly enforced, such as separating occupants from continuing construction operations. In particular exits, exit doors, exit access corridors, and a clear path away from the building shall be maintained entirely free of scaffolding, storage of materials, or any other obstructions that would impede emergency evacuation of the building.

SECTION 909 RECORD DRAWINGS

909.1 The design professional is required to specify that the general contractor shall be responsible for making, and shall have his applicable subcontractors make a careful record of the following during construction operations.

909.1.1 All approved changes from the contract drawings during the course of the job, including accurate dimensions where applicable.

909.1.2 Accurate dimensions locating all below-grade outside utilities (whether changed or not) with reference to permanent above-grade objects.

909.1.3 The responsibilities relating to plumbing, mechanical, and electrical in this regard is set forth under Divisions 10, 11 and 12.

909.2 At the completion of the work, the design professional shall furnish, at no cost to the general contractor, one unused set of drawings which shall be divided among the general contractor and the plumbing, mechanical, and electrical subcontractors, and on this set of drawings those parties shall record neatly with red ink all above-mentioned changes. The general contractor shall reassemble the drawings and deliver them to the design professional.

909.3. The red line changes on the above drawings shall be reviewed by the design professional and his appropriate engineers, and when these drawings are approved, the design professional shall plainly mark them as "record prints" and then deliver them to the district for filing.

909.4 When relevant, the design professional shall specify that the construction manager assumes the duties in regard to record drawings normally required of the general contractor, and the construction manager shall require that each individual contractor be responsible for making a record of all changes under his contract.

DIVISION 10

PLUMBING

SECTION 1001 I3NDEX OF SECTIONS

SECTION 1002 GENERAL REQUIREMENTS

1002.1 The plumbing system shall be designed by a professional engineer, experienced in plumbing design, and registered in South Carolina, the engineer's seal shall appear on each drawing for that portion of work for which he bears the responsibility for design.

1002.2 The plumbing design shall cover all potable water supply, wastewater, sewage disposal, storm drainage, (e.g. roof run-off), gas supply, compressed air, and other related systems.

1002.3 The design shall conform with the current codes as referenced in Division 1 of this *Guide* and as modified herein.

SECTION 1003 WATER SUPPLY AND SEWAGE DISPOSAL

1003.1 The engineer shall ascertain, before commencing his design, as to the type of water supply and sewage disposal systems that DHEC will approve for the particular project, and with the school district, shall secure the appropriate DHEC permits.

1003.2 Potable Water Supply

1003.2.1 Water supply shall be from a public system, if it is accessible and technically and economically feasible.

1003.2.2 Water supply shall be from an on-site well, only after public water supply is found to be not feasible.

1003.2.2.1 Well water shall meet all bacteriological, physical, and chemical requirements as set forth in the DHEC publication, *State Primary Drinking Water Standards,* and plans and specifications shall thoroughly cover the proposed installation in accordance with these regulations.

1003.2.2.2 A well system shall provide water in minimum amounts as follows: school building without cafeteria or gym, 10 Gallons Per Day/person; with cafeteria and gym, 20 GPD/person.

1003.3 Sewage Disposal

1003.3.1 All school sewage effluent shall discharge into a municipal or other public sewage system, or to an alternate system approved by DHEC. If a municipal or public system is not available, the engineer shall obtain approval from DHEC for any alternate system.

1003.3.2 All waste from kitchen areas shall discharge through a grease trap, except where food grinders are installed, in which case waste from these shall not pass through the grease trap but will discharge directly to a building sewer or be handled by other means.

1003.3.3 Food grinders/garbage pulpers shall not be installed in facilities served by a septic system.

SECTION 1004 WATER SERVICE DESIGN

1004.1 The water system shall be designed on the minimum street pressure or minimum pressure at the pneumatic well system pressure tank.

SECTION 1005 EXTERIOR BUILDING SEWER DESIGN

1005.1 All exterior building sewer design shall be designed in accordance with the International Plumbing Code and DHEC standards.

SECTION 1006 INTERIOR PLUMBING

1006.1 All interior plumbing (within 10 feet of building line) shall be designed in accordance with the International Plumbing Code. Piping shall be hung and braced in compliance with the seismic requirements of the International Building Code.

1006.2 Water Piping

1006.2.1 Water Piping Materials

1006.2.2 Water piping below floor slab on grade or below ground shall be Type “K” hard drawn copper tubing with wrought copper fittings with “lead free” solder. Joints below slab shall be silver soldered and their use kept to a minimum.

1006.2.3 Water piping within the building (above slab on grade or above ground) shall be Type “L” hard drawn copper tubing with wrought copper fittings, solder shall be “lead free,” for 4" size and smaller. For 5" and larger, Schedule 40 galvanized steel pipe with galvanized malleable iron fittings may be used in lieu of copper. Ductile iron is acceptable for piping 3" and larger. Note that ductile iron pipe shall be cement lined as per IPC.

1006.2.4 A main cut-off control shall be located under each science instructor’s table for master control of water to the sinks used by students in that room. Remote valve, electrically held open, with switch at the instructor’s desk, is acceptable in lieu of valve itself at instructor’s desk. Provide access to remote valve.

1006.2.5 Exterior hose bibbs shall be the anti-freeze type with backflow preventer, and provided at strategic locations, and at approximately 100 feet intervals around the perimeter of the building.

1006.2.6 Water Pipe Pressure Test: All water piping shall be proven tight under 150 psi hydrostatic pressure for two hours without loss of pressure before being covered. Blank-off equipment not designed for this test. All joints shall be proven tight.

1006.2.7 Laboratory Water Test: The entire water system, including hot water lines, shall be filled with a solution containing 50 ppm of available chlorine and allowed to stand 24 hours before flushing. At the end of the 24-hour retention period, the treated water shall contain no less than 24-mg/l chlorine throughout the system. After the chlorine has been completely flushed from the system, a DHEC approved testing agency shall take two samples of water on consecutive days and

make analysis to determine efficiency of the disinfection process. Test results shall be sent to the engineer, architect, and plumbing contractor. Should any reports be unfavorable, the entire treatment and sampling process shall be repeated.

1006.2.8 All piping which penetrates a fire-rated wall shall be protected to the rating of the wall by a UL approved (or other required testing agency) assembly noted and detailed on the construction documents.

1006.2.9 All hydrants, and fire service lines including the piping serving hydrants shall be in accordance with NFPA 24, Standard for the Installation of Private Fire Service Mains and Their Appurtenances.

1006.2.10 The contractor shall submit at job completion, the "Contractors Material and Test Certificate" found in figure A-9-2.1 of NFPA 24.

1006.3 Hot Water Systems

1006.3.1 Hot water supply shall only be required at the following:

1006.3.1.1 All kitchen facilities, as required by DHEC Regulation 61-25 Food Service Establishments, including hand-washing lavatories, hose bibb, trash can wash facility, etc.

1006.3.1.2 Lavatories, sinks, and showers in health rooms

1006.3.1.3 Sink serving the “snack” area of kindergartens (not the student-used sink, however)

1006.3.1.4 Hand-washing facilities in industrial arts, prevocational and vocational shops, and sink in library workrooms

1006.3.1.5 Photography darkrooms

1006.3.1.6 Custodial areas and janitors’ closets

1006.3.1.7 Home economics facilities

1006.3.1.8 Health and cosmetology teaching facilities

1006.3.1.9 Gym dressing room showers and lavatories

1006.3.1.10 Art room lavatories

1006.3.1.11 Media center work room lavatories

1006.3.1.12 Science rooms in grades 7-12 at acid-resistant sink at instructor’s demo table.

1006.3.2 Cafeteria/Kitchen Hot Water System

1006.3.2.1 A separate and independent hot water generating and distribution system for domestic use shall be provided for new school kitchens and also existing kitchens when present domestic hot water heating systems are replaced. These systems are to provide hot water for kitchen areas only, in accordance with DHEC requirements.

1006.3.2.2 An exception to the requirement for an independent hot water system may be made, provided a thermal storage system is designed and engineered as a source of heat of sufficient capacity to provide all hot water demands simultaneously for the entire building. The use of such a system shall require prior approval from DHEC.

1006.3.2.3 A mixing faucet for hot and cold water shall be installed in the trash can wash area of kitchens.

1006.3.2.4 At least one hose bibb with hot and cold water mixing valve and with vacuum breaker shall be installed in each kitchen area, or a threaded faucet with a vacuum breaker on the mixing valve on a service sink or floor receptor fitting will be acceptable, if conveniently located.

1006.4 Soil, Waste, Vent and Roof Drain Systems

1006.4.1 Under floor soil, waste, and vent piping shall be PVC or service weight cast-iron bell and spigot pipe with caulked or compression gasket joints.

1006.4.2. Soil, waste, vent and roof drainage piping within the building above ground shall be cast iron bell and spigot with caulked joints or cast iron "no hub" pipe and fittings, except that, soil, waste, vent and roof drainage lines may be galvanized steel in lieu of cast iron. If a ceiling plenum is used as a return air plenum, piping materials shall meet flame, and smoke spread rating required by the IMC.

1006.4.3 Corrosion resistant waste and vent piping serving science areas shall be extra-heavy silicon iron, fire-resistive polypropylene, Type 316 stainless steel, or borosilicate glass pipe and fittings, and shall extend to a point where line is washed by heavy flow of water. Mechanical joint piping shall not be used below floor slab on grade or below ground.

1006.4.4 Drainage Pipe Testing: Piping of soil, waste, vent, and roof drainage and venting systems shall be tested with not less than a 10-foot head of water before being covered. Each opening shall be filled with water. Water shall be kept in system for at least 15 minutes before inspection starts and system shall then be proven tight at all points. Perform smoke test if required by engineer or local authority.

1006.5 Floor Drains

1006.5.1 Floor drains shall be installed in conjunction with each internal hose bibb in all group toilets, gym dressing rooms, and kitchens; also in other areas normally washed down or subject to receiving overflow water from equipment, such as condensation water, pressure relief water or steam, dishwashers and other indirect waste, drainage from backflow preventers, equipment rooms, etc.

1006.5.2 Floor drains in kitchen areas shall be provided adjacent to and outside the walk-in cooler door, at the vegetable peeler, and at other pertinent locations, with floor graded to drains.

1006.5.3 Floor drains in kitchen can wash areas shall be installed in conjunction with the mixing faucet and shall be located in the area immediately below the faucet. Drain line from the floor drain in the can wash area shall be 4" minimum size. Floor slope to drain shall be 1/4" per foot minimum and 5/8" per foot maximum. Discharge from this area shall drain into an approved grease trap.

1006.6 Gas Piping

1006.6.1 Gas piping shall be installed in accordance with the International Gas Code. Piping shall be installed as indicated below or as otherwise permitted by the International Gas Code, the IFC, NFPA 54, and NFPA 58.

1006.6.2 Gas piping within the building above ground or above slab on grade may be installed exposed, or in furred space or pipe chase, or in area between floors or in attic area (see exceptions below).

1006.6.3 A main cut-off control shall be located under each science instructor's table (where gas is used) for master control of gas to all the outlets used by students in that room. The valve shall be a gas rated ¼ turn ball valve with a permanent handle. An optional, remote, electrically held open valve, with switch at instructor's desk and also controlled by the fire alarm system, can be used in addition to the main valve. The electric valve shall be a normally closed manual reset type.

1006.6.4 A manual cut-off valve shall be installed on the supply side of an automatic cut-off valve for kitchen fire suppression system. The valve shall have a permanent handle.

1006.6.5 Gas Pipe Testing: Pipe and conduit testing shall be done before piping or conduit is concealed in furred or otherwise inaccessible spaces. Testing shall be done in accordance with the International Fuel Gas Code.

1006.6.6 Gas Piping Conduits: All gas piping located below ground floor slab shall be encased in vented gas conduit pipe installed in accordance with the International Fuel Gas Code.

SECTION 1007 ENERGY EFFICIENCY

1007.1 Submit work sheets to demonstrate compliance with ASHRAE 90.1.

1007.2 Domestic hot water shall be stored at not less than 140 degrees and equipped with a mixing valve. Higher temperatures may be used in the following cases:

1007.2.1 Where required by DHEC, in which case the higher temperature systems shall be separate from other hot water systems.

1007.2.2 Where high temperature thermal storage systems are designed for off-peak electrical heating or where solar heating has sufficient energy storage capabilities to be energy efficient and is sufficiently insulated.

SECTION 1008 FIXTURES

1008.1 General

1008.1.1 The engineer's attention is called to Sections 3 of this regulation where various fixtures and overall fixture requirements are mentioned.

1008.1.2 Heights of fixtures and accessories shall be in accordance with IBC, the latest edition of ANSI A117.1 and the ADA as applicable, under which heights can be adjusted for children.

1008.1.3 Resistance to vandalism and abuse should be uppermost in the engineer's mind when specifying fixtures and their methods of installation.

1008.2 Fixtures

1008.2.1 The following fixture list is intended to encompass the fixtures in common use throughout the school, but does not include special fixtures in such areas as science labs and kitchens, for example.

1008.2.1.1 Water Closets: Shall be standard flush valve, elongated type with open-front seats, except that round-front models shall be used in kindergarten toilet areas and in individual classroom toilets of grades 1 and 2. Tank-type water closets shall be allowed only where water pressure is insufficient for flush valves.

1008.2.1.2 Urinals: Shall be standard types, wall-hung, and elongated where placed to serve people with physical disabilities. Note from Section 3 that trough urinals shall not be permitted except at football stadiums.

1008.2.1.3 Lavatories: Shall be standard acid-resisting enameled cast iron, vitreous china, or 18-gauge (minimum) stainless steel. Lavatories should project no more than 18" from wall. Precast or stainless steel wash fountains shall be acceptable in lieu of lavatories. Drilling shall match faucet provided. Cock hole covers are not acceptable.

1008.2.1.4 Sinks: Shall be standard acid-resisting enameled cast iron or 18-gauge (minimum) stainless steel. All counter sinks in the classrooms of elementary schools shall be “classroom“ type with gooseneck fitting and drinking bubbler on other (except that in kindergartens, a single kitchen-type sink with swing-faucet should be used if a second sink for the food preparation area is provided; see Division 3). A lever arm wrist control fitting should be specified for the counter top sink in health rooms. Drilling shall match faucet provided. Cock hole covers are not acceptable.

1008.3 Special attention shall be given to the method of mounting all fixtures with regard to resistance to vandalism or abuse.

1008.4 Water Closets: All wall-hung water closets shall be mounted on heavy-duty concealed carriers.

1008.4.1 Lavatories: All wall-mounted lavatories or sinks shall be either mounted on heavy duty concealed carriers, heavy duty wall-mounting brackets with through-wall bolts and back plates, or heavy duty brackets mounted directly to concrete-filled block work with structural fasteners such as “red-head“ type fastened into the concrete fill. Standard lightweight pressed steel mountings with screws and ordinary shields into the surface of the block shall not be permitted. Where a countertop lavatory design is contemplated in student toilet areas, the counter should be strong enough to resist one or more students sitting on it.

1008.4.2 Urinals: Heavy duty mounting comparable with that designated for lavatories **shall** be provided.

1008.4.3 Water Coolers: Mounting shall be similar to that designated for lavatories. Coolers should be located and walls prepared for mounting during construction operations. Plastic bubblers shall not be acceptable. See Section 304.13.8 for additional water cooler fixture requirements.

1008.5 Recommended Working Heights for Fixtures:

Grade Structure

Item	Pre-K and Kindergarten	1 – 3	4 - 6	7 - 12 & others
Elongated Water Closet	N/A 14"-15"	(1) 15"	15"	15"
Urinal	N/A	(1)	15"	24" others
Lavatory or Sink and Work Counter	25	27"	30"	36"
Drinking Fountain / Water Cooler	(4)	27"	30"	33"

Notes:

1. If grade 3 will be served by a group toilet, the fixture height should be the same as the grade 4-6 category.

2. If the grade structures for 4-6 and 7-12 should overlap each other in the same school, consult the OSF.

3. In elementary schools, the height of a drinking fountain/water cooler should be selected based on its location in the building and the age group served. In all cases, fountains/coolers shall be set at 36" in the main public area of the building to serve adults and people with physical disabilities.

4. In elementary schools, the dimensions of the "bubblers" on counter sinks will be determined by the required counter height.

5. See Division 4 for any accessibility issues.

SECTION 1009 RECORD DRAWINGS

1009.1 The applicable engineer shall specify that during construction operations the plumbing contractor shall faithfully make a record of all approved changes from the contract drawings, including accurate dimensions where applicable, and shall also record accurate dimensions locating all below-grade outside plumbing utilities (whether changed or not) with reference to permanent above-grade objects.

1009.2 The engineer shall also specify that at completion of the work all such changes shall be recorded neatly with red ink by the plumbing contractor on an unused set of the plumbing contract drawings supplied by the architect. The red line changes shall be reviewed by the engineer and the completed record prints returned to the architect.

1009.3 The applicable engineer shall contact DHEC for requirements of submission of record drawings where changes have been made from the original design.

DIVISION 11

MECHANICAL

SECTION 1101 INDEX OF SECTIONS

SECTION 1102 GENERAL REQUIREMENTS

1102.1 The mechanical systems shall be designed by a professional engineer, experienced in mechanical design and registered in South Carolina. The engineer's seal shall appear on each drawing for that portion of work for which he bears the responsibility for design.

1102.2 The mechanical design shall include all heating, air conditioning, ventilation, sprinkler systems, kitchen exhaust and make-up air system with associated extinguishing system and hoods, and other related systems.

1102.2.1 Sprinkler systems shall be either part of mechanical design or separated into a fire protection design section.

1102.3 In the design of a new building where future additions are definitely contemplated, the capacities of any equipment allowing for such additions shall be clearly noted on the drawings, along with any other pertinent information, such as points of future connections, etc.

1102.4 The design shall conform with the current codes as referenced in Division 1 of this *Guide* and as modified herein.

SECTION 1103 SYSTEMS

1103.1 Separate heating/cooling systems shall be provided for the administrative area of the school so as to provide economical operation during times when only this part of the building is in use.

1103.2 Provisions shall be made to prevent sound transmission through any common duct system serving more than one area, such as adjoining toilet rooms.

SECTION 1104 EQUIPMENT

1104.1 Rooftop HVAC equipment shall have special attention given to:

1104.1.1 The prevention of water leaks either through the manufacturer's equipment, the duct installed by the contractor, the equipment supports, or due to routine equipment maintenance

1104.1.2 Structural and seismic coordination for units of different manufacturers

1104.1.3 Electrical wiring requirements of units of different manufacturers

1104.2 Locate and design all mechanical components and systems to allow for proper access for maintenance.

SECTION 1105 VENTILATION

1105.1 Minimum ventilation shall be in accordance with the ASHRAE Standards as published at time of submission of architect's design development drawings.

1105.2 A separate exhaust fan shall be provided for each chemistry or physical science laboratory and be of such capacity to be able to quickly remove objectionable odors. A fan is also desirable in a biology lab, but not needed as critically as in the former two areas.

1105.3 Separate mechanical ventilation systems shall be provided for all gymnasium-dressing rooms to minimize objectionable odors. Such systems shall be separate from any system installed primarily for comfort.

1105.4 Mechanical ventilation shall be provided for all toilet rooms, janitor's closets, chemical storage rooms, and for storage rooms where odors could become a problem.

1105.5 Mechanical ventilation in addition to heating and cooling shall be provided in all bookrooms that are used for summer storage of textbooks, and kitchen dry storage rooms.

1105.6 Food storage rooms shall be provided with mechanical ventilation in addition to normal heating and cooling.

SECTION 1106 MATERIALS AND INSTALLATION

1106.1 Ductwork should not be installed exposed to the weather, except in special limited applications, as approved by the OSF.

1106.2 Ductwork shall be galvanized steel constructed to the requirements of SMACNA, as a minimum. Lined duct usage shall be kept to a minimum. Where used, the interior surface shall be smooth and cleanable and treated with an EPA-approved biocide to resist fungal/bacterial growth. Duct board is prohibited. Flexible duct meeting SMACNA requirements may be used for supply ductwork, provided it is not more than six feet long and terminates at a diffuser.

1106.3 Ductwork insulation joints, tears, punctures and other penetrations shall be sealed with mastic. Duct tape by itself is not permissible.

1106.4 Condensate shall be piped to drain or drywell and not dumped outside or on roof (where practical).

1106.5 Plastic pipe shall not be used within the building except for sleeves in exterior walls and incidental transitional couplings and fittings.

SECTION 1107 FIRE AND SMOKE SYSTEMS

1107.1 Where ductwork penetrates firewalls it shall be installed per UL tested assembly as shown on construction drawings and caulked to prevent passage of smoke. Access doors shall be provided of sufficient size to allow for maintenance.

SECTION 1108 FIRE SPRINKLER SYSTEMS, STANDPIPES AND FIRE HYDRANTS

1108.1 The Engineer of Record shall prepare the "Fire Sprinkler Specification Sheet" outlining the design criteria for the sprinkler system in accordance with South Carolina State Law and requirements of LLR, Division of Fire and Life Safety, Office of the State Fire Marshal. This is required for both above ground and underground fire lines.

1108.2 The Engineer of Record shall review the shop drawings and calculations as submitted by the sprinkler contractor and prepare the "Fire Sprinkler Specification Sheet" and "Certificate of Compliance" and submit to LLR, Division of Fire and Life Safety, Office of State Fire Marshal.

1108.3 Fire Sprinkler and Standpipe Systems shall be designed and installed in accordance with applicable codes and standards of **NFPA, IBC,** and **IFC** as a minimum standard.

1108.4 LLR, Division of Fire and Life Safety, Office of State Fire Marshal, by law, has 30 days to review the submittal. Sufficient time for review and approval must be allowed for in the construction period. Also IBC 106.1.1.1 requires approval before start of system installation.

1108.5 Underground Fire Service to Buildings

1108.5.1 Each fire line serving a riser assembly shall contain either a free standing post indicator valve, or a wall indicator valve visible from the outside of the building. These above-grade valves shall be provided with tamper switches connected to the building fire alarm.

1108.5.2 The use of locks and chains for tamper prevention in lieu of tamper switches is acceptable below grade provided the valve pit has secured (locked) access, and weather-proof signage is displayed which reads, "If valve(s) are closed for any reason, contact the local fire department (by name) immediately (ph# xxx-xxx-xxxx)," where x denotes the local, non-alarm number.

1108.6 Design Requirements

1108.6.1 The following spaces shall be protected at a minimum hazard classification of Ordinary Group I: Secondary school laboratories and preparation rooms, computer labs (rooms containing 30 or more computers), office/administrative areas, vocational labs, kitchens, storage areas, mechanical equipment areas, electrical rooms, coolers, and freezers. Note that sprinklers may be omitted from electrical rooms, when the room meets all the necessary exception requirements from NFPA 13, including being enclosed by a 2-hour rated construction.

1108.6.2 Stage sprinklers shall be designed to operate before stage smoke and heat vents.

1108.6.3 Class One standpipes are acceptable in lieu of Class Three for protection of stages when standpipes are required elsewhere by code.

1108.7 Materials and Installation

1108.7.1 Fire sprinkler systems that are installed utilizing an electric fire pump shall be connected to an emergency generator to provide a reliable source of power or the engineer of record shall provide documentation from the utility company demonstrating reliability of the system over the last 24-month period.

1108.7.2 Fire pump controllers shall be provided with a factory installed integral automatic power transfer switch for connection to the building emergency generator. Limited service fire pump controllers are not acceptable.

1108.7.3 Each system riser shall contain a fully trimmed alarm check valve ~~including water motor gong (WMG)~~ and retard chamber. "Shotgun" risers or risers that utilize the backflow prevention device as the system check are not acceptable.

1108.7.4 Above-ground piping shall be metallic in accordance with NFPA 13.

1108.7.5 Quick response type sprinkler heads shall not be used in coolers and freezers.

1108.7.6 Oversized, metallic escutcheons for sprinkler heads shall be provided in seismic suspended ceilings as required by the IBC. A flexible connection to the sprinkler head is an acceptable alternative.

1108.7.7 The fire sprinkler system seismic restraint system shall be designed with a minimum importance factor of 1.5 as designated by the structural design chapter of the IBC. See also the requirements of NFPA 13.

SECTION 1109 KITCHENS

1109.1 Kitchen ventilation shall be designed and installed in accordance with the DHEC requirements. *Rules and Regulations Governing Food Service Establishments and Installation Methods for Food Service Equipment* and **NFPA** 96. Proper make up air for range hoods is essential to proper operation of the entire school ventilation system. Each hood shall provide sufficient make up air without using air from the educational areas of the school. Calculations indicating the exhaust capacity of hoods and the capacity of make-up air sources shall be provided at final construction document submission.

1109.2 Automatic fire-extinguishing systems shall be installed in all cooking hoods per NFPA 96; NFPA 17 and 17A; and the DHEC publication, *Installation Methods for Food Service Equipment.*

1109.3 Rangehood roof exhaust fans shall be designed to prevent air from being discharged down toward the roof.

1109.4 Exterior entrances to kitchens shall be equipped with a fly fan with automatic switch geared to opening and closing of door, unless otherwise waived by the OSF. Location of fan on interior with air directed down and towards door is preferred.

1109.5 All "short circuit" type hoods are prohibited, unless tested and listed in accordance with UL 710.

1109.6 All kitchen hood systems may be subject to a capture and containment test during the final or occupancy inspection as allowed for in IMC 507.16.1.

SECTION 1110 ENERGY EFFICIENCY

1110.1 General Requirements:

1110.1.1 Compliance with ASHRAE 90.1 shall be required in the design of all new and renovated facilities. Submit appropriate work sheets to demonstrate compliance. Energy

management systems may be specified to be consistent with existing systems where applicable and shall comply with all other requirements of this regulation.

SECTION 1111 RECORD DRAWINGS

1111.1 The mechanical engineer shall specify that during construction operations the mechanical contractor shall faithfully make a record of all approved changes from the contract drawings, including accurate dimensions where applicable, and shall also record accurate dimensions locating all below-grade outside mechanical utilities (whether changed or not) with reference to permanent above-grade objects.

1111.2 The engineer shall also specify that at completion of the work, all such changes shall be recorded neatly with red ink by the mechanical contractor on an unused set of the mechanical contract drawings supplied by the architect. The red line changes shall be reviewed by the engineer and the completed record prints returned to the architect.

1111.3 The mechanical engineer, in conjunction with the architect, shall sign a Declaration of Completion in accordance with the requirements of Division 9 of this regulation.

DIVISION 12

ELECTRICAL

SECTION 1201 INDEX OF SECTIONS

SECTION 1202 GENERAL REQUIREMENTS

1202.1 The electrical systems shall be designed by a qualified professional engineer, registered in South Carolina, the engineer's seal shall appear on each drawing for that portion of work for which he bears the responsibility for design.

1202.2 The electrical design shall cover all lighting, power, emergency, communications, and related systems. It is recommended that the design of all systems under this head normally be the responsibility of a single engineer unless special conditions warrant otherwise.

1202.3 Where future additions are definitely contemplated, electrical service and related equipment should be sized and stub-outs provided to serve these planned additions with all such information shown on drawings.

1202.4 Conduits, cables or raceways shall not be attached directly to decking.

1202.5 The design shall conform with the current codes as referenced in Division 1 of this *Guide* and as modified herein.

1202.6 When new replacement systems of any type (power or signal) are provided, the old existing system shall be removed from all areas, including above-ceiling spaces.

SECTION 1203 POWER SERVICE AND DISTRIBUTION OF ALL SYSTEMS

1203.1 The engineer shall coordinate with power supplier and indicate and/or specify all requirements for:

1203.1.1 Point of service

1203.1.2 Division of work (contractor and power company)

1203.1.3 **Fault current:** Over-current device(s) shall have interrupting capacity in excess of available fault current throughout system.

1203.2 Wiring Methods: Wiring methods shall be insulated conductors in properly supported raceways for all systems, including, but not limited to power, remote control, ETV, signal, computer and communications. Installation shall be as outlined below.

1203.2.1 All power wiring shall be in metallic conduit, busways or cablebus unless otherwise allowed by this *Guide*. Non-metallic conduit may be used below grade.

1203.2.2 Signal cable other than fire alarm shall be in supporting/organizing raceways. Signal cables include those for intercom, ETV, public address, computer networks and telephone. Acceptable raceways are conduit, wireways, and cable trays.

1203.2.3 Fire alarm cable shall be installed in metallic conduit.

1203.2.4 Where wiring of any type or system occurs above an inaccessible ceiling or portion of a building structure, it shall be installed in conduit. No other raceway will be acceptable where systems are inaccessible.

1203.2.5 When using cable trays in new buildings, the cables shall be installed in conduit from cable tray to outlet. In existing facilities, cable may be installed in conduits or supported as outlined for existing buildings below. Conduit must terminate within 6 inches of cable tray.

1203.2.6 All penetrations of fire rated walls shall be protected by a UL tested through-penetration fire stop system as outlined in the International Building Code.

1203.2.7 Metal clad cable shall be permitted for light fixture whips provided they do not exceed 6 feet in length and are provided by the light fixture manufacturer.

1203.2.8 Modular wiring systems made from metal clad cable shall be acceptable for light fixtures above accessible ceilings.

1203.3 Signal Systems in Existing Buildings

1203.3.1 An existing building is defined as one constructed prior to adoption of the IBC 2000.

1203.3.2 Signal systems other than fire alarm: Signal cables for systems other than fire alarm include intercom, ETV, public address, computer networks, telephone and similar systems which have no direct effect on Life Safety. These systems are recommended to be installed in raceways. However, raceways are not mandatory. In the event that the district permits installation of these systems without raceways, the following shall apply.

1203.3.2.1 Cables shall be bundled neatly and identified as to system and individual cable function at intervals not to exceed ten (10) feet wherever cables are accessible, as when installed above lay-in acoustical ceilings.

1203.3.2.2 Cables shall be supported from the building structure. Cables shall not be laid directly on top of acoustical tile ceilings, shall not be secured to the tie wires which support acoustical ceiling grids or be supported otherwise from any part of the ceiling system, whether lay-in type or other. It also shall not be supported from other Trade work.

1203.3.2.3 Where cables are routed through inaccessible elements of the building they shall be installed in conduit.

1203.3.2.4 Where cables are not installed in raceways but are bundled, identified and secured to the structure, methods of securing cables or cable bundles to the structure shall comply with the following:

1203.3.2.5 Support devices shall have sufficient load rating to support the installed cables and accessories.

1203.3.2.6 Cable support devices shall be spaced no further than 36 inches apart and shall be configured so that cables are not deformed, crimped, bent or otherwise damaged by supporting devices.

1203.3.2.7 Cables shall be identified as to function, circuit number and the like at 10-foot intervals along each cable and at points of entry and exit from inaccessible cavities and spaces within the building.

1203.3.2.8 Prior to starting work, each installer of cable system as covered under this regulation shall obtain written approval of installation means and methods proposed from the district or district's appointed agent.

1203.3.2.9 All penetrations of cables through fire rated walls, or through walls that should be rated according to the current Building Code shall be properly protected by a UL tested through-penetration fire stop system and as outlined in the Building Code.

1203.3.2.10 The OSF strongly recommends districts retain the services of a registered professional engineer to review vendor-wiring proposals, inspect installations in progress and as completed.

1203.3.2.11 Where cable trays exist, they shall be used for any additional wiring systems.

1203.4 Aluminum Conductors

1203.4.1 At the option of the engineer, but only with the concurrence of the school district, aluminum conductors may be provided for conductors #2 AWG and larger. Conductors smaller than #2 AWG shall be copper only.

1203.4.2 Where aluminum raceways are provided, they shall not be installed underground, or encased in concrete, or be used with brass or bronze fittings.

1203.5 Grounding: Grounding shall be provided in accordance with NFPA 70.

1203.6 Ground Fault Protection: Ground fault protection shall be provided in accordance with NFPA 70 and for all receptacles (convenience outlets) installed outdoors and within five (5) feet of a sink and/or lavatory or water source.

1203.7 Receptacles (Convenience Outlets)

1203.7.1 Every full-size instructional classroom shall be provided with a minimum of nine (9) duplex receptacles. Two (2) located on each wall and one (1) for ETV. Where computers are to

be located in classrooms, additional outlets shall be provided. Smaller instructional areas should be provided with receptacle quantities at the discretion of the engineer.

1203.7.2 Science laboratories, home economics departments, business education departments, shops, and other instructional areas where a considerable amount of electrical equipment is to be used shall be provided with outlets of the proper type and number to meet the needs of each area. In such areas, consideration shall be given to providing a main disconnecting means to enable the disconnection of all instructional electrical loads from the power supply (lighting not included) and should be provided unless obviously not needed for safety or control, or if not desired by the school district.

1203.7.3 Office areas and teachers' workrooms shall be supplied with at least four electrical outlets located to best serve anticipated needs.

1203.7.4 Receptacles should be properly located throughout the building for cleaning equipment and other similar uses.

1203.7.5 A minimum of one duplex receptacle shall be provided on the interior near the top of the ladder serving any scuttle to a roof area.

1203.7.6 All receptacles shall be of the Specification Grade type.

SECTION 1204 LIGHTING

1204.1 Illumination Levels

1204.1.1 The lighting levels shown in the table below are minimum initial design levels. In no case shall the initial lighting level be less than those listed without approval of the OSF.

Type of Interior Areas	Minimum Initial Design Level*	Remarks
All interior areas other than listed below	70 foot-candles	Multipurpose rooms and auditorium stages need 70 foot-candles at full bright dimmer setting.
Industrial art, prevocational or Trade and Industrial shops, laboratory and lecture room demonstration areas, and task lighting areas	100 foot-candles	
Administration and office area and gymnasiums	50 foot-candles	
Cafeterias and commons, stair-ways, and auditorium seating areas	30 foot-candles	Auditorium seating areas need 30 foot-candles at full bright dimmer setting.
Corridors, toilet area, gym dressing rooms, storage rooms and boiler, mechanical or electrical equipment rooms	25 foot-candles	

Lighting calculations by engineers during years past have mostly been based on maintained design levels, rather than initial design levels. Therefore, in using the above initial design levels, the architect and the engineer should caution a district that a strict maintenance program should be adhered to as to relamping and cleaning of fixtures and lenses.

1204.1.2 Lighting calculations shall be based on room surface reflectances for interior finishes selected by the architect, which in all cases shall not be less than the following for instructional areas.

1204.1.2.1 Ceiling Cavity, 80 percent; Walls, 50 percent; Floor Cavity, 20 percent

1204.1.3 Fixture selection and placement should provide the minimum practical amount of brightness and glare.

1204.1.4 Due to constantly changing lighting technology, special designs will not be prohibited but shall have prior approval of the OSF. Consult Illuminating Engineering Society's *Lighting Handbook* for recommended levels for other uses and any other additional pertinent information.

1204.2 Lighting Control

1204.2.1 Room switches should be placed in the most convenient location, preferably on the strike side of the entrance door to the area served.

1204.2.2 "Local" switching for group toilets shall not be permitted unless keyed switches are used.

1204.2.3 Switches must comply with the adopted version of ASHRAE 90.1 adopted code. Automatic lighting control shut-off shall not be required in areas that have two or fewer luminaries.

1204.2.4 The engineer shall provide multiple levels of switching for classrooms and larger areas.

1204.2.5 Automatic lighting control panels shall fail in the on position.

1204.3 Exterior Lighting

1204.3.1 Exterior lighting shall be provided for building entrances, parking areas, outdoor storage areas, loading docks, bus ports, covered walkways, and other outdoor areas where, in the judgment of the engineer, lighting is required for night functions, security, or safety.

1204.3.2 The engineer shall specify the most energy-efficient lamp source in each instance, consistent with color rendition and other application requirements and meet lighting allowance specification ASHRAE 90.1.

1204.4 Lighting System Security: All practical measures shall be taken to provide protection for lighting fixtures and equipment.

1204.4.1 Vandal-resistant materials or metal guards shall be considered for fixtures within reach of floor and for all outdoor locations.

1204.4.2 Mounting heights shall be specified to afford protection, consistent with ease of maintenance.

1204.4.3 Exit signs and directional signs related thereto shall be wall-mounted (either recessed or surface) where possible in lieu of ceiling-mounted, as ceiling-mounted signs are subject to a much greater degree of abuse. Signs must be visible from anywhere within the length of exit access corridor or directional signs shall be provided (See Division 7).

SECTION 1205 EMERGENCY POWER

1205.1 Mandated Emergency Power: The following systems shall be provided with a primary and a secondary (emergency) power source.

1205.1.1 Exit signs

1205.1.2 Emergency lighting

1205.1.3 Fire alarm system

1205.1.4 Telephone

1205.1.5 Fume hoods in facilities with emergency generators

1205.2 Sources of Emergency Power: The primary source of power shall be the normal building distribution system. The secondary (emergency) power source shall be one of the following.

1205.2.1 Engine-generator set

1205.2.2 Central or local rechargeable battery system (*DC*)

1205.2.3 Central or local battery inverter system (*AC*)

1205.2.4 Single battery packs

1205.2.5 Battery packs integral with the fixture

1205.2.6 Any other type of system permitted by the National Electric Code except connection ahead of main and separate service.

1205.2.6.1 The emergency power from a secondary system, such as a generator set or a central battery source shall be on separate circuitry and in separate conduit from normal power and lighting. The emergency power shall be compatible with the system served and as required by that system.

1205.2.6.2 See Division 5: Emergency Preparedness, for discussion of additional emergency generator/disconnect requirements.

SECTION 1206. EXIT SIGNS

1206.1 Exit signs and directional signs related thereto shall be provided with power from two sources.

1206.1.1 The primary source may be connected at any point within the normal lighting system. The secondary source shall operate automatically upon interruption of the primary source and may be served from any emergency power source as listed under Section 1205.2. The secondary source shall operate when the associated circuit in an area that requires emergency lights goes out.

~~**1206.1.2** The primary and secondary systems shall be on separate circuitry and in separate conduit from normal power and lighting from the feed point to the sign.~~

1206.1.~~3~~2 Exit signs and directional signs related thereto shall be provided at all exit doors, doors in an egress route and doors leading to egress routes in large areas. See IBC for further requirements. Signs must be visible from anywhere within the length of the exit access corridor or directional signs shall be provided.

1206.1.~~4~~3 Classrooms, laboratories, and workrooms which are required to have multiple exits shall only be required to have exit signs on exterior exits.

SECTION 1207 EMERGENCY LIGHTING

1207.1 Emergency lighting shall be provided with power from two sources.

1207.1.1 The primary source may be connected at any point within the normal lighting system. The secondary source shall operate automatically upon interruption of the primary source and may be served from any emergency power source as listed under Section 1205.2. The secondary source shall operate when the associated circuit in an area that requires emergency lights goes out.

1207.1.2 The power from a secondary system such as a generator set or a central battery source shall be on separate circuitry and in separate conduit from normal power and lighting.

1207.1.3 In spaces required to have emergency lighting, not all lighting fixtures shall be on the emergency power circuit.

1207.2 The following areas shall have emergency illumination, whether having natural lighting or not.

1207.2.1 Exits and exit access corridors

1207.2.2 Small and large assembly areas

1207.2.3 Areas occupied by over 50 persons

1207.2.4 Gymnasium dressing rooms

1207.2.5 Band and choral rooms

1207.2.6 Industrial arts, vocational shops

1207.2.7 Administration or other building control centers

1207.2.8 Kitchens

1207.2.9 Group toilets

1207.2.10 Main electrical service disconnect location

1207.2.11 Emergency power equipment location

1207.2.12 Media Centers

1207.2.13 Laboratory preparation room

1207.2.14 Mechanical/boiler room area

1207.2.15 Exterior point of egress

1207.2.16 Classrooms in which an exterior door is an exit as defined by the building codes

1207.2.17 Sprinkler riser and fire pump rooms.

1207.2.18 Athletic stadiums.

1207.3 The following areas shall have emergency illumination when they either have no natural light or are anticipated to have night occupancy.

1207.3.1 Classrooms, conference rooms, and other instructional spaces over 200 square feet in size. Flexible or open-plan areas.

1207.3.2 Spaces over 500 square feet in size, which are expected to have regular human occupancy.

SECTION 1208 FIRE ALARM SYSTEM

1208.1 Fire alarm systems shall be provided as follows.

1208.1.1 All new fire alarm systems and substantially renovated alarm systems shall have either a central station fire alarm system or a proprietary supervising station system. These systems must be in compliance with NFPA 72. Central station fire alarm systems must be third party verified when any of the following conditions exist:

1. New construction
2. New fire alarm system in existing facilities
3. Replacement of the Fire Alarm Control Panel (FACP) (must be completed within six months)
4. The addition of up to 25 devices, either initiating or annunciating, within a 12 month period will not require the entire system to be upgraded, provided a new FACP or extender panel is not required to feed the new devices. (Replacement of a given device at the same location does not count as an addition.)
5. Additions qualifying as separate buildings under the International Building Code and having an independent fire alarm systems will only be required to have the new systems third party verified, provided all fire alarm systems are equipped with enunciation at one location. Note that the FACP of each alarm system must be in the building that its alarm system protects.

110 Volt systems shall not be expanded or added on the (supersedes “4” above).

6. Buildings that are not group E or group E with fewer than a 100 occupant load are exempt from 1208.1.1.

1208.1.2 The policies by Labor, Licensing & Regulation (LLR), Division of Fire and Life Safety, Office of State Fire Marshal may establish more stringent requirements than found in this *Guide*.

1208.1.3 A fire alarm system is required in any building over 500 square feet.

1208.2 Where an existing building is to be renovated and there is no fire alarm system, an alarm system shall be installed to meet the requirements of this section.

1208.3 All systems shall meet the requirements of **NFPA** 72 (National Fire Alarm Code) and of NFPA 70 (National Electrical Code) and ANSI.

1208.4 Fire alarm system control equipment, alarm initiating devices, power sources, municipal or remote station signaling apparatus, smoke door hold/release devices, and remote annunciation/control panels (graphic display panels excluded) shall be Underwriter's Laboratories listed for the installed application.

1208.5 Equipment shall be provided for the selected alarm system as follows, and shall function as described.

1208.5.1 A control panel shall be provided, incorporating all provisions for operations and capabilities described in this section.

1208.5.2 An annunciator panel, where required by the selected system, shall indicate the station or zone from which the alarm sequence is initiated. The annunciator panel shall be installed at an attended location in the school administration area (A graphic type annunciator is recommended.).

1208.5.3 When a graphic display panel is used, the basic operation of the fire alarm system shall not rely upon any component or function of the graphic panel or its associated circuitry. In other words, with the graphic panel completely disconnected from the fire alarm control panel, the control panel shall still perform all operations required by this section.

1208.5.4 An audible and visual trouble alarm shall be installed at an attended location in the school administration area to signal an off-normal condition of alarm initiation, or alarm and supervisory portions of the system. This trouble signal may be integral with the control-panel or annunciator at the discretion of the engineer.

1208.5.5 A drill switch shall be provided to enable the administrative personnel to initiate fire drills without operating an initiating device or activating the fire department notification apparatus.

1208.5.6 When the building is equipped throughout with an automatic sprinkler system, a single manual fire alarm pull station shall be required at one exit from a normally occupied location, if all code requirements are met. An additional manual pull station shall be installed at a single exit in each occupied portion of the building if the building is expected to have partial occupancy (for example, gymnasiums or auditoriums). When the building is not fully sprinklered, manual fire alarm pull stations shall be installed at all exits.

1208.5.7 Audible alarm devices shall be provided and shall produce a sound level that is 15dBa above ambient noise levels or levels that are 5dBa above the maximum sound level for 60 second duration, with a maximum level of 120dBa. Voice alarm communication systems shall be provided in assembly spaces with occupancy over 1000.

1208.5.8 Visual alarm devices shall be provided and installed in all locations as specified by ANSI A117.1 and IBC

1208.5.9 Apparatus for transmitting alarm and trouble signals shall be provided as applicable to operate with local alarm-reporting equipment. The engineer shall coordinate with the local fire authority to determine the method to be used. Leased, dedicated telephone lines may be used with the permission of the school district. Where a municipal fire-reporting circuit is available near the job site, a municipal fire-reporting box and connection to the municipal system shall be provided. In areas where connection to a municipal system, or direct phone line connection to a remote

receiving station is not possible, radio signal communication may be utilized. Automatic telephone dialers with pre-taped messages are not recommended to report the alarm condition, as they tend to tie up reporting lines excessively.

1208.5.10 Emergency Power Supply: Systems shall be provided with an emergency power supply to ensure system operation under conditions of normal power outage. The emergency power supply shall be capable of maintaining the system in a supervisory, standby condition for a period of at least 24 hours, with sufficient power capability after the 24-hour standby period for 5 minutes of alarm condition operation. (See NFPA 72)

1208.5.11 Emergency power may be provided from a power supply integral with the fire alarm system, or from a separate emergency power source, that is compatible with the alarm system. The emergency power system shall be designed to automatically transfer power to the fire alarm system upon loss of normal power.

1208.5.12 When standby batteries are used, a charger unit shall be provided capable of recharging the batteries within 24 hours.

1208.5.13 All control switches and indicator lamps for remote operation of the system and trouble monitoring shall be provided and installed at an attended location in the administrative area. The fire alarm control panel should also be located in this area and protected as much as possible from fire hazards.

1208.5.14 All smoke detectors shall comply with U.L. Standard 268 for smoke detectors; detectors not meeting this standard are not acceptable. Since the UL standard requires both ionization and photoelectric detectors to meet the same response tests, the engineer shall decide the type of detectors to use.

1208.5.15 All K4 and younger classrooms shall have smoke detectors installed in accordance with NFPA 72. These detectors shall be tied directly into the school's fire alarm system.

1208.5.16 Delay of the transmission of the primary power failure signal in accordance with NFPA 72 is acceptable, however, loss of primary power must be indicated at the FACP and any remote annunciator panels immediately upon loss of primary power.

SECTION 1209 FIRE ALARM SYSTEM OPERATION

1209.1 Sequence of Operation: Operation of any manual or automatic station (other than fire door smoke detectors and air handling unit shutdown smoke detectors) shall activate the system, the general alarm shall sound and the fire alarm reporting agency shall be notified.

1209.2 Fire Doors Operation: Fire doors shall be self-closing (except as permitted by the OSF for 20–minute classroom doors).

1209.2.1 Where it is desired to have fire doors remain open due to continual use, such as doors in stairwells, horizontal exits, building area separations, and smoke doors in corridors, it is required that they be held open with wall-mounted magnetic releases in combination with ceiling-mounted smoke-detectors; upon activation, smoke detector sensing particles of combustion shall release magnetic door holders and doors shall close. Manual release of doors from holding device shall allow self-closing with no effect upon holding device or fire alarm. When smoke-actuated door closers are used, a smoke detector shall be placed on both sides of the door.

1209.2.2 Door holders and associated smoke detectors shall be specified under the electrical division of the plans and specifications

1209.2.3 All stairway or exit passageway doors shall close when any door common to that enclosure closes by means of activation of any smoke detector tied to automatic door release devices.

1209.3 Air Handling Unit Shut Down Smoke Detectors: Operation of any automatic station required for air distribution systems shall activate a visible and audible supervisory signal at a constantly attended location, except when the building fire alarm indicating appliances are activated. A remote indicating device shall be provided near the automatic station to indicate device in alarm. Detectors are to be powered through the fire alarm system.

1209.4 All wiring shall be insulated conductors in metal conduits.

SECTION 1210 EXHAUST HOOD

1210.1 All kitchen equipment producing grease-laden vapors shall comply with NFPA 96 and the International Mechanical Code.

1210.2 All power or gas sources under the outline of a Type I hood must automatically shut down upon activation of the hood extinguishing system.

1210.3 The system used to automatically disconnect power to the fuel or heat sources under the kitchen hood shall be fail-safe design such that a loss of control power to this system will cause the devices under the hood to be automatically shutdown. Approved methods include under voltage relays, controlled circuit powered from certificated/placarded fire alarm systems, normally open contactor, or other method acceptable to the OSF.

SECTION 1211 COMMUNICATION SYSTEMS

1211.1 Communication System: The following communication systems shall be provided in all schools. See Section 1203 for conduit/cable tray requirements.

1211.1.1 Telephone conduit system

1211.1.2 Classroom intercom system. All-call mode with callback feature should be provided.

1211.1.3 Educational television

1211.1.4 Program bell system

1211.2 Teacher Call Back: Two-way communication to the office should be provided.

1211.3 Intrusion Detection System: May be provided at the option of the school district.

1211.4 An Area of Refuge: The communication will be located adjacent to the fire alarm enunciator panel.

SECTION 1212 PROVISIONS FOR EDUCATIONAL TELEVISION

1212.1 All new buildings and new building additions shall be provided with a complete ETV system.

1212.2 The electrical engineer should contact the Network Technical Services Director at the South Carolina ETV Center, at the design development stage to coordinate requirements and system concepts for the project.

1212.3 The engineer shall submit the system design to SCETV for review and approval prior to advertising for bid. A copy of this approval shall be sent to the OSF.

1212.4 The engineer shall refer to the specifications and details, as approved by the South Carolina Educational Television Network, for the layout and design of ETV systems. These can be found on the SCETV website.

SECTION 1213 PROVISIONS FOR TEACHING EQUIPMENT

1213.1 Raceways, enclosures, power sources, and electrical equipment required for teaching aids or equipment in areas such as science, home economics, business classrooms, media centers, language laboratories, shops, etc., shall be provided.

1213.2 Consideration shall be given to future load growth, both in systems capacity and in physical accessibility for expansion.

SECTION 1214 LIGHTNING PROTECTION

1214.1 Lightning protection systems may be provided at the discretion of the school district and the engineer. Where complete systems are provided, the U.L. Master Label requirements shall be used for design and construction and the Master Label inspection service shall be required. At job completion, the Master Label plate shall be affixed to the building.

1214.2 Any attachment to the roof (membrane and flashings) shall be approved by the roofing manufacturer or owner.

SECTION 1215 ENERGY EFFICIENCY

1215.1 The engineer shall make every effort to provide a system designed with the maximum utilization of energy efficiency measures consistent with the functional requirements of the building.

1215.2 There shall be close coordination between the electrical and mechanical engineers and the architect in the interest of energy efficiency.

1215.3 Plans and construction shall comply with the Model Energy Code and ASHRAE 90.1. Submit worksheets to demonstrate compliance.

SECTION 1216 RECORD DRAWINGS

1216.1 The electrical engineer shall specify that during construction operations the electrical contractor shall faithfully make a record of all approved changes from the contract drawings,

including accurate dimensions where applicable, and shall also record accurate dimensions locating all below-grade outside electrical utilities (whether changed or not) with reference to permanent above-grade objects.

1216.2 The engineer shall also specify that at completion of the work all such changes shall be recorded neatly with red ink by the electrical contractor on an unused set of the electrical contract drawings supplied by the architect. The red line changes shall be reviewed and approved by the engineer and the completed record prints returned to the architect.

1216.3 The electrical engineer, in conjunction with the architect, shall sign a Declaration of Completion in accordance with the requirements of Division 9 of this regulation.

DIVISION 13

FORMS

F1 REQUEST FOR WAIVER FROM USE OF PROFESSIONAL SERVICES

F2 APPLICATION FOR APPROVAL OF PROPERTY ACQUISITION

F3 BUILDING CODE ANALYSIS FORM

F4 CERTIFICATION OF READINESS FOR OSF OCCUPANCY INSPECTION

F5 SQUARE FOOT COST INFORMATION

F6 PRELIMINARY INFORMATION FORM

F7 PRELIMINARY SCHOOL BUS TRANSPORTATION INFORMATION FORM

FORM F1 **REQUEST FOR WAIVER FROM USE OF PROFESSIONAL SERVICES**

SUBMIT TWO COPIES OF THIS FORM TO DIRECTOR, OFFICE OF SCHOOL FACILITIES

TO: DIRECTOR, OFFICE OF SCHOOL FACILITIES: DATE: _____
SOUTH CAROLINA DEPARTMENT OF EDUCATION

FROM: SUPERINTENDENT _____COUNTY _____DISTRICT_____

It is hereby requested that a waiver be granted from the requirements of section 106 of the *South Carolina School Facilities Planning & Construction Guide* concerning the use of professional architectural and/or engineering services for the following project of a very small nature.

LOCATION OF PROJECT: _____

_____

_____

_____

DESCRIPTION OF PROJECT: _____

_____

_____

_____

SOURCE OF PLANS AND SPECIFICATIONS: _____
(Attach any plans and specifications with this form)

INSPECTION OF CONSTRUCTION TO BE DONE BY: _____

_____

Area, Square Feet	_____	Local Funds	$_____
Estimated Cost per Sq. Ft.	$_____	State Building Funds	$_____
Total Estimated Cost of Project	$_____	Other State Funds	$_____
Above Estimate by	$_____	Federal Funds	$_____

If this waiver is granted, the Board of Trustees of the above-named school district hereby agrees to accept all responsibility concerning adherence in the design of the project to applicable codes, laws, and regulations and also responsibility for final completion of the project so that all codes, laws, and regulations are complied with.

District Board Chairman _____ District Superintendent _____

Director, Office of School Facilities _____ Date _____

FORM F2 APPLICATION FOR APPROVAL OF PROPERTY ACQUISITION

Submit two copies of this form along with plat of property to Director, Office of School Facilities

COUNTY _____ DISTRICT _____ DATE _____

DISTRICT SUPERINTENDENT _____ GRADES INCLUDED _____

SCHOOLTYPE: Elementary ☐ Middle ☐ Jr. High ☐ High ☐ Vocational ☐
Or, if property is for other purpose _____ Projected occupancy date _____
SCHOOL ENROLLMENT: Initial Capacity _____ Projected Expansion _____

NUMBER OF ACRES _____ COST PER ACRE $ _____ TOTAL COST $ _____

LOCATION AND DESCRIPTION OF SITE: _____
_____
_____
_____

ACCESSIBILITY: _____

TOPOGRAPHY: _____

SOURCE OF FIRE PROTECTION: _____

CHECK UTILITIES AVAILABLE: Gas _____ Electricity _____ Telephone _____
Water (Describe Source) _____
Sewage Disposal (Describe) _____
Are Insurance Services Office (ISO) water supply requirements met for planned facility?

WILL THE PROPERTY HAVE FEE SIMPLE TITLE? _____

IS THE SITE FREE OF CONDITIONS AND NEARBY INSTALLATIONS THAT ENDANGER THE LIFE, SAFETY, AND HEALTH OF CHILDREN? _____ _____

IS THE PROPERTY ZONED FOR A K-12 SCHOOL OR OTHER FACILITY? _____

GENERAL REMARKS: _____
_____
_____
_____

OBSERVED BY:

_____ Date _____
Office of School Facilities

REQUESTED BY:

_____ Date _____
District Superintendent

APPROVED BY:

_____ Date _____
Director, Office of School Facilities

_____ Date _____
District Board Chairman

(*OSF Use Only)* Site No. ____

FORM F3 BUILDING CODE ANALYSIS FORM (Page 1 of 2)

THIS FORM MAY BE USED FOR EACH OF THE PLAN SUBMITTAL PHASES-SCHEMATIC, DESIGN DEVELOPMENT, AND CONSTRUCTION DOCUMENTS. IT IS RECOMMENDED THAT THE DATA FOR THE "STRUCTURAL MEMBERS" AND "SEPARATION WALLS" PARTS BE INCLUDED AS PART OF THE DESIGN DEVELOPMENT SUBMITTAL, BUT IT IS NOT MANDATORY, BUT IF NOT SUBMITTED THEN, IT IS URGENT THAT IT BE SUBMITTED TO THE OFFICE OF SCHOOL FACILITIES FOR PRIOR APPROVAL IN THE EARLY STAGES OF THE FINAL PLANS.

PROJECT_____DISTRICT_____

SUBMITTAL: SCHEMATIC **( )**; DESIGN DEVELOPMENT **( )**; CONSTRUCTION DOCUMENT **( )**

DATE_____ CODE & EDITION _____

DESIGNATED AREAS OF BUILDING (Indicated on floor plan.)

CODE ITEM		CODE REFERENCE	Area 1	Area 2	Area 3	Area 4	Area 5
Occupancy Classification		Chapter 3					
Construction Classification		Chapter 6					
Height in lin. ft.	Allowed	Table 503					
Height with increase Allowed		Chapter 5					
Height in lin. ft.	**Actual**						
Area in sq. ft.	Allowed	Table 503					
Area with increase allowed		Chapter 5					
Area in sq. ft.	**Actual**						
Structural Members		Insert appropriate hourly ratings and/or test numbers)					
Exterior Bearing Walls		Table 601					
Exterior Nonbearing Walls		Table 601					
Interior Bearing Walls		Table 601					
Columns		Table 601					
Beams, Girders		Table 601					
Floor Construction		Table 601					
Roof Construction		Table 601					
Separation Walls		(Insert appropriate hourly ratings and/or test numbers)					
Fire Walls		Table 705.4					
Occupancy Separation Walls		Table 302.3.3					
Exit Stair		Sect. 707.4					
Horizontal Exit		Sect. 1005.3.5.1					
Exit Discharge		Sect. 1006.1					
Exit Access Corridors Walls		Table 1004.3.2.1					
Elevator Shaft Walls		Sect. 707.4					
Interior Partitions		Section 602					

USE REVERSE SIDE TO SHOW AREA AND HEIGHT CALCULATIONS

FORM F3 (Page 2 of 2)

FOR HEIGHT MODIFICATION: Refer to Building Code Chapter 5 and Table 503.

FOR AREA MODIFICATION: Refer to Building Code Chapter 5 and Table 503.

EQUATION 5-1 $$A_a = A_t + \left[\frac{A_t I_f}{100}\right] + \left[\frac{A_t I_s}{100}\right]$$

where:

A_a = Allowable area per floor (square feet).
A_t = Tabular area per floor in accordance with Table 503 (square feet).
I_f = Area increase due to frontage (percent) as calculated in accordance with 506.2.
I_s = Area increase due to sprinkler protection (%) as calculated in accordance with 506.3.

EQUATION 5-2 $$I_f = 100 \times \left[\frac{F}{P} - 0.25\right]\frac{W}{30}$$

where:

I_f = Area increase due to frontage (percent).
F = Building perimeter which fronts on a public way or open space having 20 feet (6096 mm) open minimum width.
P = Perimeter of entire building.
W = Minimum width of public way or open space

W must be at least 20 feet

The quantity **W** divided by 30 cannot exceed 1.0

Buildings which are permitted to be unlimited in area, the quantity **W** divided by 30 cannot exceed 2.0.

When a building is protected throughout with an automatic sprinkler system, the area limitation in Table 503 is allowed to be increased by 200 percent (**I_s** = 200 %) for multistory buildings and 300 percent (**I_s** = 300 %) for single-story buildings.

AREA CALCULATIONS: Insert appropriate figures.

Area **	Basic Area Allowed	Open L/F Perimeter	Total L/F Perimeter	Percentage Open Perimeter	Percentage Area Increase	Sq. Ft. Area Increase	Percentage Sprinkler Increase	Total Area Allowed
1								
2								
3								
4								
5								

**THE LOCATIONS OF THE DIFFERENT AREAS SHALL BE SHOWN ON THE DESIGN DEVELOPMENT PLANS.

FORM F4 CERTIFICATION OF READINESS FOR OSF OCCUPANCY INSPECTION (Page 1 of 2)

I do hereby certify that the _____School in_____ School District #_____ has been inspected and found to be substantially complete as indicated below and is ready for final inspection by the Office of School Facilities (OSF).

Check each inspected item.

☐ 1. The fire alarm works and is connected to a supervised monitoring station. The NFPA 72 Record of Completion and the systems listing agency verification will be available at the inspection.

☐ 2. All fire doors and related hardware, smoke detectors and hold open devices are installed and working properly.

☐ 3. All exit lights, emergency lights and emergency power systems are installed and working properly.

☐ 4. Fire extinguishers are installed and working properly in all facilities. Fire suppression systems are installed and working properly in kitchen hood systems, and any other locations with special requirements.

☐ 5. All rated walls are properly constructed and identified (stenciled) and sealed to the structure above and you know and can demonstrate that the proper sealant materials were used.

☐ 6. All doors and other opening protectives in rated walls are installed with the correct hardware, glazing and labels.

☐ 7. All rated ceilings and/or floor/ceiling assemblies have been properly installed.

☐ 8. All penetrations (pipes, conduit, ducts, etc.) in rated walls and/or floor/ceiling assemblies are properly installed using appropriate methods and materials.

☐ 9. Fire protection of columns, beams, ceilings, roof and floor decking of adequate depth and properly installed.

☐ 10. All required seismic bracing of walls, equipment, pipes, ducts and ceiling grid is present and properly installed.

☐ 11. Water supply "Sanitation Report" has been completed for new supply piping. Approval to put water and sanitation system into service has been obtained. Copies of the reports will be available at the inspection.

☐ 12. Kitchen facilities have been approved for use by DHEC. Copies of the reports will be available at the inspection.

FORM F4

☐ 13. ANSI A117.1 accessibility requirements have been met.

☐ 14. NFPA 24 Contractor's Materials and Test Certificate completed for on site fire hydrant piping.

☐ 15. NFPA 13 contractor's materials and test certificates completed for above ground sprinkler pipe and underground pipe leading to the sprinkler system.

☐ 16. Completed "FIRE SPRINKLER SYSTEM CERTIFICATE OF COMPLIANCE" for all sprinkler systems.

☐ 17. DOT recommendations have been adhered to.

☐ 18. All HVAC systems have been tested, balanced, and commissioned per ASHRAE 90.1. A copy of the report will be available at the inspection.

☐ 19. Listed assembly details, product data sheets, and approved submittals are available on site.

☐ 20. Final code compliance punch list is available for review.

☐ 21. Fire safety and evacuation plans are complete and will be available for review at the inspection.

☐ 22. Adequacy of the television distribution system has been successfully demonstrated to SC ETV Network Technical Services.

☐ 23. Attach the Chapter 1 Inspection Summary by Area/Building Report and the Final Reports of Special Inspections signed by the Design Professional and Special Inspector. All inspections are complete and available onsite for review.

THIS FORM MUST BE RECEIVED BY THE OSF NO LESS THAN ONE FULL DAY PRIOR TO ANY SCHEDULED INSPECTION.

_____

Signature of Principle Design Professional | Registration # | Date | Company

Contact: South Carolina Department of Education - Office of School Facilities
FAX (803) 734-4857; Telephone (803)734-4836

FAX to: _____
Name

FORM F5 SQUARE FOOT COST INFORMATION (Page 1 of 2)

SUBMIT ONE COPY OF THIS FORM TO THE OFFICE OF SCHOOL FACILITIES WHEN REQUESTING OCCUPANCY APPROVAL. THIS IS REQUIRED FOR ALL NEW BUILDINGS, AND FOR ADDITIONS OR RENOVATION PROJECTS.

NAME OF PROJECT_____ BID DATE _____

COUNTY _____ DISTRICT_____ ARCHITECT _____

PUPIL ENROLLMENT DATA: Building as Designed___Estimated Ultimate Growth _____

TOTAL TEACHING STATIONS (Home Rooms Only) _____ _____

Indicate any core areas that have been designed large enough to accommodate the ultimate anticipated growth:
Administrative Area ( ); Media Center ( ); Cafeteria ( );Kitchen ( ), PE Athletic ( ); Other ____

DESCRIPTIVE BUILDING DATA: Single Story ( ) Multi Story ( )

Floor System:

Structural System:

Exterior and Interior Walls:

Roof System:

HVAC System:

Other:

SQUARE FOOT COMPILATION:	Actual Sq. Ft. Area	Proportional Factor	Equivalent Sq. Ft. Area
Enclosed Area*	_____	@ 1 =*	_____
Covered Open Area (walkways, etc.)**	_____	@ ½ =**	_____
Existing Areas Renovation (if any)	_____	@ =***	_____
Other (if any)	_____	@ =***	_____

*INCLUDE THE AREA OF ALL FLOORS AND MEZZANINES ALSO LIST GYMNASIUMS, AUDITORIUMS, SHOPS, AND OTHER HIGH CEILING SPACES AT ACTUAL FLOOR AREA AND STILL USE PROPORTIONAL FACTOR OF "1".

TOTAL EQUIVALENT SQUARE FOOTAGE _____

*__DO NOT__ INCLUDE ANY ROOF OVERHANGS OR UNCOVERED WALKS, TERRACE STEPS.

**MAKE YOUR OWN ESTIMATE OF "PROPORTIONAL FACTOR"

SEE REVERSE SIDE FOR COST INFO

FORM F5 (Page 2 of 2)

CONTRACT(S) INFORMATION:

1. All Prime Contracts	Amount
_____	$_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

Total Cost of All Contracts under Architect $_____

2. Sitework Costs Included in #1 Above

Storm Drainage	$_____
Clearing	_____
Grading	_____
Paving	_____
Walks	_____
Landscaping	_____
Stadium, Track	_____
Fencing, etc.	_____
_____	_____

Total Sitework Cost $_____

3. Equipment and Furnishings Costs Included in #1 Above

Kitchen Equipment	$_____
Science Equipment	_____
Library Equipment	_____
Lockers	_____
Gym Seating	_____
Auditorium Seating	_____
P/E Athletic	_____
Sewage Treatment Plant	_____
_____	_____
_____	_____
_____	_____

Total Equipment/ Furnishings Cost $_____

SQUARE FOOT COST INFORMATION

4. Total Equivalent Square S.F. Footage (See other side) _____

5. Total of All Prime Contracts (See #1) $ _____

6. Sitework Costs (See #2) $ _____

7. Equipment/Furnishings Costs (See #3) $ _____

8. Basic Building Cost (5-[6+7])** $ _____

9. Plumbing Contract $ _____

10. HVAC Contract $ _____

11. Electrical Contract $ _____

SUMMARY:

TOTAL SQ. FT. COST (5÷4)* $ _____

BASIC BUILDING SQ. FT. COST (8÷4** $ _____

PLUMBING SQ. FT. COST (9÷4) $ _____

HVAC SQ. FT. COST (10÷4) $ _____

ELECTRICAL SQ. FT. COST (11÷4) $ _____

***"TOTAL COST" INCLUDES ALL CONTRACTS UNDER THE ARCHITECTS JURISDICTION. IT DOES NOT INCLUDE CONTRACTS LET SEPARATELY BY THE SCHOOL DISTRICT, NOR DOES IT INCLUDE LAND COSTS OR A/E OR CONSTRUCTION MANAGEMENT FEES.

****"BASIC BUILDING COST" IS THE TOTAL COST WITH THE ITEMS THAT ARE VARIABLE FROM ONE PROJECT TO ANOTHER DEDUCTED, SUCH AS SITEWORK, WHICH VARIOUS CONSIDERABLY DUE TO TERRAIN AND OTHER FACTORS, AS WELL AS EQUIPMENT AND FURNITURE COSTS THAT MAY BE INCLUDED IN ONE PROJECT BUT NOT IN ANOTHER. BASIC BUILDING SQUARE FOOT COST IS A MORE EQUITABLE WAY OF COMPARING THE ACTUAL COST OF ONE BUILDING TO ANOTHER.

FORM F6 PRELIMINARY INFORMATION FORM (Page 1 of 6)

SUBMIT ONE COPY OF THIS FORM TO DIRECTOR, OFFICE OF SCHOOL FACILITIES ALONG WITH SCHEMATIC PLAN SUBMITTAL

GENERAL INFORMATION DATE _____

PROJECT NAME_____

COUNTY _____ DISTRICT_____

SUPERINTENDENT _____

ARCHITECT _____

PLAN SUBMITTAL
- Schematic ( )
- Design Development ( )

PROJECT TYPE
- Elementary ( )
- Middle ( )
- Junior High ( )
- Senior High ( )
- Vocational ( )
- Other ( )

PROJECT DESCRIPTION
- All new Construction ( )
- Add. to Existing Building ( )
- Alterations or Renovations ( )

If existing Building(s) involved, date of Construction_____

GRADE LEVEL OF SCHOOL _____

ENROLLMENT DATA
- Building as Designed_____
- Estimated Ultimate Size _____

LIST ANY CORE AREAS DESIGNED LARGE ENOUGH TO ACCOMMODATE THE ESTIMATE ULTIMATE SIZE (SUCH AS ADMINISTRATION, MEDIA CENTER, CAFETERIA, ETC.)

_____ _____ _____

_____ _____ _____

_____ _____ _____

SQUARE FOOT AREAS
- 1st FLOOR _____
- 2nd FLOOR _____
- OTHER _____
- TOTAL _____

ESTIMATED COST PER SQ. FT. $ _____

TOTAL ESTIMATED PROJECT COST $ _____

REMARKS:

SITE INFORMATION

SITE SIZE/ACRES _____

DATE OF SITE APPROVAL BY THE OSF _____

INDICATE AVAILABLE UTILITIES

Electricity _____ Gas _____ Telephone _____

Water (Desirable Source) _____

Sewage Disposal (Describe) _____

ESTIMATED MEANS OF STUDENT TRANSPORTATION:
- Bus _____%
- Parents _____%
- Students' Car _____%
- Bicycle _____%
- Walk _____%

NUMBER OF PARKING SPACES REQUIRED
- Physically Disabled_____
- Visitors_____
- Administrative/Faculty_____
- Student Cars_____
- Kitchen Employees_____
- Custodians_____

RELATIVE TO PARENTS' PICK-UP OF STUDENTS AFTER SCHOOL, HOW MANY CARS SHOULD BE ALLOWED FOR IN STACK-UP LANE? _____

WILL BUSES BE PARKED ON SITE? _____
IF YES GIVE NO. OF FULL SIZED BUSES_____
NUMBER OF MINI BUSES _____

NOTE: Site facilities for PE/Athletics are to be listed under that section.

GENERAL CLASSROOMS

ELEMENTARY SCHOOL

NUMBER OF CLASSROOMS FOR EACH GRADE

1ST GRADE _____ 4TH GRADE _____
2ND GRADE _____ 5TH GRADE _____
3RD GRADE _____ 6TH GRADE _____

SECONDARY SCHOOL

Number of General Classrooms _____

FORM F6 (Page 2 of 6)

ADMINISTRATION

NUMBER OF ASSISTANT PRINCIPALS _____

PERSONNEL IN ADMINISTRATIVE SUITE: (In Addition to Principal or Assistant Principal)
Secretaries _____
Bookkeeper _____
Other _____
Other _____
Other _____

REMARKS:

GUIDANCE

ELEMENTARY SCHOOL
Is space provided for guidance counselors? _____

SECONDARY SCHOOL
Number of counselors that are required _____

Will future growth dictate additional counselors? _____

REMARKS:

KINDERGARTEN

TYPE OF KINDERGARTEN UNITS
Single-Session ( )
Double Session ( )

WILL KINDERGARTEN STUDENTS EAT IN CAFETERIA? _____

IS IT LIKELY THAT FUTURE GROWTH WILL DICTATE ADDITIONAL KINDERGARTEN UNITS?
_____

REMARKS:

GENERAL CLASSROOMS

ELEMENTARY SCHOOL
Number of Classrooms for each Grade:

1st Grade _____ 4th Grade _____
2nd Grade _____ 5th Grade _____
3rd Grade _____ 6th Grade _____

SPECIAL EDUCATION

TOTAL NUMBER OF SELF-CONTAINED CLASS-ROOMS _____

Indicate below the number of classrooms devoted **exclusively** for students with physical disabilities. (i.e., no "commingling").

EMH _____ PMH _____ LD _____ VH _____
TMH _____ EH _____ HH _____ OH _____

Indicate below the number of classrooms which will serve students with **more** than one physical disability.

NO. OF CR's NOTE VARIOUS CONDITIONS SERVED

_____
_____
_____

TOTAL NUMBER OF RESOURCE ROOMS
Indicate below the number of classrooms devoted **exclusively** for students with physical disabilities. (i.e. no commingling").

EMH _____ LD _____ VH _____
EH _____ HH _____ OH _____

Indicate below the number of classrooms which will serve students with **more** than one physical disability.

NO. OF CR's NOTE VARIOUS CONDITIONS SERVED

_____
_____
_____

TOTAL NUMBER OF ITINERANT PROGRAMS

Indicate below the number of classrooms devoted **exclusively** for students with physical disabilities. (i.e., no commingling).

EMH _____ LD. _____ VH _____ OH _____
EH _____ HH _____ Speech/Language _____
Psychological Testing and Vision/Hearing Screening _____

Indicate below the number of classrooms which will serve students with **more** than one physical disability.

NO. OF CR's NOTE VARIOUS CONDITIONS SERVED

_____
_____
_____

FORM F6 (Page 3 of 6)

MUSIC

ELEMENTARY SCHOOL

MUSIC TO BE TAUGHT IN:
- Separate Music Room ( )
- General Classroom ( )
- Other

MUSIC TO BE TAUGHT BY:
- Full-time Music Teacher ( )
- Classroom Teacher ( )
- Itinerate Music Teacher ( )
- Other _____

DESCRIBE PROGRAM

SECONDARY SCHOOL

BAND/ORCHESTRA LOCATED IN:
- Band/Orchestra Room ( )
- Other _____

CHORAL/VOCAL
- Choral/Vocal Room ( )

MAXIMUM NUMBER TO BE ACCOMMODATED
- Band _____
- Orchestra
- Vocal _____

BAND/ORCHESTRA FLOOR: Flat ( ) Tiered ( )

VOCAL FACILITIES FLOOR: Flat ( ) Tiered ( )

Or Vocal will use folding risers ( )

DO YOU ANTICIPATE COMMUNITY USE OF THE MUSIC FACILITY? _____

_____

WILL RESTROOMS BE AVAILABLE FOR AFTER-HOURS USE BY BAND/VOCAL STUDENTS? ___

CHECK IF THE FOLLOWING WILL BE PROVIDED.

Office(s)	( )	Library	( )
Instrument Storage	( )	Uniform Storage	( )
Instrument Repair	( )	Robe Storage	( )
Practice Rooms	( )	Drinking Water	( )
Ensemble Rehearsal Room	( )		

WILL THE BAND HAVE A SUITABLE OUTSIDE PRACTICE AREA? _____

DESCRIBE PROGRAM

MEDIA CENTER

NUMBER OF VOLUMES TO BE HOUSED
- Building as Designed _____
- Are you allowing for future growth?_____If so, how many volumes?_____

NUMBER OF STUDENTS TO SEATED
- At Tables _____
- At Carrels _____
- Lounge Furniture _____
- Other _____

IS THE READING ROOM SIZED TO ACCOMMODATE ANY ESTIMATED ULTIMATE GROWTH?

_____

IS VIDEO TAPE RECORDING CAPABILITY TO BE INCLUDED?_____

REMARKS

ART

ART TO BE TAUGHT IN:
- Separate Art Room ( )
- General Classroom ( )
- Other _____

ART TO BE TAUGHT BY:
- Full-time Art Teacher ( )
- Classroom Teacher ( )
- Itinerant Art Teacher ( )
- Other _____

IF SEPARATE ART ROOM, WILL IT BE SHARED WITH OTHER CURRICULA? _____
IF YES, DESCRIBE _____

DO YOU ANTICIPATE COMMUNITY USE OF THE ART FACILITY?_____

WILL OUTSIDE ART FACILITIES BE PROVIDED?

REMARKS

FORM F6 (Page 4 of 6)

P/E ATHLETICS

ELEMENTARY SCHOOL

WILL THERE BE AN INDOOR FACILITY? Yes ( )
(Such as Multipurpose Room or Gym) No ( )

NAME SPECIAL OUTDOOR FACILITIES
(Such as hard Surface Areas, Activity Field, etc.)

_____ _____
_____ _____

DO YOU ANTICIPATE COMMUNITY USE OF AN INDOOR FACILITY Yes ( ) No ( )

DESCRIBE PROGRAM

SECONDARY SCHOOL

GYMNASIUM
Number of Spectator Seats ___
Size of Basketball Court _____
Number of Cross Courts _____
Floor marked for what other games or activities? _____ ____
_____ ____
_____ ____

DRESSING ROOMS (Student Capacity) Maximum Number at One Time

Boys' PE _____
Girls' PE _____
Varsity Football _____
JV Football _____
Other Boys' Varsity _____
Girls' Varsity _____
Other _____

ARE THE DRESSING ROOMS SIZED FOR ANY ESTIMATED GROWTH FACTOR? Yes _____
No _____

NUMBER OF PE TEACHERS
Men _____ Women _____

NUMBER OF COACHES
(Include AD) Men _____ Women _____

NAME OF COMPETITIVE SPORTS:

Boys _____ Girls _____
_____ _____
_____ _____
_____ _____
_____ _____

DO YOU ANTICIPATE COMMUNITY USE OF THE GYMNASIUM? _____ OR OF THE DRESSING ROOMS? _____

REMARKS ABOUT PROGRAM OR INTERIOR FACILITIES

CHECK SITE FACILITIES TO BE PROVIDED:

Football Stadium _____
Running Track _____
Practice Football Field _____
Baseball Field _____
Softball Field _____
Soccer Field _____
Tennis _____
Band Practice Area _____
Public Concessions _____
Public Toilets _____
Other _____

IF A FOOTBALL STADIUM IS TO BE ON SITE, WILL A FIELD HOUSE BE PROVIDED FOR DRESSING? _____

OR WILL THE VISITING AND HOME TEAMS UTILIZE THE GYM DRESSING ROOMS? _____

DO YOU ANTICIPATE ANY ORGANIZED COMMUNITY USE OF THE SITE FACILITIES?

_____

REMARKS

FORM F6 (Page 5 of 6)

SCIENCE

INDICATE COURSE OFFERINGS
NUMBER OF SECTIONS

( ) 5th Grade Departmentalized Science _____
( ) 6th Grade Departmentalized Science _____
( ) 7th Grade General Science _____
( ) 7th Grade Life Science _____
( ) 8th Grade General Science _____
( ) 8th Grade Earth Science _____
( ) 9th Grade Physical Science _____
( ) 9th Grade General Science _____
( ) Biology I _____ ( ) Chemistry I _____
( ) Biology II _____ ( ) Chemistry II _____
( ) Physics _____
( ) Other (such as Honors Program, Astronomy, Marine Science, Environmental Education, etc):

_____ _____ _____ _____
_____ _____ _____ _____
_____ _____ _____ _____

WILL STUDENTS BE CONDUCTING INDIVIDUAL RESEARCH PROJECTS? _____
_____

WILL ALL THE SCIENCE ROOMS BE COMBINED LAB/LECTURE TYPE ROOMS (whether "island" or perimeter-type lab layout)? _____
IF NO, PLEASE INDICATE EXCEPTIONS BELOW.

INDICATE UTILITIES INCLUDED IN LAB/LECTURE ROOMS

Cold Water ( ) Electricity ( )
Hot Water ( ) Gas ( )

TYPE OF GAS Natural ( ) Propane ( )

WILL A GREENHOUSE BE INCLUDED? _____

CAFETERIA

ESTIMATED PERCENTAGE OF ENROLLED STUDENTS THAT WILL EAT LUNCH IN THE CAFETERIA %
THIS TRANSLATES INTO _____ (NUMBER) STUDENTS.

WHAT IS THE MAXIMUM NUMBER TO BE SEATED AT LUNCH AT ANY ONE SITTING: _____

IS THE CAFETERIA TO BE USED FOR OTHER FUNCTIONS, SUCH AS ASSEMBLY AREA, ETC.? _____ IF SO, WHAT IS MAXIMUM NUMNUMBER TO BE SEATED?

IS THE CAFETERIA SIZED TO ACCOMMODATE ANY ESTIMATED ULTIMATE GROWTH?

DO YOU ANTICIPATE COMMUNITY USE OF THE CAFETERIA?

REMARKS

KITCHEN

NO SPECIFIC INFORMATION ON THE KITCHEN AREA IS REQUIRED AS A PART OF THIS FORM.

However, there is a separate Program Data form prepared by the Office of School Food Services, South Carolina Department of Education, and it is recommended that the architect have this form completed by the school district, after which the architect should forward the form to the Office of School Food Services. That office will then consult with the districts' food service personnel after which specific recommendations will be made to the architect as to type of service, equipment list, general facilities, etc.

This correlation with the Office of School Food Services should take place before schematic or design development kitchen plans have been started.

The Facility Data Sheet may be obtained from the Office of School Food Services, 3710 Landmark Drive, Suite 300, Columbia, S.C. 29204; Phone 734-8188.

FORM F6 (Page 6 of 6)

VOCATIONAL

LIST OF VOCATIONAL SUBJECTS THAT WILL BE OFFERED FROM THE FOLLOWING GENERAL CATEGORIES.

AGRICULTURE

_____
_____
_____

BUSINESS EDUCATION (PERSONAL TYPING SHOULD
BE INCLUDED IN THIS CATEGORY)

_____
_____
_____

HEALTH OCCUPATIONS

_____
_____
_____

HOME ECONOMICS EDUCATION

_____
_____
_____

MARKETING & DISTRIBUTIVE EDUCATION

_____
_____
_____

INDUSTRIAL ARTS

_____
_____

TRADE & INDUSTRIAL EDUCATION

_____
_____
_____
_____
_____

REMARKS

BOOKROOM

SUMMER BOOK STORAGE
- One Central Room ( )
- More Than One Room ( )
- Classrooms ( )
- Other _____

NUMBER OF VOLUMES TO BE STORED
- Building as designed _____
- Are you allowing for future building additions? _____
- If so, how many volumes? __

WILL THE BOOKROOM ALSO BE USED FOR OTHER PURPOSES, SUCH AS GENERAL STORAGE? _____

REMARKS

LOCKERS

SECONDARY SCHOOLS
- Lockers will be in corridors or locker alcoves?_____

TYPE OF LOCKERS
- Single-Tier ( )
- Double-Tier ( )

REMARKS

TOILET FACILITIES

NOTE: COMPLETE THIS SECTION ONLY IF THE PROJECT IS
ADDITION TO AN EXISTING BUILDING OR CONCERNS
ALTERATIONS/ RENOVATIONS TO AN EXISTING BUILDING.

FOR EXISTING BUILDING, STATE NUMBER OF CLASSROOMS WITH INDIVIDUAL TOILETS _____

STATE NUMBER OF FIXTURES IN GROUP TOILETS OF EXISTING BUILDING

Boys: Water Closets _____
Urinals _____
Lavatories _____

Girls: Water Closets: _____
Lavatories _____
REMARKS:

FORM F7 PRELIMINARY SCHOOL BUS TRANSPORTATION INFORMATION FORM

Submit one copy of this form to the Assistant Director, Office of Transportation, 1429 Senate Street, Columbia, SC 29201, Phone # (803) 734-8247, Fax # (803) 734-8254, or E-mail **dhamrick@ed.sc.gov.**

GENERAL INFORMATION

PROJECT NAME: _____ DATE OF SUBMISSION: _____

COUNTY: _____ DISTRICT: _____

SUPERINTENDENT: _____

ARCHITECT: _____ CONTACT #: _____

PROJECT TYPE:
- Elementary ( )
- Middle ( )
- Junior High ( )
- Senior High ( )
- Other ( ) Explain: _____

PROJECT DESCRIPTION:
- All New Construction ( )
- Add to Existing Building ( )
- Alterations or Renovations ( )

GRADE RANGE OF SCHOOL: _____ Grade Through _____ Grade

ENROLLMENT DATA
- Building as Designed: _____ # of Students
- Estimated Ultimate Size: _____ # of Students

WILL SCHOOL BUSES BE PARKED ON SITE? **YES** **NO**

IF THE ANSWER IS YES, ANSWER THE FOLLOWING SITE INFORMATION QUESTIONS.

1. Number of School Bus Parking Spaces Provided on Hard Surface: _____ (space = 40' x 15')
2. Is Access to Proposed School Bus Parking Facility Separated From Other Vehicle Property Access? YES NO
3. Is The Parking Facility Adequately Drained, With a Slope That Will Allow for the Safe Parking and Servicing of School Buses? YES NO
4. Is Student Walking, Bicycle, and Car Traffic Adequately Separated From School Bus Parking Facility? YES NO
5. Is The School Bus Parking Facility More Than 50 Feet From Buildings & Student Play Areas? YES NO
6. Can The School Bus Parking Facility Be Adequately Secured? YES NO
7. Is School Bus Traffic Circulation Acceptable Within the Parking Facility? (Buses are not to back up.) YES NO

State law, Article 5. Transportation Regulation 43-80 L., must be adhered to.

"The school district shall provide for safe loading and unloading of students and a suitable concrete or asphalt-paved area for the parking and servicing of buses during the school hours. The parking and service area shall be located and designed to insure that vehicular traffic, students or unauthorized personnel are not in or around parked buses during the school day and shall be in compliance with all safety and fire regulations."