

MEMORANDUM

DATE: August 21, 2013 (updates July 31, 2012 memo)

TO: Third Party Inspection Agencies, Building Officials, Modular Manufacturers, Modular Set-Up Contractors, and Other Interested Parties

FROM: Alan D. Greene, P.E.
Chief Building Code Consultant -- Manufactured Building Division

RE: Moving or Relabeling Existing Modular Buildings

We are occasionally questioned concerning the relocation or relabeling of an existing modular building. Such buildings will fall into one of three categories:

1. The building is a properly labeled NC modular.
2. The building does not have a NC modular label, but was built by a manufacturer who is either currently certified or was certified under the NC modular program at the date of manufacture.
3. The building does not have a NC modular label and the manufacturer has never been certified under the NC modular program.

The procedure for each of these cases is described below.

1. The building is a properly labeled NC modular.

Section 104.2.1 of the *NC State Building Code, Vol. IX, Existing Buildings, 1995 Edition with 1999 Revisions*, states:

Existing buildings may continue their existing occupancy, provided such buildings are maintained in a safe, sanitary, usable condition and provided such occupancy was legal at the time of construction.

It is the policy of this Division to allow labeled modular buildings to be moved and occupied when these conditions are met. The local inspection jurisdiction must verify that the building has in fact been maintained as described above. *Please note that, if the occupancy of the building changes, the building must be brought into full compliance with all applicable **current** Codes for the new occupancy.* Modifications to existing modular buildings are treated the same as for site built buildings. These modifications are under the jurisdiction and subject to the approval of the local inspection department. Since required live loads vary by occupancy (see **Table 1607.1, North Carolina Building Code, 2012 Edition**), it is possible that a revised foundation plan may be required for the new occupancy. This plan must be approved by the local jurisdiction. A foundation design prepared by a NC professional engineer who is familiar with the building and the site may be required.

There may be cases in which the building is old enough that, for whatever reason, the plans are no longer available. When approved set-up plans and instructions are not available, *and the unit is a single, stand-alone classroom*, see the attached **memo of August 21, 2013**. When approved setup plans and instructions are not available, *and the unit is*

other than a single, stand-alone classroom, a foundation design in compliance with **North Carolina Building Code, 2012 Edition** must be prepared by a NC professional engineer specifically for the site where unit is to be located.

2. The building does not have a NC modular label, but was built by a manufacturer who is either currently certified or was certified under the NC modular program at the date of manufacture.

The same criteria as for Case 1 above applies, except that the 3rd party must carry out the following:

1. Plans must be reviewed and stamped "approved" by the 3rd party after it is determined that the unit is in full compliance with applicable Volumes of the NC State Building Code *in force at the date of manufacture*.
2. Plant records must be examined by the 3rd party to insure that the unit was properly inspected.
3. If any modifications are required in order to bring the unit into compliance with NC Codes in force at the date of manufacture, the 3rd party must verify that these have been done properly.
4. The 3rd party must inspect the unit to insure that it has been properly maintained as described in Case 1 above.
5. After completion of the above, a new data plate listing all applicable Code Volumes to which the unit is certified must be prepared. A letter to this Division requesting permission to label the unit must be submitted, and no unit falling under Case 2 may be labeled without specific authorization from this office.
6. If the unit is located outside of North Carolina, items 1 through 5 above must be carried out by the 3rd party prior to moving the building into the state.

If plans and/or plant records as described in items 1 & 2 above are not available, the 3rd party must certify compliance with applicable NC Codes by direct inspection of the unit. Dismantling of part of the unit may be necessary to insure that the structural, plumbing, mechanical, and electrical systems are Code compliant.

When approved set-up plans and instructions are not available, the criteria for foundations as described for Case 1 above are applicable.

As an alternate to the above (Case 2) the local jurisdiction may accept sealed documentation from a NC professional engineer. Such documentation must state that the engineer has personally inspected the building and found it to be in full compliance with all applicable NC Codes. Each Code (i.e., *NC Building Code, NC Plumbing Code*, etc.), with the edition used, must be listed individually. If modifications were required for the unit, the engineer's letter must state that he or she has personally inspected the modifications after their completion and found them to be satisfactory. If the building is accepted by the local jurisdiction based on sealed engineering documentation in lieu of the 3rd party certification described above, **no NC Modular Stamps will be affixed to the unit.**

3. The building does not have a NC modular label and the manufacturer has never been certified under the NC modular program.

The local inspection jurisdiction must be satisfied that the unit is in full compliance with applicable Codes in force at the time of manufacture (if the occupancy does not change) or is in full compliance with current Codes (if there is a change in occupancy). This may be accomplished at the discretion of the local jurisdiction either by their own inspection, by acceptance of 3rd party verification, or through documentation by a NC professional engineer. Please be aware that, since a modular unit in Case 3 was not produced under the NC modular program, the local jurisdiction has the option of turning the building down without exercising any of these options. **Under no circumstances will an existing modular building that was not manufactured under the NC modular certification program receive any NC Modular Stamps.**

MEMORANDUM

DATE: August 21, 2013 (updates July 12, 2012 memo)

TO: Building Inspectors, School Officials, Other Interested Parties

FROM: Alan D. Greene, P.E.
Chief Building Code Consultant - Manufactured Building Division

RE: Approval Guidelines for Older Classroom Units
(**applies ONLY to buildings designed as single, stand-alone classrooms**)

The following are guidelines established by the Manufactured Building Division for acceptance of older classroom units that frequently are relocated from one school to another within the same district. Many of these units were constructed before the current modular construction program went into effect and therefore may not be labeled with a State of North Carolina Modular Construction Validating Stamp. Many of these older classroom units were approved by local building officials and have been used safely within the school district since they were originally installed. It is the interpretation of the Manufactured Building Division, based on **Section 102** of the *North Carolina Fire Prevention Code, 2012 Edition*, that units which complied with the minimum safety standards of the Code in effect at the time of construction or installation and which have since been properly maintained shall be deemed as complying with the current Code. It is also the interpretation of the Manufactured Building Division that older classrooms which are relocated from the jurisdiction of one inspection department into the jurisdiction of another inspection department within the same school district should be accepted unless an imminent safety hazard is detected by the local building official. Provided the units are properly maintained, acceptance should continue until such time as they are replaced by the local school system.

When approved set-up plans and instructions are not available for these older units, we recommend the following:

1. Piers should be spaced in accordance with the requirements of **Table 3.7** of the *State of North Carolina Regulations for Manufactured Homes, 2004 Edition*.
2. Piers and their footings must be sized and constructed in accordance with the *North Carolina State Building Code, 2012 Edition* or, as an alternate, the **attached memo dated July 12, 2012**. It is acceptable for masonry piers to be dry-stacked and bonded with surface bonding cement in lieu of laying the masonry units in mortar so long as the first course above the footing is set in a bed of mortar. Cap blocks for piers shall be installed in accordance with **Sections 3.7.4.3 and 3.7.4.4** or **Sections 3.7.5.3 and 3.7.5.4** of the *State of North Carolina Regulations for Manufactured Homes, 2004 Edition*.
3. Number, spacing, and location of anchoring ties should be in accordance with **Section 3.9** of the *State of North Carolina Regulations for Manufactured Homes, 2004 Edition*.

attachment

MEMORANDUM

DATE: July 12, 2012 (updates May 5, 2009 memo)

TO: Third Party Inspection Agencies, Building Officials, Modular Manufacturers and Other Interested Parties

FROM: Alan D. Greene, P.E.
Chief Building Code Consultant
Manufactured Building Division

SUBJECT: Minimum Pier and Footing Sizes for Commercial Modular Units

Questions have arisen concerning the minimum pier and footing sizes for single story, wood frame commercial modular buildings. Taking into account the type and scope of construction that is normally utilized for *single story, wood frame* modular buildings, the policy of the Manufactured Building Division is as follows:

1. The unit must fully conform to the description of *Light-Frame Construction* as given in **Chapter 2, Definitions**, in the *NC Building Code, 2012 Edition*.
2. The unit must not exceed one story in height.
3. As is the case with all NC modular units, the approved plans must include a generic foundation plan which assumes a relatively level site and a presumptive soil bearing capacity of 2,000 psf. *Foundation plans which specify the minimum pier and footing sizes as described in this memo must be sealed by a North Carolina professional engineer.* If a specific site, in the judgment of the local official, differs substantially from these assumptions (i.e., soil bearing capacity less than 2,000 psf, sloping site, etc.), then an independent site investigation and a sealed foundation design *specific to the site* will be required.
4. The minimum size for a plain concrete or masonry footing shall be 16"x 16" x 8" thick. Spacing shall be dictated by the calculated maximum load for the piers.
5. The minimum cross-sectional dimensions for CMU piers for NC commercial modular units shall be 16"x 16". Calculations, sealed by a North Carolina professional engineer, for the maximum capacity of the 16"x 16" CMU piers, including height limitations, shall be included as part of the Manual package for any modular manufacturer using the sizes referenced in this memo.

cc: C. Patrick Walker, P.E. -- Technical Services Manager
Joseph H. Sadler, Jr., P.E. -- Deputy Director