



April 29, 2009

**ATTENTION
ANYONE INSTALLING A MANUFACTURED HOME
AFTER MAY 1, 2009**

The Iowa Building Code Bureau has recently passed emergency rules relating to the installation of manufactured homes. The amended rules will contain the provisions that homes that have been previously installed in the United States and are being reinstalled either at the same or a different location are not required to have frost protected footings (frost piers).

As of May 1, 2009 State building inspectors will only inspect the above ground portions of the support and anchorage systems of reset homes. As a reminder, Iowa administrative rules require that anyone setting a home in Iowa must notify the Building Code Bureau on the approved form provided by the Bureau.

http://www.dps.state.ia.us/fm/building/PDFs/2008/2008_intent_to_install.pdf

The Bureau will then schedule an inspection.

New homes being set for the first time will not be affected by this rule change. They will continue to be required to have frost protected footings (frost piers) and be inspected.

If you have any questions, feel free to email bcinfo@dps.state.ia.us or call 515-725-6145.

**PUBLIC SAFETY DEPARTMENT[661]
Adopted and Filed Emergency**

Pursuant to the authority of Iowa Code section 103A.7, the Building Code Commissioner, with the approval of the Building Code Advisory Council, hereby amends Chapter 322, "State Building Code – Manufactured Housing Support and Anchorage Systems.

Requirements for manufactured housing installation in Iowa are established by the Building Code Commissioner as part of the State Building Code. Many of these requirements carry out mandates established by the U.S. Department of Housing and Urban Development, which delegates authority to regulate manufactured homes to states under the Federal Manufactured Housing Program. These provisions for Iowa are contained in Chapter 322. The current rulemaking addresses an issue related to the reinstallation of a manufactured home which had previously been installed in another location or is being reinstalled in a location in which it has previously been installed. The amendments adopted here will allow for the reinstallation of a manufactured home without the piers being driven below the frost line. The Building Code Commissioner finds that this requirement is onerous and therefore is moving to eliminate it as expeditiously as possible.

Pursuant to Iowa Code section 17A.4(3), the Building Code Commissioner finds that notice and public participation are unnecessary because removal of an onerous requirement will facilitate relocation of manufactured homes and purchases of used manufactured homes.

Pursuant to Iowa Code section 17A.5(2), the Building Code Commissioner further finds that the normal effective date of these amendments, 35 days after publication, should be waived and the amendments made effective May 1, 2009. Making the amendments effective as quickly as possible will confer a benefit on the public by facilitating relocation of existing manufactured homes and purchases of used homes as the weather turns warm.

These amendments are also being proposed in a Notice of Intended Action, published herein as ARC
____B. A public hearing regarding the proposed amendments will be held on June 9, 2009.

These amendments are intended to implement Iowa Code section 103A.9.

These amendments became effective May 1, 2009.

The following amendments are adopted.

ITEM 1. Rescind rule **661—322.11(103A)** and adopt the following **new** rule in lieu thereof:

661—322.11(103A) Support and anchorage of manufactured homes.

322.11(1) *First time installation.* Manufactured homes shall be installed according to one of the following,
as applicable:

a. Homes that were manufactured prior to October 20, 2008, which are being installed for the first time shall be installed with support and anchorage as recommended by the manufacturer and required by federal manufactured home construction and safety standards, 24 CFR Section 3280.306(b), as published April 1, 2004, or

b. Homes manufactured on or after October 20, 2008, which are being installed for the first time shall be installed with support and anchorage as recommended by the manufacturer and as required in accordance with the following: 24 CFR Part 3285—Model Manufactured Home Installation Standards as published October 19, 2007; or

c. With a support and anchorage system designed by a Iowa licensed professional engineer; which meets or exceeds the requirements of 24 CFR Part 3285, or

d. Homes installed in areas subject to a disaster emergency proclamation issued by the governor pursuant to Iowa Code section 29C.6, may be installed in compliance with subrule 322.11(5).

322.11(2) Reinstallation of Homes:

a. Use of this subrule is limited to homes that have been previously installed in the United States and are being reinstalled either at the same or a different location.

b. The following definitions apply to the subrule:

“Support system” means pilings, columns, footings, piers, foundation walls, shims, and any combination thereof that, when properly installed, support the manufactured home.

“Pier” means that portion of the support system between the footing and the manufactured home, exclusive of shims. Types of piers include, but are not limited to: Manufactured steel stands; pressure-treated wood; manufactured concrete stands; concrete blocks; and portions of foundation walls.

Ground anchor. A specific anchoring assembly device designed to transfer home anchoring loads to the ground.

“Pier Footing” means that portion of a support system which supports the piers or blocking, is sized to adequately support the weight of the home at that load point and is capable of transferring all design loads to the ground.

c. Homes installed using this subsection must comply with the following requirements:

1. Above ground support systems must meet manufacturer's specifications or subrule 322.11(3).
- 2.. Pier footings may be, but are not required to be, placed below the frost line.
3. Ground anchors must meet manufacturer's specifications or subrule 322.11(4). Engineered ground anchoring systems that do not extend to the frost line may also be used if approved by the commissioner.

Requirements in this subrule regarding the reinstallation of homes are mandatory minimum requirements.

Note: If the home is still under a manufacturer's warranty, manufacturer's installation instructions should be followed or the warranty may be void.

d. Pursuant to subrule 16.623(2), prior to the installation of a manufactured home; installers of manufactured homes or installers hired to inspect homes to be installed by the owner shall complete the portion of the installation certificate relating to the installation of frost protected footings. This portion of the certificate must state that the home is not being installed with frost protected footings and be signed and witnessed by the installer and the owner. Upon completion of the installation the installer shall complete and submit the certificate to the commissioner as prescribed by subrule 661—16.623(2).

Note: The following Iowa code sections have requirements that may affect the installation of homes: sections 414.28 and 335.30

322.11(3) Requirements for support system installations.

a. Piers placed on foundations shall be installed and centered directly under the main frame longitudinal beams. The piers should not be farther apart than 10 feet on centers for manufactured homes 12 feet wide or less and not more than 8 feet on centers for manufactured homes over 12 feet wide to less than 16 feet wide and no more than 6 feet on centers for manufactured homes 16 feet wide or more. The main frame, front or back, should not extend farther than 2 feet beyond the centerline of the end piers.

NOTE: When making excavations for footings and piers on private property, installers shall take precautions to ensure that no telephone, electrical, plumbing or water lines are contacted. Utility line locations shall be verified with the property owner or property owner's representative.

b. Pier foundations shall be placed on level, undisturbed soil, or on controlled fill that is free of grass and organic materials. (A small amount of sand may be of use to provide a level surface.) All pier foundations shall

be set level, and piers must be installed plumb. The pier foundation shall be at least a 16" × 16" × 4" solid concrete pad, precast or poured in place, or other approved material. Two nominal 4" × 8" × 16" solid concrete blocks may be used provided that the joint between the blocks is parallel to the main frame longitudinal beam. Concrete used in foundations shall have a 28-day compressive strength of not less than 3,000 pounds per square inch (3,000 psi).

c. Unless otherwise directed by the owner of the site, the soil-bearing capacity of the site may be assumed to be 2,000 pounds per square foot. The acceptable construction under this subrule is based upon a soil-bearing capacity of 2,000 pounds per square foot. Sites with less soil-bearing capacity will require increased-size footings.

EXPLANATION: The permissible footing sizes and pier spacing are based upon a combined live and dead load of 65 pounds per square foot of unit. This assumes that the full snow and internal live load will not be present at the same time.

d. Piers may be constructed of concrete or undamaged nominal 8" × 8" × 16" concrete blocks, open-celled or solid, placed on the pier foundation. All open-celled concrete block shall be installed with the cells of the block in a vertical position. Nominal 2" × 8" × 16" or nominal 4" × 8" × 16" solid concrete blocks may be utilized as needed to achieve the necessary heights of the piers for a particular installation. A nominal 2" × 8" × 16" wood plate, or equivalent, shall be placed on top of each pier, unless there is at least 4 inches of solid block, with shims fitted and driven between the wood plate or solid block and the main frame longitudinal beam. The wood blocking shall not occupy more than a nominal 2 inches of vertical space, and shims shall not occupy more than 1 inch of vertical space. Shims which have a thickness of more than 3/8" shall be hardwood.

(1) Piers up to 40 inches in height, except corner piers over three blocks high (a nominal 24"), may be of single-block construction and shall be installed transverse (right angle) to the main frame longitudinal beam.

(2) Piers over 40 inches in height but not exceeding 80 inches in height and corner piers over three blocks high shall be of double-block construction with every other course either parallel or transverse (right angle) to the main frame longitudinal beam. These piers shall be capped with a nominal 16" × 16" × 4" solid concrete block or equivalent. Wood blocking and hardwood shims shall be installed accordingly.

(3) Piers over 80 inches in height shall be of reinforced concrete or of double-block construction and installed exactly according to the procedure given in subparagraph (2) above. Only celled concrete blocks shall be used (with open cells vertical) with 3/8" diameter or larger steel reinforcing rods placed in the pier corners and all cells filled with 3,000 psi concrete. Wood blocking and shims shall be installed accordingly.

322.11(4) Requirements for anchorage systems. When instructions are not provided by the manufacturer, ties shall be attached vertically and diagonally to a system of ground anchors in a manner as illustrated in Figures 4 and 5. The minimum number of ties required are listed in Table 6–A. There shall be a diagonal tie between the ground anchors and the unit at each vertical tie. Additional diagonal ties may be required between vertical ties. The ties shall be as evenly spaced as practicable along the length of the unit with not over 8 feet open on each end.

a. Ties may be either steel cable, steel strapping, or other materials that meet the requirements of 322.11(4)“f.” Ties are to be fastened to ground anchors and drawn tight with galvanized turnbuckles or yoke-type fasteners and tensioning devices. Turnbuckles shall be ended with jaws of forged or welded eyes (hook ends are not approved).

b. When continuous straps (over-the-top tie-downs) are provided as vertical ties, they should be positioned at rafters and studs to prevent structural damage. Where a vertical tie and diagonal tie are located at the same place, both ties may be connected to a single doublehead ground anchor provided that the anchor used is capable of carrying the combined loads and the anchor is included on a list of approved products maintained by the commissioner.

c. Cable used for ties shall be either galvanized steel or stainless steel and shall have a breaking strength of at least 4,725 pounds. Cable should be either 7/32" diameter or greater (7 × 7) steel cable or 1/4" diameter or greater (7 × 19) aircraft cable. All cable ends should be secured with at least two I-bolt-type cable clamps or other nationally approved fastening devices.

d. When flat steel straps are used as ties, they shall be type 1, class B, grade 1, 1 1/4" wide and 0.035" thick, conforming with federal standard QQ-S-781-F, with a breaking strength of at least 4,725 pounds. Zinc coating (weather protection) shall be a minimum of 0.30 ounces per square foot of surface. Steel strap ties shall terminate with D-rings, bolts, or other nationally approved fastening devices that will not cause distortion or reduce the breaking strength of the ties.

e. The direction of pull of the diagonal ties should be at a right angle to the main frame longitudinal beam. Connection of the diagonal tie to the main frame longitudinal beam should be in accordance with anchor system instructions for those fastening devices. When steel strap ties are used, care should be exercised that the minimum bending radius is adhered to so the breaking strength is not reduced.

f. Anchors and anchorage materials shall meet the following requirements:

1. The anchorage materials shall be capable of resisting an allowable minimum working load of 3,150 pounds (pullout in a vertical direction) with no more than 2 percent elongation and shall withstand a 50 percent overload. All anchorage materials shall be resistant to weathering deterioration at least equivalent to that provided by a coating of zinc on steel strapping of not less than 0.30 ounces per square foot surface coated. Anchors to reinforced concrete slab or to rock shall be of comparable strength as provided within this paragraph.

2. Each ground anchor, when installed, shall be capable of resisting an allowable working load at least equal to 3,150 pounds in the direction of the ties plus a 50 percent overload (4,750 pounds total) without failure. Failure shall be considered to have occurred when the point of connection between the tie and anchor moves more than 2 inches at 4,750 pounds in the direction of the vertical tie when anchoring equipment is installed in accordance with the anchorage manufacturer's instructions. Those ground anchors which are designed to be installed so that the loads on the anchor are other than direct withdrawal shall be designed and installed to resist an applied design load of 3,150 pounds at 45° from horizontal without displacing the anchor more than 4

inches horizontally at the point where the tie attaches to the anchor.

3. Anchors designed for connection of multiple ties shall be capable of resisting the combined working load and overload consistent with the intent expressed in this paragraph.

4. Ground anchors shall be installed so that the load-carrying portion of the anchor in its final working position is below the frost depth (42 inches), and the anchor head shall be at ground level. Total anchor length shall be more than 42 inches as necessary.

NOTE: When installing ground anchors on private property, installers shall take precautions to ensure that no telephone, electrical, plumbing or water lines are contacted. Utility line locations shall be verified with the property owner or property owner's representative.

TABLE 6–A
 MINIMUM NUMBER OF TIEDOWNS
 REQUIRED FOR SINGLEWIDE MOBILE HOMES

MOBILE HOME BOX LENGTH NOT EXCEEDING	MINIMUM NUMBER OF TIEDOWNS PER SIDE	
	DIAGONAL TIES	VERTICAL TIES*
40'–0"	3	2
54'–0"	3	2
73'–0"	4	2
84'–0"	5	2

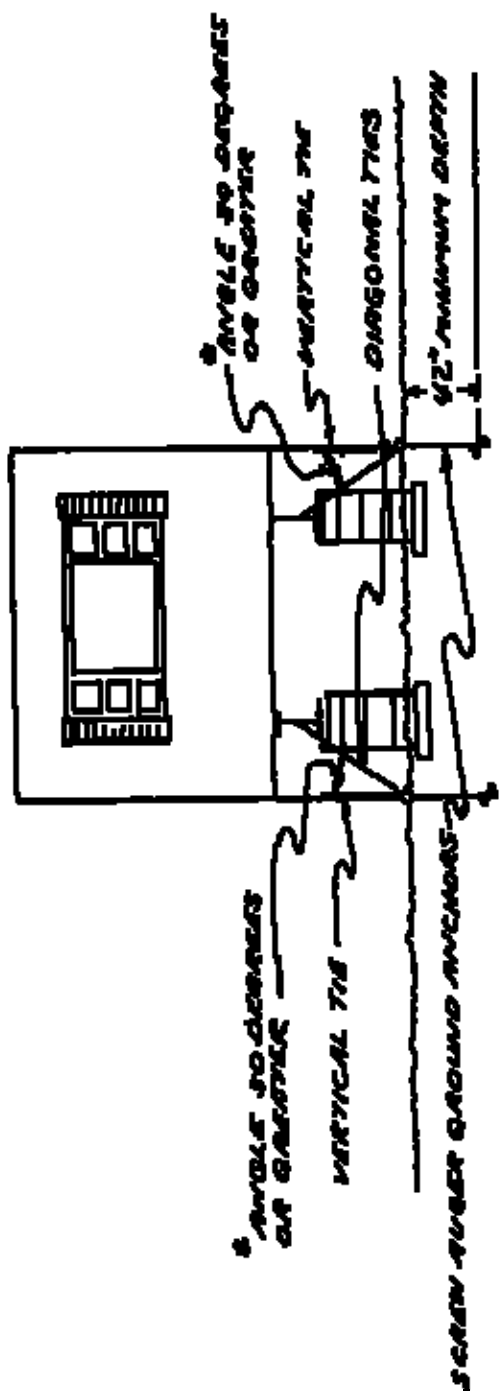
*If more than the minimum number of vertical or diagonal ties have been supplied, they shall all be used.

NOTES:

1. Doublewide mobile homes shall comply with Table 6–A except that no vertical ties are required.
2. Wherever a vertical tie and a diagonal tie lie in a plane that is vertical and transverse to the main longitudinal beam, both ties may be connected to the same ground anchor, providing that particular anchor withstands both loadings.
3. This table shall be used only if there are no manufacturer's approved installation requirements.

FIGURE A

MOBILE HOME TIEDOWN

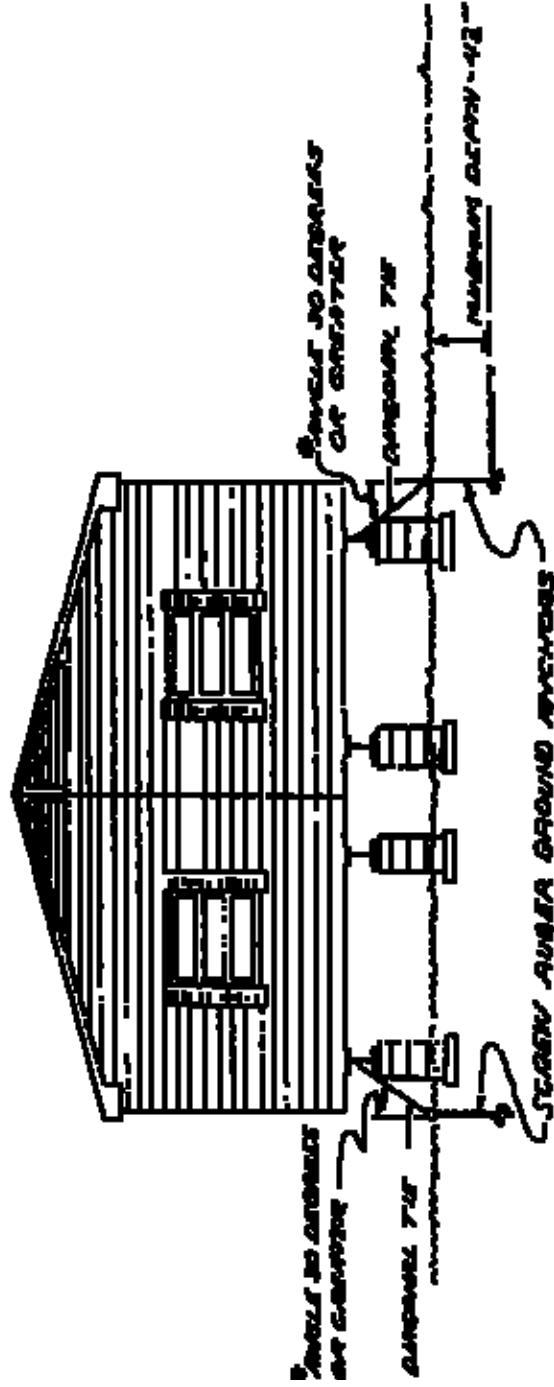


* DIAGONAL TIE SHALL BEHIND FROM A VERTICAL DIRECTION
JO DERIVERS OR MORE.

FIGURE 5

DOUBLE WIDE MOBILE HOME TIEDOWN

PARALLEL TIE SHALL DENOTE FROM A VERTICAL DIRECTION TO DIMENSIONS OF HOME.



322.11(5) In an area subject to a disaster emergency proclamation issued by the governor pursuant to Iowa Code section 29C.6, a manufactured home may be installed without a permanent support system provided that all of the following apply:

- a. The installation complies with anchorage requirements and aboveground support requirements specified by the manufacturer or specified in subrule 322.11(3) as applicable;
- b. A government agency or a third-party contractor is contractually obligated to regularly inspect the home while it is occupied and to loosen the ties or straps used in the anchoring system as needed between November 15 of each year and April 15 of the following year, in order to prevent frost heave from affecting the home, and to retighten the ties or straps on or after April 15 and prior to May 15 of the following year; and
- c. The home shall be vacated within 18 months after installation without a support system which is fully compliant with subrules 322.11(1), 322.11(2), 322.11(3) and 322.11(4). A home installed in compliance with this subrule may continue to be occupied if it has been reinstalled in compliance with the provisions of this rule that would apply in the absence of a proclaimed disaster emergency.

4/29/09
Date

W. Stuart Crine
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Building Code Commissioner