

SOUTH CAROLINA MINIMUM SPECIFICATIONS GUIDE FOR RELOCATABLE CLASSROOMS

Prepared by

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1993

SOUTH CAROLINA DEPARTMENT OF EDUCATION

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State Superintendent of Education

An Equal Opportunity Agency

**SOUTH CAROLINA DEPARTMENT OF EDUCATION
OFFICE OF DISTRICT FACILITIES MANAGEMENT
RELOCATABLE CLASSROOMS**

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DIVISION 01100 GENERAL REQUIREMENTS

01101 PURPOSE AND COMPLIANCE

1. To provide a guide to local school districts to assist them in determining the feasibility of RELOCATABLE classroom units for their school needs to set forth certain minimum mandatory requirements that must be complied with by any manufacturer, vendor and/or contractor supplying a RELOCATABLE classroom unit for use in the Public School System of the State of South Carolina.
2. To set minimum safety and utility requirements for RELOCATABLE classroom units regardless of the manufacturer, vendor and/or contractor.
3. To assure local school districts of a RELOCATABLE classroom meeting the above mentioned requirements and at the same time give them the freedom of selection as to the particular make and model of a RELOCATABLE unit they desire to place under contract, after considering competitive quotations or bids, or give the local school district the option of building a RELOCATABLE classroom themselves.
4. All unit manufacturers, vendors and/or contractors **shall** obtain written approval of their product prior to entering a contract with any school districts for sale or erection of any RELOCATABLE classroom units. This requirement must be complied with regardless of the source of funds to be used by school district to meet the financial terms of any proposed contract. Request for approval **shall** be submitted in writing to the Office of District Facilities Management. At time of request for approval, plans, specifications, and other pertinent data should be submitted for use of this office. Such submitted material will be considered before a decision is reached as to the acceptability of the product. No deviation from a manufacturer's approved plans **shall** be allowed unless a request in writing from a school district is made to the Office of District Facilities Management prior to bidding. Any deviations that are approved by ODFM will be so stated in a letter to the district by ODFM. This letter **shall** be included in the district's request for bids. No deviations will be approved after bidding.
5. Code sections referenced in this Guide are from the 1991 Standard Building Codes with 1993 revisions.
6. These regulations shall apply to new RELOCATABLE classrooms.

01102 AUTHORITY

1. Section 59-5-60, 1976 South Carolina Code of Laws, 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 herein adopted are deemed to have the effect of law.

2. This Guide supersedes all contents of a previous guide of similar title dated 1966 and amended May 15, 1981, May 22, 1979, July 11, 1972 and October 6, 1989.

01103 DEFINITIONS

1. The words “shall”, “must”, “specify that”, “will” and the like as used herein indicate a mandate. “May”, “should”, “it is recommended that” and such indicate an option to be decided by the school district, architect and/or manufacturer.
2. ODFM – Abbreviation for Office of District Facilities Management.
3. **RELOCATABLE CLASSROOM UNIT**
 - a) A **RELOCATABLE** classroom unit is one that can be moved from one location to another with relative ease. The unit **shall** be constructed so it can be delivered to a school site totally complete or in prefabricated sections allowing a minimum of on site construction. It may also be constructed on site provided it meets the necessary criteria for ease of relocation.
 - b) Relocation is accomplished by moving the unit intact or by dismantling the unit into sections to the extent that it can be moved over public roads to a new site, and reinstalled with a minimum of construction.

01104 CONSTRUCTION OPTIONS

1. School Districts have the option of selecting one of three methods of obtaining **RELOCATABLE** units. Details of procedures, funding, and construction methods are explained in the following divisions.
 - a) Option 1 – Manufactured units – Division 01300 – these units **shall** be prefabricated by manufacturers previously approved by ODFM.
 - b) Option II – Site constructed units designed by an architect and constructed by a licensed general contractor – Division 01400.
 - c) Option III – Site constructed units designed by an architect and constructed by district personnel or vocational students – Division 01500.

01105 PERMITTED USES

1. **RELOCATABLE** units shall be used for only those purposes listed below.
 - a) General Classrooms
 - b) Kindergarten
 - c) Special Education Resource Rooms
 - d) Title I Remedial Classrooms
 - e) Study Halls

2. The use of RELOCATABLE units for self-contained special education classes, although not recommended, will be permitted only if the units are modified to provide proper facilities for students.
3. Great care should be taken to assure that severely/profoundly handicapped students, in any handicapped condition, are placed in as safe a building as feasible. This may require consideration to remodel an existing classroom, in a permanent “noncombustible” building, in lieu of using a RELOCATABLE unit. Prior to committing a RELOCATABLE unit for such use, the ODFM and the Office of Exceptional Children **shall** be contacted for their approval.
4. All revisions to approved plans or specifications **shall** be submitted to the ODFM by the school district prior to advertising the project or constructing the unit on site. The ODFM will determine, in each case, if the proposed revisions are of such extent that an architect or engineer will be required to assist the district in preparing the proper documents for competitive bidding.

01106 CODES AND STANDARDS

1. The following Codes and Standards (as published at the time of bidding the project) **shall** govern minimum requirements:
 - a) Standard Building Plumbing, Mechanical & Gas Codes (as published by Southern Building Code Congress International, Birmingham, Ala.) and all referenced codes and standards therein, and the National Electrical Code (as published by the National Fire Protection Association).
 - b) All Codes and Standards referred to in the Plumbing, Mechanical and Electrical Division of this Guide.
 - c) Where the Standard Building Code or other referenced Codes or Standards do not adequately provide for every contingency, conformance with NFPA Standards, American National Standards Institute or other referenced standards, **shall** be evidence of compliance with the intent of this Guide. Provisions of the applicable referenced Code or Standard **shall** be followed unless deviation is previously approved by the Office of District Facilities Management.
2. Conflicts **shall** be resolved as follows:
 - a) Where county or municipal codes and/or ordinances at the intended location of the unit are at variance with the adopted Codes or Standards or other provisions of this Guide, the most stringent requirements **shall** govern.

- b) Where this Guide is specific and is at variance with a Code or Standard referenced herein, other than a state, county or municipal statute or code, this guide **shall** govern whether more or less stringent.

3. Types of Construction:

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

Type VI – Minimum for all units

Type V – Optional but may be required by more stringent local codes such as unit being located in a fire district

Type IV, III, II – Optional

4. Structural Design

- a) The structural design and construction documents **shall** be prepared by a structural engineer registered in the State of South Carolina, and **shall** meet minimum design loads required by Chapter XII of the SBC.
 - 1. Dead loads **shall** comply with Chapter 12 of the Standard Building Code.
 - 2. Live loads **shall** comply with Chapter 12 of the Standard Building Code.
 - 3. Design of wind loads **shall** comply with Section 1205 of the SBC for coastal regions of 110 MPH, 100 year reoccurrence of fastest mile of wind.
 - 4. Seismic design loads for Seismic Zone 2 as outlined in Chapter 12 of SBC. Zone 2 **shall** be used for all units.

01107 ENERGY EFFICIENCY STANDARDS

The entire design including architectural, mechanical and electrical portions **shall** be designed in accordance with South Carolina Building Energy Efficiency Standard Act (amended January 1, 1993) and appendix “E” of the Standard Building Code.

01108 BARRIER FREE DESIGN

- 1. South Carolina has enacted legislation (ACT 1191) in 1974 which created the State Board for Barrier Free Design. This Board has established its rules and regulations including a building design standard for making buildings accessible to the handicapped.

2. The design standard adopted by the Board is Section 508, as modified, of the Standard Building Code, and supplemented by the American National Standards Institute ANSI A-117.1. A complete description of the Board's rules and regulations and the design standard is available in a technical illustrated manual, available from the Barrier Free Design Board.
3. "An Illustrated Manual of Barrier Free Design", edition in effect at time of submission of design development drawings, is available from:

South Carolina Building Codes Council
1201 Main Street
Suite 820
Columbia, South Carolina 29201
803-737-0566
4. The above referenced manual is considered to be part of this manual for public school design, and it contains the mandatory minimum requirements for making buildings accessible to the handicapped in South Carolina.
5. Only one ramp per classroom unit is required for handicapped students and this ramp does not have to be installed unless a handicapped student is to be served by the unit.

01109 PLANS AND SPECIFICATIONS

1. Complete construction documents and specifications for the manufacture of RELOCATABLE classrooms **shall** be developed by an architect, structural engineer, mechanical engineer, plumbing engineer and electrical engineer licensed to practice in the State of South Carolina. Plans that meet the requirements of this guide **shall** be developed and submitted to ODFM for approval. Said plans **shall** have seals and registration number permanently affixed to all tracings. The architect and engineers noted above **shall** not be an employee of a portable manufacturer that is requesting approval to manufacture portable classrooms. Plans **shall** include at least.
 - a) Foundation Plan
 - b) Floor Plans
 - c) All 4 Elevations
 - d) Wall Sections
 - e) Mechanical & Plumbing Plans
 - f) Electrical Plan
2. Each manufacturer **shall** submit plans on all or any combination of the following unit types for approval:
 - a) Single classroom unit for grades 1-12
 - b) Double classroom unit for grades 1-12
 - c) Kindergarten classroom unit for early childhood development and kindergarten classes

- d) Gang toilet unit
3. A manufacturer can only submit bids to school districts on unit types listed above that have been pre-approved. Submitting bids on units that have not been pre-approved can be grounds for removal from the approved manufacturer's list.
 4. RELOCATABLE manufacturer **shall** furnish one complete set of plans and specifications for each type of unit furnished to the school district upon signing of the contract.
 5. Every classroom in a RELOCATABLE unit **shall** have a handicap toilet that complies with Section 4.22 of ANSI A117.1, latest edition, with an accessible water closet and accessible lavatory as a standard. (Toilet can be omitted for grades 3-12 provided the provisions in Section 01201, par.2 are met and written approval from ODFM is obtained prior to bidding. Approval letter from ODFM **shall** be made a part of the bid package.)
 6. If a district requests a bid on a unit other than the one listed in par.2 above, the following procedure is to be followed.
 - a) If the desired use will fit within the 4 walls of one of the approved units listed in par.2 above, the district **shall** submit to ODFM the interior modifications for approval prior to bidding. Depending on the scope of the modifications, ODFM will determine what type of engineering drawings will have to be submitted to ODFM by the successful bidder. The district **shall** include this requirement in the request for bids.
 - b) If the desired use will not fit within the 4 walls of one of the approved units listed in Par. 2 above, the successful manufacturer **shall** submit a complete set of plans for this new unit as outlined in par.1 above, prior to manufacture of unit. This approved plan will then be added to the manufacturer's approved plan list.

01110 DIMENSION REQUIREMENTS

1. Each unit **shall** be constructed according to the **minimums** below:
 - a) Floor to ceiling 8'-0"
 - b) Exterior width of box 22' min. 24' max
 - c) Gross floor area
 - aa) Units for kindergarten 1041 sq. ft. min.
 - bb) Units for grades 1-12 – 762 sq. ft. min.
 - cc) Double unit (2 classrooms in one unit) for grades 1-12 – 1524 total sq. ft. min.
 - dd) A single wide "gang" toilet unit – 384 sq. ft. min.

0111 BOND AND CONTRACT REQUIREMENTS

1. Required Bonds

- a) Each formal quotation or bid for furnishing and/or constructing one or more RELOCATABLE units **shall** be accompanied by a 5% Bid Bond or Certified Cashier's check. Period of bond to be for 60 days.
- b) At time of entering a formal contract the manufacturer, vendor and/or contractor **shall** furnish the school contracting authorities with a 100% Performance and Payment Bond. Period of bond to be for 1 year after final acceptance. In lieu of a bond, the district may elect to make one payment to manufacturer when job is complete.
- c) Bond required by paragraphs 1 and 2 above **shall** be issued by a company legally licensed to write such bonds in the State of South Carolina.
- d) Include dates or commencement and completion of work in contract. Notify the ODFM immediately at time of completion of installation.
- e) Include a clause in the contract allowing withholding of 10% of contract amount for a period of 30 days after completion of installation. Withholding of the 10% shall be mandatory. Look for deficiencies during this thirty-day period and have contractor correct them prior to final payment.

01112 GUARANTEES & WARRANTIES

At completion of the project, manufacturer/contractor **shall** furnish the district all guarantees/warranties for materials or equipment used in construction of units.

01113 SURPLUS MATERIAL

- 1. At completion of project, manufacturer/contractor **shall** furnish to the owner an appropriate amount of the following materials for repairs.
 - a) Floor tile, base
 - b) Carpet
 - c) Shingles

01114 SUBSTITUTION OF EQUAL PRODUCTS

- 1. Reference in this Guide to any device, product or fixture by name, make or catalog number **shall** not be construed as limiting competition and the manufacturer/contractor may, at his option, use any device, product or fixture which has been submitted as required below to the ODFM and in its judgement, expressed in writing, is equal to that specified. If a catalog number listed in this Guide is discontinued, a product of like quality **shall** be used.

2. A request for substitution **shall** be submitted in writing and include complete data on the proposed substitution, substantiating compliance with the specifications, including product identification and description, performance and test data, reference and samples where applicable. The decision as to whether a product is equal **shall** be made by ODFM.

DIVISION 01200 PRELIMINARY PROCEDURES AND SITE REQUIREMENTS

01201 SITE PLAN

1. The ODFM **shall** review and approve the proposed location of all RELOCATABLE units. A site plan shall be submitted prior to advertising for bids or beginning on site construction if built by the school district.
2. A site plan, at an appropriate scale, **shall** be prepared by the district. If a scaled plan is not available, the district may submit a dimensional sketch. The following **shall** be shown on the plan.
 - a) All boundaries, buildings and other developments including the proposed location of new RELOCATABLE units.
 - b) Distances between the proposed RELOCATABLE units and all other structures **shall** be dimensioned.
 - c) If the proposed RELOCATABLE units will not have restrooms, indicate the locations of restrooms within existing buildings that will normally serve students using the proposed units.
 - d) If the proposed RELOCATABLE units will not have restrooms, the district **shall** submit a letter, signed by a registered architect or engineer, stating that a toilet fixture count of the existing building has been made as outlined in the Standard Plumbing Code using the total number of students that will be enrolled and that there are sufficient toilets within 200 ft. walking distance of the new RELOCATABLE classroom. If there are not adequate fixtures in existing building within 200 ft., the new unit **shall** have a restroom in it.
3. The following information **shall** be submitted with the required site plan.
 - a) The proposed use of the RELOCATABLE classroom unit(s).
 - b) The grade level and number of students to be housed in each proposed unit.
 - c) The total number of RELOCATABLE classroom units presently in use at the school.
 - d) The present school enrollment.

- e) The increase in enrollment caused by the RELOCATABLE units.
- f) The anticipated length of time the unit(s) will be used.

01202 SITE REQUIREMENTS

1. Compliance with the items listed below shall be the responsibility of the school district.
 - a) Accessibility to existing power lines, water and sewer lines **shall** be considered in unit locations.
 - b) Units **shall** not be located over septic tanks, drain fields, manholes, catch basins, oil tanks or gas lines. Consideration should be given before locating units over any other utilities.
 - c) Units serving students in grades K-2 **shall** contain a handicap accessible toilet and a 5' cabinet with sink located outside of the toilet area.
 - d) Units serving students above the 2nd grade level, and not containing restrooms, should not be located more than 200 feet walking distance to existing restrooms for boys and girls, see par.2.c and 2.d of 01201, above.
 - e) The location of all kindergarten units **shall** allow for access to a fenced playground area.
2. Site Clearing and Grading
 - a) Work should be completed in a timely manner so as not to delay construction or installation of units.
 - b) All sites **shall** be graded to provide drainage away from all sides of unit.
 - c) The area under the unit **shall** have all vegetation, stumps, roots and foreign material removed and any fill material **shall** be free of vegetation and foreign material. The fill **shall** be properly compacted to assure adequate support of the foundation.
 - d) All work outlined above **shall** be done by school district unless clearly noted otherwise on request for bids.
3. Utilities
 - a) The school district **shall** install all utilities necessary for unit operation unless clearly noted otherwise in request for bids. These utilities **shall** be connected to the unit at connections provided by the manufacturer or contractor. The

school district **shall** notify the manufacturer or contractor whether power will be furnished to the unit by overhead or underground means.

4. Walks and Covered Walkways

- a) It is recommended that walks be provided to all units from permanent buildings or existing walks. The type of walk installed should be based on length of time a unit will remain in place as well as Barrier Free Design requirements.
- b) The school district **shall** install all walkways and covered walkway structures as required unless clearly noted otherwise in request for bids.

5. Steps, Landings and Ramps

- a) The manufacturer/builder of each unit **shall** furnish a step and/or ramp as required at each exterior door of unit.
 - aa) Make steps and landing two feet wider than door width. Steps and landing **shall** have a handrail (or guardrail if more than 30" above finish grade) on each side of door. Landing **shall** project a minimum of 4'0" from door.
 - bb) If unit is to be used by the handicapped, one ramp complying with the latest edition of ANSI **shall** be installed at one door to unit.
 - cc) If steps and/or ramps are of wood, they **shall** be constructed with treated lumber as outlined in Section 06102 of this Guide. They **shall** be coated with 2 coats of semi-transparent stain.
 - dd) Steps and ramps **shall** be anchored so displacement from doorway is impossible while unit is in service.

01203 MINIMUM SEPARATION DISTANCES

1. Siting requirements: (regardless of the type of construction)

- a) Minimum distance between a RELOCATABLE unit and –
 - aa) Any permanent school building or structure **shall** be 30 ft.
 - bb) Another RELOCATABLE unit **shall** be 30 ft. when an entrance wall of one unit faces an entrance wall of the opposite unit. This applies whether entrance is on the side or end.

- cc) Another RELOCATABLE unit **shall** be 20 ft. when an entrance wall of one unit faces the rear window wall of the opposite unit. This applies whether entrance is on the side or end.
 - dd) Another RELOCATABLE unit **shall** be 10 ft. when units are lined in a row end to end with all doors facing same direction.
 - ee) Another RELOCATABLE unit **shall** be 20 ft. when an entrance of one unit faces an end or windowless wall of the opposite unit. This applies whether the entrance is on the side or end.
- b) In all cases, location shall not prohibit access to all buildings and to all RELOCATABLES by emergency vehicles and equipment.
 - c) Check zoning laws to make sure location is not in conflict with any local ordinance that defines location restrictions and/or environmental restrictions.

01204 FEDERAL FUNDING (CHAPTER I) OF UNITS

The required site approval information in 01201 and 01202 **shall** be submitted through the DEPARTMENT OF EDUCATION CHAPTER I GRANTS OFFICE at the time the program justification is submitted. The Title I office will forward the appropriate data to the ODFM for review and approval.

DIVISION 01300 CONSTRUCTION OPTION I

01301 DEFINITION

Units constructed under this option **shall** be prefabricated by manufacturers previously approved by ODFM. The units **shall** be delivered to the site complete or in sections requiring only a minimum of on-site construction. The manufacturer is responsible for the manufacture, delivery and set-up of units. Units may be purchased with state, federal or local funds.

01302 APPROVAL OF MANUFACTURER

1. For approval to manufacture RELOCATABLE classroom units in South Carolina, the ODFM requires the following:
 - a) A complete Manufacturer's Qualification and Financial Statement **shall** be submitted to ODFM. This statement **shall** be submitted by the company that will be named on contracts with school districts. This statement **shall** show that said company has the personnel and financial backing needed to fulfill all contracts that they may enter into with any district.

- b) Copies of manufacturers' South Carolina Bidders License and unlimited General Contractor License, with a Building Classification, regardless of the dollar amount of contracts. Information may be obtained from:

Contractor's Licensing Board
1300 Pickens Street, Room 118
Post Office Box 5737
Columbia, South Carolina 29250
803-734-8954

- c) Copies of the manufacturer's Certificate of License from the South Carolina Building Codes Council as required by the South Carolina Modular Buildings Construction Act of 1984. Information may be obtained from:

South Carolina Modular Board of Appeals
1201 Main Street
Suite 820
Columbia, South Carolina 29201
803-737-0568

- d) Copies of complete construction documents and specifications as outlined in Division 01109 of this Guide. The architect and engineers mentioned in 01109 SHALL NOT be in the employment of the modular manufacturer. The plans **shall** also have the approval stamps of the third party inspectors and the South Carolina Building Codes Council permanently affixed to each tracing and to the specifications.
- e) The above-cited licenses must be maintained current to remain on the approved list.
- f) Upon approval, the manufacturer's name will be added to the approved bidders' list and made available to all school districts in South Carolina.

2. Plant Inspections

- a) The ODFM will inspect all manufacturing facilities as a part of the initial approval review. The ODFM reserves the right to inspect the facilities at any time after approval.

3. Periodic Approval Review

- a) Review for continued approved status will be made by ODFM to insure compliance with current regulations. This review will occur periodically unless otherwise warranted by problems with a manufacturer or his units.

4. Cancellation of Approval

- a) The ODFM **shall** remove a manufacturer from the approved bidders' list, permanently or temporarily, if it is determined to be in the best interest of the school districts. Whether a manufacturer is removed permanently or not will be considered on an individual case basis and is dependent upon the type of problem or problems involved.

5. Manufacturer Certification

- a) Each unit **shall** have, permanently attached, a data plate with the following data:
 - 1. Name and address of manufacturer
 - 2. Identifying number
 - 3. Month and year of manufacturer
- b) The manufacturer will furnish to the school district, for each unit, certification that the unit has been designed and constructed in accordance with the S.C. Minimum Specifications Guide for RELOCATABLE Classrooms, and a complete set of plans and specifications for each type of unit furnished. The statement of certification **shall** include the information on the data plate attached to each unit. A copy of each certificate **shall** be forwarded to the Office of District Facilities Management at the completion of the contract by the manufacturer.

01303 BIDDING PROCEDURES USING STATE OR FEDERAL (CHAPTER I) FUNDS

- 1. Use of State or Federal Funds for the purchase of RELOCATABLE units mandates competitive bidding using the procedures described below:
 - a) An invitation to bidders **shall** be sent by registered mail to all approved manufacturers. The bid date **shall** be no less than fifteen (15) days from date the invitations are postmarked. A bid proposal and instructions to bidders **shall** be enclosed with the invitation.
 - b) All bids **shall** be opened in public at the same time, and **shall** be recorded in the minutes of the proceedings. Award **shall** be made to the lowest responsible bidder taking into consideration quality of workmanship, satisfactory performance, and whether the bidder's past record indicates reasonable completion of jobs on schedule. The right to reject any and all bids **shall** be reserved by the school district. If the intention is to award the contract to anyone other than the low bidder, ODFM must be first notified. In addition, if any State Funds are to be used, the State Board of Education **shall** approve all contracts with anyone other than the low bidder before they are signed. If Federal Funds are to be used, the Chapter I Office must first approve a contract to anyone other than the low bidder.

01304 PURCHASE PROCEDURE USING LOCAL FUNDS

All RELOCATABLE classroom units purchased with local funds **shall** be purchased as required by the district's procurement code. It is recommended that units be purchased using the procedure as outlined in Section 01303.

01305 CONDITIONS OF CONTRACT

Conditions of the contract, such as owner insurance, contractor/manufacturer insurance, completion time, payments, etc., should be addressed in the General Conditions of the RELOCATABLE unit specifications. These General Conditions and added special conditions necessary for a particular project are the responsibility of the school district.

01306 SUBMITTALS AFTER AWARD OF CONTRACT

1. District

The following information **shall** be submitted to ODFM by the district:

- a) Copy of "Invitation to Bid" to each approved bidder
- b) Bid Tabulation
- c) Copy of signed contract
- d) Copy of Performance/Labor & Material Bond (if required by district)

2. Manufacturer

The following information shall be submitted to ODFM upon contract award by the unit manufacturer:

- a) School district purchasing units, unit locations, number and type of units
- b) Approximate date of beginning and completion of production
- c) Approximate date of beginning and completion of installation.

01307 UNIT INSPECTION

- 1. The inspection of RELOCATABLE units is the responsibility of the school district and should be made during installation by a qualified person. If the district does not have anyone on its staff qualified to handle the inspections, then the district should employ an architect, engineer or other qualified person to perform the inspections.
- 2. The ODFM may inspect units on a "spot" basis both during construction and installation. Although ODFM will not inspect each unit, it will assist the district on problems that cannot be resolved with the manufacturer.

3. The school district should request an inspection, **before final payment or occupancy**, by the local building official, fire inspector or district fire marshal to assure compliance with applicable regulations, codes or laws.

DIVISION 01400 CONSTRUCTION OPTION II

01401 DEFINITION

Units under this option are designed by an architect and constructed on school property by licensed general contractors. Units may be purchased with State, Federal or Local Funds. ODFM **shall** be notified in writing when a district decides to use this option.

01402 PLANS AND SPECIFICATIONS

1. Plans and specifications **shall** be developed by an architect as outlined in this Guide.
2. The district **shall** hire an architect as outlined in the district's Procurement Code.
3. The district's architect **shall** design the RELOCATABLE classroom as outlined in this Guide.
4. Before plans for unit are advertised, the district's architect **shall** submit the plans to ODFM for approval.
5. After the plans are approved, the district will be given permission by ODFM to advertise for bids as outlined below.
6. At the completion of construction of unit, the district **shall** be furnished a copy of as-built drawings of constructed unit.

01403 BIDDING PROCEDURES USING STATE OR FEDERAL (CHAPTER I) FUNDS

1. Use of State or Federal Funds for the purchase of RELOCATABLE units mandates competitive bidding using the procedure described below.
 - a) Advertisement for competitive bids shall be published at least two (2) times over a period of thirty (30) days in a newspaper of general circulation in the state. They **shall** be placed in at least one of the morning newspapers (preferably on Sunday) in Charleston, Columbia or Greenville, depending on the geographic location of the project. The advertising period of thirty (30) days may include the day the advertisement first appears in the newspaper and the day of taking bids.

- b) All bids **shall** be opened in public at the same time. Award **shall** be made to the lowest responsible bidder taking into consideration quality of workmanship, satisfactory performance, and whether the bidder's past record indicates satisfactory completion of jobs on schedule. The right to reject any and all bids **shall** be reserved by the school district. If the intention is to award to anyone other than the low bidder, the Office of District Facilities Management must first be notified before a contract is signed. In addition, if any State Funds are to be used, the State Board of Education **shall** approve all contracts with anyone other than low bidder before they are signed. If Federal Funds are to be used, the Chapter I Office must first approve a contract to anyone other than the low bidder.

01404 PURCHASE PROCEDURES USING LOCAL FUNDS

All RELOCATABLE classroom units purchased with local funds shall be purchased as required by the district's Procurement Code. It is recommended that units be purchased using the same procedure as in 01303.

01405 CONDITIONS OF THE CONTRACT

Conditions of the contract such as owner insurance, contractor/manufacturer insurance, completion time, payments, etc. should be addressed in the General Conditions of the RELOCATABLE unit specifications. These General Conditions and added special conditions necessary for a particular project are the responsibility of the school district.

01406 SUBMITTALS AFTER AWARD OF CONTRACT

- 1. District

The following information **shall** be submitted to ODFM by the district.

- a) Certification of newspaper advertisement
- b) Bid tabulation
- c) Copy of signed contract
- d) Copy of Performance/Labor and Material Bond (if required by district)

01407 UNIT INSPECTION

- 1. The inspection of RELOCATABLE units is the responsibility of the school district's architect during construction.
- 2. ODFM may inspect units on a "spot" basis during construction. Although ODFM will not inspect each unit, it will assist the district on problems that cannot be resolved with the contractor.

3. The school district should request an inspection, before final payment or occupancy, by the local building official, fire inspector or district fire marshal to assure compliance with applicable regulations, codes or laws.

DIVISION 01500 CONSTRUCTION OPTION III

01501 DEFINITION

1. A district may wish to construct a RELOCATABLE classroom using its own maintenance forces (and/or possibly vocational students), plus perhaps some outside subcontractors. The district thus acting as its own contractor **shall** be permissible under certain conditions, some of which are mandated by the S.C. Contractor's Licensing Board.
 - a) Prior approval **shall** first be obtained from ODFM.
 - b) Complete architectural and/or engineering services **shall** still be required as outlined in Section 01110.
 - c) Project financing **shall** be entirely by "local" money. State or Federal funds **shall not** be used for construction under this option.
 - d) The qualifications of the person proposed to be the construction superintendent **shall** be submitted to ODFM for prior review and approval.
 - e) The cost of the work **shall not** exceed \$30,000, if in the realm of general contracting, or \$17,500 if in the realm of mechanical contracting, unless the person acting as the construction superintendent is properly licensed as a contractor in the applicable category (a contractor's license can be obtained from the S.C. Contractor's Licensing Board, which is restricted to superintending only, wherein the applicant would not be required to submit a certified financial statement or letter of bonding capability).

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 ODFM based on the current square foot cost of school construction, adjusted for any anticipated savings.
 - f) The requirements of this Guide, while written primarily for the single contract method of public bid, **shall** also apply to construction by a district with exceptions in this division.
 - g) The district should consult legal counsel about contracts, bonds and insurance requirements for any subcontractors, and also about its own insurance requirements, use of student labor, and any other matters wherein liability could be incurred.

01502 PLANS AND SPECIFICATIONS

1. Plans and specifications shall be developed by an architect as outlined in this Guide.
2. The district **shall** hire an architect as outlined in the district's Procurement Code.
3. The district's architect **shall** design the RELOCATABLE classroom as outlined in this Guide.
4. Before the unit is constructed, the district's architect **shall** submit the plans to ODFM for approval.
5. After the plans are approved, the district will be given permission to construct the unit.
6. At the completion of construction of unit, the district **shall** be furnished a copy of as-built drawings of constructed unit.

01503 PURCHASE PROCEDURES

Since only local money can be used for this construction option, there is no requirement for public advertising on bidding. The district **shall** follow all procedures as outlined in the district's Procurement Code. The district may elect to hire subcontractors for portions of the work and this may be accomplished by bidding. The extent of contracts and bonds furnished by subcontractors should be determined by the district.

01504 UNIT INSPECTION

1. The inspection of RELOCATABLE units is the responsibility of the school district and should be made during construction by a qualified person. If the district does not have anyone on its staff qualified to handle the inspections, the district should require its architect or another qualified person to perform the inspections.
2. ODFM may inspect units on a "spot" basis during construction. Although the ODFM will not inspect each unit, it will assist the district on problems that cannot be resolved with subcontractors.
3. The school district should request inspection, before final payment or occupancy, by the local building official, fire inspector or district fire marshal to assure compliance with applicable regulations, codes or laws.

DIVISION 02000 SITE WORK

02100 CLEARING & GRADING SITE WORK

02101 GENERAL

1. Responsibility of District:

- a) Complete preliminary clearing and/or machine grading and compaction of the building area to 95% density prior to arrival of RELOCATABLE classroom.
- b) Provide necessary utility lines to tie-in points at each unit and make tie-ins

NOTE: Items called for in paragraph 1 and 2 above may be performed under separate contract or by local school forces. If desired, they may be incorporated in the contract with the RELOCATABLE classroom manufacturer; however, if this is done, specific details must be included in the terms of the contract and in the advertisement for bids.

02102 FOOTING EXCAVATION

- 1. Excavation **shall** be made so footing tops set at minimum 4" below finish grade; bottom of footing **shall** sit on level firm soil, compact as necessary; set footings with transit. Soil bearing capacity for standard footing **shall** be assumed to be 2000 PSI unless actual soil test determines otherwise.
- 2. 16" minimum crawl space shall be maintained below lowest part of structure.

02103 FINISH GRADING

Fine grade all areas of disturbed soil adjacent to unit to assure drainage of water away from unit and leave area ready for grassing.

DIVISION 04000 MASONRY

04100 CONCRETE MASONRY UNITS

04101 MATERIAL

Standard weight concrete block

- a) Nominal 4"x 8"x16" solid
- b) Nominal 8"x 8"x16" standard hollow core
- c) Mortar: Type S, when required

04102 WORKMANSHIP

- 1. Footing: Block set on firm, level earth; 2 layers of (2) solid 4"x 8"x16" blocks, bottom layer long side parallel to exterior wall; top layer turned 90 degrees.
- 2. 8"x 8"x16" block set plumb with a full bearing cap of solid 4"x 8"x16" block. Maximum height of pier (from footing top to cap top) with unfilled cores is 28". Max. height with cores filled with mortar is 44".

3. Piers over 44” high **shall** be designed by a registered structural engineer and constructed accordingly.

DIVISION 05000 METALS

05100 STRUCTURAL STEEL

05101 GENERAL

Steel frame (if used) for unit **shall** comply with AISC “Specification for the Design, Fabrication, and Erection of Structural Steel for Buildings”.

05102 MATERIAL

Use A36-70a steel for steel building frame. All steel **shall** be factory coated with black asphaltic coating after fabrication.

05103 WORKMANSHIP

1. Comply with AISC Specification
2. Thoroughly clean all ferrous material of loose mill scale, rust, dirt, weld flux, and splatters. Grind smooth any sharp projections and completely remove all oil and grease.
3. Prime coat, touch-up, and finish coating of unit frame **shall** be as specified in Section 09400 and **shall** be completed prior to construction of unit on steel frame.
4. Prime coat, touch-up and finish painting of deck and step framing, and railing **shall** be as specified in Section 09400.

05200 MISCELLANEOUS METALS

05201 MATERIAL

1. Screw type steel anchor: use minimum 6” helical screw anchors developing torque in foot-pounds as recommended by the manufacturer to develop full strength of the anchor. Show location of anchors on foundation plans.
2. Foundation and soffit vents: Stamped aluminum, natural finish w/insect screening. Area of venting **shall** be as required by the Standard Building Code.
3. Rain Diverter: .025 aluminum; 6” leg under shingle and 1½” vertical leg, 7’-0” long over each exterior door.
4. Coat hanging rod/shelf combination.

05202 WORKMANSHIP

Install or construct using accepted construction methods or as recommended by manufacturer.

DIVISION 06000 CARPENTRY

06100 ROUGH CARPENTRY

06101 GENERAL

1. Requirements for roof framing.
 - a) Roof pitch **shall** be a minimum of 2¼” in 12”.
 - b) Roof framing **shall** be extended at gable ends to provide a minimum 8” overhang. Finished with 1x6 nominal fascia board and vented vinyl soffit.
 - c) Roof framing **shall** be extended at front and rear eaves to provide a minimum 1’-0” overhang. Finished with 1x6 nominal fascia board and vented vinyl soffit.
2. Framing design and construction: **Shall** comply with “National Design Specification for Stress-Grade Lumber and its Fastenings” of the National Forest Products Association, including Supplement (Table 1) of allowable Unit Stresses.
3. Wood floor framing and wood perimeter beams (where used) **shall** be pressure treated K.D. No. 2 Southern Yellow Pine SPA Grade marked Redried in accordance with American Wood Preservers Association Standard LP 2 with .25 retainage above ground. Framing for wood steps **shall** be pressure treated K.D. No. 2, Southern Yellow Pine SPA Grade marked Redried LP 22 with .40 retainage ground contact lumber.
4. Roof framing **shall** be ½ wood trusses which are designed by a structural engineer and prefabricated using metal plates. The size of any framing members **shall** not be less than a 2x4. A structural engineer **shall** design a connection so that after unit is set up, each ½ truss will be connected at the center of each unit so that the bottom cord tension is carried directly between the lower cord member of each ½ truss so that the truss forces are carried from outside wall to outside wall using center beam for initial transportation as ½ units.
5. Maximum spacing for framing members:
 - a) Floor: 16” o.c. maximum
 - b) Wall: 2x4 min. 16” o.c. maximum
 - c) Roof: 24” o.c. maximum

6. Plywood construction: Shall comply with American Plywood Association recommendations for type, size and spacing of nails, and other plywood installation requirements.
7. Plywood – Lumber beam: Design and fabrication **shall** comply with American Plywood Association “Design and Fabrication of Plywood – Lumber Beams”. Lumber chord splices may be made with metal plates. Lumber and plywood grades and sizes based on structural engineers’ design.

06102 MATERIAL

1. Rough Hardware: Provide all rough hardware of sizes and types to rigidly secure members in place as approved or required.
2. Lumber:
 - a) All lumber **shall** be kiln dried (19% max. moisture content) No. 2 Southern Yellow Pine, SPA grade marked, equal grades or western woods are optional. Each piece **shall** bear official grade mark of appropriate inspection bureau or association. Floor framing, exterior deck flooring, step treads and wood framing for support of skirting **shall** be pressure treated in conformance with American Wood Preservers Association Standard C2 above ground. The type of pressure treatment **shall** be compatible with stains applied as specified in Section 09400. All lumber **shall** be Redried after pressure treating to 19% max. moisture content. Any supports for skirting that will come in contact with the ground **shall** be Redried LP 22 with .40 retainage ground contact lumber.
 - b) Exterior trim **shall** be of same material as siding, or rot resistant wood.
3. Plywood:
 - a) All plywood **shall** bear APA-grade trademarks legibly applied to each panel.
 - b) Under floor closure: Fiberglas reinforced vinyl-covered closure or 40 mil. thickness min.; install as recommended by manufacturer.
 - c) Subflooring: 5/8” C-D INT-APA with exterior glue or 3/4” T&G Exterior Grade C-D plywood or 3/4” T&G OSB structural panel.
 - d) Roof Sheathing: 1/2” C-D INT-APA with exterior glue or 1/2” OSB board.
 - e) Floor Underlayment: 3/8 Underlayment INT-APA. Not needed if 3/4” T&G subflooring used.
 - f) Exterior Siding: 5/8” primed hardboard siding with grooves 8” o.c. 9’0” minimum length. Use aluminum “Z” type flashing where needed.

- g) Soffits: Vinyl or aluminum vented.
- h) Skirting: If omitted, lower unit to within 16" above grade. Primed hardboard skirting **shall** be used with treated support. Do not allow hardboard to contact grade.

06103 WORKMANSHIP

1. Install all work with galv. steel or aluminum nails; use long lengths of trim for fascia, corner battens and other locations; construct so water cannot pass through joints; miter trim exterior, interior and running joints, DO NOT miter corner battens covering siding. Install 20 mil flashing over all doors, windows, etc.
2. All framing **shall** be installed plumb and true to line.
3. Install inner seal siding according to manufacturer's instructions.
4. Install an access panel (min. 2'-8" wide) in the skirting of each portable unit. It **shall** be constructed of the same material as the skirt. The panel **shall** be located adjacent to plumbing. The access panel shall be installed with screws and in such manner that it can be removed without disturbing adjacent skirt panels. Install aluminum crawl space vents as required by the Standard Building Code.
5. Minimum finished ceiling height 8'-0".

06200 FINISH CARPENTRY

06201 GENERAL

1. Storage Unit: Teacher's storage and general storage **shall** be built into a closet with one 3'-0" door or free standing teacher cabinet with same storage space. Shelving **shall** include:
 - a) Teachers' storage 1'-0" long hanging space with shelf above and (6) 2'-0"x12" adjustable shelves adjacent.
 - b) General storage; (6) 3'-0"x12" adjustable shelves.
2. Coat storage: (15) double open hooks (30 hooks total) mounted 6" o.c. Mounting height **shall** be 3'-5" for grades K-3, 4'-0" for grades 4-6, 4'-6" for grades 7-12.

06202 MATERIAL

1. Interior plywood paneling: Interior finish **shall** be 5/32" thick direct print plywood paneling installed over 5/8" F.C. gypsum wall board or 5/8" F.C. vinyl faced gypsum wall board.

2. Interior Trim: Manufacturer's standard prefinished wood.
3. Cabinets & Shelving: ¾" Fir plywood.
 - a) Exposed surfaces: Grade "A"
 - b) Inside cabinets: Grade "B"
 - c) Concealed surfaces: Grade "C" or "D"
4. Laminated plastic surfaces: High pressure laminated plastic sheet: general purpose grade 1/16" thick. Color selected from manufacturers standard colors. Post formed top with back and end splashes.
5. Cabinet Hardware:
 - a) Cabinet pulls, cabinet hinges.
 - b) Drawer slides

06203 WORKMANSHIP

1. Assemble finish carpentry and millwork accurately with all joints closed, smooth, true and corners or running joints mitered. Join parts with concealed nails and screws. Where surface nailing is necessary set nails and fill holes.
2. Cabinet work and similar items **shall** be built in accordance with the Quality Standards of the Architectural Woodwork Industry for Custom Grade Casework as defined in AWI Section 400.
3. Install interior plywood paneling in accordance with manufacturer's instructions.

DIVISION 07000 MOISTURE PROTECTION

07100 BUILDING INSULATION

07101 MATERIAL

1. Fiberglass blankets w/kraft paper vapor barrier. Installed resistance values as follows:
 - a) Ceiling: R-30
 - b) Ext. Walls: R-11
 - c) Floor: R-11

07102 WORKMANSHIP

Install with vapor barrier to interior, as continuous blanket above ceiling, under floor, and in exterior walls.

07200 ROOFING

07201 MATERIAL

1. Shingles: 235 lb. Fiberglass 12"x 36" self sealing type.
2. Underlayment: Two layers, 15 lb. Asphalt-saturated roofing felt.
3. Standing seam metal roofing may be used as a district's option. If used, install per manufacturer's instructions.

07202 WORKMANSHIP

Install according to manufacturer's instructions; project shingles 1" at eaves and gables.

07300 CAULKING

07301 MATERIAL

1. Sealant: Silicone – the color **shall** be appropriate to the installation.

07302 WORKMANSHIP

Install according to manufacturer's instructions to make a completely sealed job.

DIVISION 08000 DOORS, WINDOWS AND HARDWARE

08100 WOOD DOORS

Provide two doors in each classroom unit.

08101 MATERIAL

1. Exterior: 3'-0"x6'-8"x1³/₄" 18 ga. galvanized hollow metal door **shall** be filled solid with insulation and have a 6" wide x 30" long light, glazing **shall** be 1/2" tempered insulated glass. Frame **shall** be a welded 16 ga. galvanized hollow metal wrap around frame.
2. Interior: 3'-0"x6'-8"x1³/₄" thick solid stave core flush doors, stain grade veneer both faces with 16 ga. welded hollow metal wrap around frame.

08102 WORKMANSHIP

Installation as recommended by manufacturer.

08200 ALUMINUM WINDOWS

Two (2) double hung windows on rear of single classroom unit near each corner.

08202 MATERIAL

All aluminum windows **shall** conform to the voluntary specifications in ANSI/AAMA 101.88, be labeled with the “AAMA” label and be a double hung type DH-C45 or DH-C50 anodized aluminum window, nominal 2’-8”x4’-4” complete with Mfgs. standard hardware, screen and insulated glass glazing.

08203 WORKMANSHIP

1. Install according to manufacturer’s instructions.
2. “AAMA’ label **shall** remain on window until final inspection by owner or his representative.

08300 HARDWARE

08301 GENERAL

At completion of project, furnish owner any special tools provided by the hardware manufacturers to adjust or remove hardware.

08302 MATERIAL

The following manufacturers are listed to establish quality standards. Approved equals will be accepted.

	<u>Russwin/Corbin</u>		<u>Sargent</u>	<u>Yale</u>
Locks (Stor)	CL3440 NSD – 26D		10G05LL	AU5407
Locks (Toil)	CL3420 NSD – 26D		10U65LL	AU5402
Exit Device	ED8200 P8 – SBL		2828 28K	2000 27
Closer (Exit)	DC2210 – SBL		350-P9	PA4400
	<u>Stanley</u>	<u>Hager</u>	<u>McKinney</u>	<u>Lawrence</u>
Butts (Exit)	FBB179	BB1279	TB2714	BB4101
	4½ x4½USP	4½ x4½	4½ x4½	4½ x4½
Butts (Other)	F179	1279	T2714	4181
	4½ x4½USP	4½ x4½	4½ x4½	4½ x4½

	<u>Pemco</u>	<u>National</u>	<u>Reese</u>	<u>Durable</u>
Threshold (Exit)	171A	425	S205A	C205
Door Bottom (Ex)	315CN	200NA	805A	HDS-21
Weatherstrip (Ex)	315CR	130NS	D278	355
Drip Cap (Exit)	346C	16AD	R201A	DC14

08303 WORKMANSHIP

Install hardware according to manufacturer's instruction.

DIVISION 09000 FINISHES

All finishes used in the interior of a RELOCATABLE unit **shall** have a minimum finish classification of 3.

09100 CEILINGS

09101 MATERIAL

5/8" fire code Gypsum Wall Board w/stippled finish. Provide 18"x18" ceiling access in each side (2 per unit) located near junction boxes, etc.

09102 WORKMANSHIP

1. Install according to manufacturer's instruction.
2. Minimum finished ceiling height 8'-0".

09200 RESILIENT FLOORING, BASE

09201 GENERAL

1. Vinyl tile and vinyl base **shall** be used in all restrooms and adjacent to all lavatories.
2. Provide a minimum 6' deep tile area in front of sink cabinets.

09202 MATERIAL

1. Vinyl Tile: Excelon Supreme 1/8" gauge.
2. Vinyl Base: Regular Vinyl Wall Base; 4" straight type w/preformed inside and outside corners; black. Use long lengths.

09203 WORKMANSHIP

Install according to manufacturer's instructions; adjust layout as necessary; lay tile in "checkerboard" fashion with grain reversed in alternate tiles.

09300 CARPET

09301 MATERIAL

1. Carpet **shall** pass radiant panel test, **shall** be minimum 28 oz. per square yard, type 6, 6 nylon fiber carpet with manufacturers standard unitary backing. Carpet **shall** have an average 20 lb. tuff bind and **shall** be a direct glue down installation. Color **shall** be selected by district.

09302 WORKMANSHIP

1. Carpet **shall** be installed as recommended by manufacturer.

09400 PAINTING, FINISHING

09401 MATERIAL

1. Exterior

- a) Structural steel frame;
Prime coat touch-up: black asphaltic paint
Finish coat: black asphaltic paint
- b) Wood steps, ramp, framing and flooring and step treads and risers;
1st coat: semi-transparent stain
2nd coat: semi-transparent stain
- c) Inner seal siding;
1st coat: solid color acrylic latex stain
2nd coat: solid color acrylic latex stain
3rd coat: solid color acrylic latex stain
- d) All other wood including fascia, band boards, sills and soffits;
1st coat: solid color acrylic latex stain
2nd coat: solid color acrylic latex stain
3rd coat: solid color acrylic latex stain
- e) Exterior doors and frames and interior door frames;
1st coat: primer
2nd coat: alkyd enamel
3rd coat: alkyd enamel
- f) Metal step/ramp and deck framing;
1st coat: primer
2nd coat: alkyd enamel
3rd coat: alkyd enamel

2. Interior

- a) Doors, door frames, cabinets, other unfinished wood trim and exposed shelving;
1st coat: paint, interior latex stain
2nd coat: paint, clear satin finish
3rd coat: paint, clear satin finish
- b) Toilet Rooms:
1st coat: primer
2nd coat: semi-gloss alkyd enamel
3rd coat: semi-gloss alkyd enamel

09402 WORKMANSHIP

1. Thoroughly clean bare metal of all foreign matter, rust scale, dirt, etc., before paint is applied. Clean shop painted metal and retouch where marred.
2. Before proceeding with painting or finishing, remove from surface all dust, dirt, grease or other foreign particles which would affect either satisfactory execution or permanency of work.
3. Apply paints and stains as recommended by manufacturer.
4. Finish top, bottom and edges of doors the same as face.

DIVISION 10000 SPECIALITIES

10100 CHALKBOARD/TACKBOARD

10101 GENERAL

1. Chalkboard/Tackboard requirements:
 - a) Chalkboard: 4'-0" high x 16'-0" long
 - b) Tackboard: 4'-0" high x 8'-0" long
 - c) Mounting heights:
 - Grades K thru 3 – 25"
 - Grades 4 thru 6 – 29"
 - Grades 7 thru 12 – 34"
2. Location of chalk/tackboard **shall** be as shown on plans.

10102 MATERIAL

1. Chalkboard: **shall** be 24 gauge porcelain enamel steel chalkboard on ¼” hardboard. Enamel **shall** be fired at 1000°F, approximately. Manufacturer **shall** be a member of Porcelain Enamel Institute. Nominal thickness ¼”, trim **shall** be manufacturer standard; factory laminated and pre-framed.
2. Tackboard: cork ¼” thick with washable surface, mounted on ¼” hardboard backing; trim **shall** be manufacturer standard, factory laminated and pre-framed.
3. Accessories: 4 map hooks and 2 flag holders.

10103 WORKMANSHIP

Install according to manufacturer’s instructions. Install necessary blocking in wall framing for proper attachment to walls.

10200 TOILET ACCESSORIES

10201 GENERAL

Omit the furnishing of the following toilet accessories unless specified by the school district in its bid proposal form.

- a) Tissue holders
- b) Mirrors
- c) Paper towel holders
- d) Liquid soap dispensers

10300 METAL CANOPY

10301 GENERAL

School districts may, at their option, specify a canopy in the bid proposal.

DIVISION 15000 MECHANICAL

15100 PLUMBING

15101 GENERAL

1. Toilet facilities **shall** be required within all units as noted in Section 01109, paragraph 5 of this Guide.
 - a) When classroom unit is used by pupils of kindergarten through second grade.

- b) When classroom unit is used by pupils of grades 3 through 12 inclusive, when either girls or boys existing restroom facilities are more than 200 feet from classroom unit. The 200 feet **shall** be measured as the pupil must walk to the existing toilet facilities. This applies even when there are adequate toilets in the existing building.
2. All plumbing installed within each RELOCATABLE classroom unit and exterior plumbing required to connect the soil, waste, drain and water piping to on-site services **shall** be installed in accordance with the Standard Plumbing Code.
3. A mechanical engineer licensed in South Carolina **shall** certify that the plumbing system as shown on the construction documents is in accordance with the Standard Plumbing Code and other applicable state or local codes. The engineer's seal **shall** be on all plumbing drawings.

15102 MATERIAL

1. Water supply lines within unit:
 - a) All water lines **shall** be type "L" hard drawn copper with soldered wrought copper fittings using "lead free" solder.
 - b) Stub-out water line for easy attachment to main lines at the school site. Provide a dielectric coupling or union at connection to water service line at unit.
 - c) Properly protect water lines from freezing by use of 1" fiberglass insulation.
2. Soil, Waste, Drain and Vent Lines within unit:
 - a) Soil, waste, drain and vent lines within each unit schedule 40 DWV PVC pipe with PVC drainage pattern fittings and PVC joint cement, all NSF approved.
 - b) Terminate drainage line for easy extension to the sanitary sewer system on site.
3. Water closet:
 - a) **Shall** be an elongated, siphon jet type with close coupled tank of vitreous china with 2 bolt caps.
 - b) Seats **shall** be elongated type with check hinge.
 - c) Supply: manufacturer standard with stop valve.

4. Classroom sink and drinking fountain: 24"x 18", AR enamel, with single pantry faucet, bubbler, strainer, mounting frame, complete with stop valve and trap. 18 gauge SS sinks may be used in lieu of the sink specified.

15103 WORKMANSHIP

All workmanship **shall** be performed by skilled and capable workmen under competent supervision, employing latest and best practices of the trade.

15200 HEATING, VENTILATING AND AIR CONDITIONING

15201 GENERAL

1. All work **shall** be performed in accordance with the Standard Building Code, chapter 20, Standard Mechanical Code, ASHRAE 62, National Electrical Code, NFPA requirements, and all applicable state and local codes.
2. Classroom units larger than a single classroom **shall** have a ducted heating/cooling system unless a heating/cooling unit is installed at opposite ends.
3. A mechanical engineer licensed in South Carolina **shall** certify that the mechanical system as shown on the construction documents are in accordance with the Standard Mechanical Code, ASHRAE 62 and other applicable state or local codes. The engineer's seal **shall** be on all mechanical drawings.

15202 EQUIPMENT AND MATERIAL

1. Heating and Air Conditioning Unit.
 - a) One unit required for each classroom.
 - b) Vertical wall-hung type heating and air conditioning unit, with 35,000 BTU/hr. minimum cooling capacity, with heat recovery wheel, that is a minimum 70% efficient on both sensible and latent heat transfer during both summer and winter seasons, 10 KW minimum electric heating capacity, aluminum or baked enamel steel cabinet, hermetic compressor with 5-year factory warranty, automatic changeover room thermostat (with system selector switch, fan switch, and heavy duty guard), low velocity throwaway type air filters, unit ARI certified and UL listed, with sloped top, completely assembled and pre-wired at factory, and standard heating and cooling controls. Install unit on exterior wall of building in strict accordance with manufacturer's recommendations. Unit **shall** be reverse cycle heat pump unit with supplementary electrical resistance heating elements. Electrical heating elements **shall** be controlled by one of more outdoor thermostats. Unit **shall** meet ASHRAE 62 – 1989 Standards.

2. Exhaust Fan
 - a) One for each restroom.
 - b) **Shall** be a wall exhaust fan, with 80 CFM air delivery, fan motor with built-in overload protection, automatic backdraft damper, interior wall grille, telescoping wall sleeve, exterior wall cap, wall switch, and UL label. Install fan in exterior wall of buildings as high as practical.
3. Supply and Return Grilles and Ductwork.
 - a) Supply Air Registers – Extruded aluminum adjustable double deflection sidewall registers. All registers **shall** be rated by Air Diffusion Council with a noise criteria less than 35.
 - b) Return Air Grille – Extruded aluminum sidewall grilles **shall** be same manufacturer as supply register.
 - c) Ductwork – Ductwork **shall** be constructed of galvanized steel with seams, joints, and reinforcing as recommended by SMACNA Guide and SMACNA for low pressure ductwork. No fiberglass duct board will be allowed.
 - d) Insulation – Insulate exterior of all supply ductwork using 1” thick fiberglass. Install duct insulation in accordance with manufacturer’s recommendations.

15203 WORKMANSHIP

All work **shall** be performed by skilled and capable workmen under competent supervision, employing the latest and best practices of the various trades involved.

DIVISION 16000 ELECTRICAL

16100 ELECTRICAL

16101 GENERAL

1. The entire electrical installation **shall** comply with the latest National Electrical Code and any other applicable state or local codes.
2. An electrical engineer licensed in the State of South Carolina **shall** certify that the electrical system as shown on the construction documents is in accordance with the National Electrical Code and other applicable state or local codes. The engineer **shall** place his seal on all electrical drawings.
3. All units **shall** be equipped with underground or overhead connectors securely mounted and ready for on site connection to a permanent power source. Type of service, overhead or underground, **shall** be specified by the owner.

4. Grounding of the electrical system, **shall** be in compliance with the National Electrical Code, and **shall** be the responsibility of the unit manufacturer.
5. The manufacturer **shall** be responsible for all required fees, permits and inspections.
6. The school district **shall** be responsible for connecting permanent power to units unless specified otherwise.
7. Provide two duplex 120 volt outlets (min.) each wall of the classroom (minimum of 8).
8. Provide 70 foot candles of illumination at desktop height in classroom area with a 3-way switch located at each door.
9. Provide adequate lighting for storage closets, restrooms and sink area.
10. Provide duplex outlet 5'-0" AFF and an empty conduit and duplex box 5'-0" AFF with solid covers in each unit for ETV. Locate outlets near end of main chalkboard.

16102 EQUIPMENT AND MATERIAL

1. Load Centers
 - a) Load Centers: Circuit breaker load center with 150 Amp main lug minimum rating. Size larger, if required.
 - b) Enclosure: General purpose.
 - c) Box: Flush type with door, pull ring and lock on door. Finish in manufacturer's standard gray enamel.
 - d) Molded Case Circuit Breakers: NEMA AB 1, plug-on type thermal magnetic trip circuit breakers, with common trip handle for all poles. Provide UL Class A ground fault interrupter circuit breakers on all circuits near sinks.
 - e) Minimum integrated short circuit rating: 22000 amperes RMS symmetrical.
2. Wiring: Copper, type NM cable, minimum size #12.
3. Wall Switches
 - a) Description: NEMA WD 1, Specification Grade AC only general-use snap switch.
 - b) Body and Handle: Ivory plastic with toggle handle.

- c) Ratings:
 - 1. Voltage: 120 volts, AC
 - 2. Current: 20 amperes.
- 4. Receptacles
 - a) Description: NEMA WD 1, specification grade, general use receptacle.
 - b) Device Body: Ivory plastic.
 - c) Convenience Receptacle: Type 5-20.
 - d) GFCI Receptacle: Convenience receptacle with integral ground fault circuit interrupter to meet regulatory requirements.
- 5. Fixtures: Surface mounted with 100% virgin acrylic wrap around lens and T8 lamps with electronic ballast. Hybrid ballast not acceptable.
- 6. Junction/Outlet/Switch boxes – All steel.
- 7. Connectors: As required.
- 8. Service Entrance: THW copper in rigid galvanized conduit or IMC.
- 9. Conduit: Metal as required and as noted above.

16103 WORKMANSHIP

All workmanship **shall** be performed by skilled and capable workmen under competent supervision, employing latest and best practices of the trade.