Site Inspection Report
Modular Units

Send Work Order To:
Manufactured Housing & Modular Units Program
PO Box 360 Jefferson City, MO 65102
Phone 1-800-819-3180 or Fax to 573-522-2509

CONSUMER INFORMATION
Name: King, Larry and Joyce
Address: 3607 County Road 328
City/State/Zip: Fulton, MO 65251
Phone: 573-544-6024

INSPECTION INFORMATION
Date of Inspection: March 14, 2006
Inspector: Tim Haden

HOME INFORMATION
Date of Manufacture:
Model:
State Seal Number:
Serial Number:
Size: 32 x 64

MANUFACTURE
Name: Four Seasons Housing, Inc.
Address: 11333 CR 2
City/State/Zip: Middlebury, IN 46540
Phone Number: 574-825-9999

DEALER
Name: Blakely Manufactured Homes
Address: 7428 Primrose Lane CR318
City/State/Zip: Fulton, MO 65251
Phone: 573-592-0987

RESPONSIBILITIES
Manufacture responsibility for items: 1,2,3,4
Dealer responsibility for items: 5,6,7,8,9,10

FILED[2]
NOV 2 0 2006
Missouri Public Service Commission

Pursuant to section R-104.1 of the IRC, these items are not in compliance.

SUMMARY OF PROBLEMS

At the time of this inspection;

1) This modular home did not bear the required Missouri "Seal". 700.015 (4), 4 CSR 240-123-030(1)

2) There was no manufacture "Data Plate" present on this modular home as required. 4 CSR 240-123-080(6)

3) A copy of the manufacture "Data Plate" received by fax from the manufacture, subsequent to this inspection, did not list the codes this unit was built to, as required. 4 CSR 240-123-080(6)

4) According to the manufacture Statement of Origin, this home was manufactured on January 30, 2006, and pursuant to the manufacture invoice number FSM20251, this home was shipped into Missouri to Blakely Manufactured Homes on February 6, 2006. At that time the manufacture did not have current approval for these plans from the Missouri Public Service Commission, Manufactured Housing and Modular Units Program as required in rule 4 CSR 240-123-040(10)(11). The new plan approval for this model was not approved by the Missouri Public Service Commission until March 1, 2006. 4 CSR 240-123.040

Exhibit No. 4
Case No(s): AC-2006-0389
Date 11-21-06 Rptr KF

Appendix B

INSTALLATION DEFICIENCIES

SUMMARY OF PROBLEMS

5) This home was not properly installed on the basement foundation. The home was resting on concrete walls on the ends and backside and fastened to the walls using "Minute Man" frame straps that are embedded in the top of the concrete wall and fastened to the inside of the home's perimeter rim joist using (1) ¼" x 1½" lag bolt per strap. The straps are spaced approximately 2-feet to 4-feet from the corners, and up to approximately 6-feet to 7-feet apart along the walls. Minute Man company does not approve this frame strap for this application. The front side of the home was resting on a wood framed walkout wall. There was no visible fastening of the home to this wall. The walkout wall was fastened to the basement floor with anchor bolts, 1-inch washer and nut, spaced up to 17' apart. There was no sill plate installed on top of the basement walls as required by the manufacture. The manufacture requires a 2" x 6" treated sill plate fastened to the top of the basement wall using ½" x 7" minimum embedment anchor bolts with nut and 2-inch washer, spaced at 6-feet apart maximum and within 1-foot from the ends of each plate. An approved "Simpson Tie" installed according to the manufactures installation instructions may also be used to attach the sill plate to the foundation wall. The home's perimeter rim joist is required to be fastened to the basement sill plate using 16d nails spaced at 6-inches apart maximum.
See page: FN-2.0 Manufactures installation instructions. 700.100, 4 CSR 240-123.065

6) The centerline of the home was not properly supported according to the manufactures installation instructions. The jack posts are spaced up to approximately 9-feet apart. The manufacture requires (14) jack posts spaced according to the attached approved drawing including the stairwell opening. See page: 10.1 Manufacture foundation drawing. 700.100, 4 CSR 240-123.065

7) The jack posts were not properly attached to the home's center beam and to the concrete footing. The jack posts were fastened at the top to the center beam on one side with lag bolts and were not fastened at the bottom. The manufacture requires the top of the posts to be fastened to the center beam using (2) #10 x 2" screws minimum. The base of the jack posts is to be fastened using (4) 5/8" x 8" anchor bolts.
See page: XIII-A.39 Manufactures foundation drawing. 700.100, 4 CSR 240-123.065

8) The home's hinged roof was not properly fastened. There was no visible fastening between the home's hinged kingposts and the stubbed kingposts. When the hinged roof is lifted and set in place, the 2" x 3" bottom rail that is fastened to the hinged kingposts will rest on the stubbed kingposts. The manufacture requires this bottom rail to be fastened to the stubbed kingpost using (2) #8 x 3" wood screws, toe-screwed at each truss. See page: XIII-A.27 and A.28 Manufactures installation instructions. 700.100, 4 CSR 240-123.065

9) The drop-in roof ridge sections were not properly fastened in place according to the manufactures installation instructions. The manufactures installation instructions require that the bottom rails of the ridge sections to be fastened to the top rails of the roof sections using (2) #8 x 3-inch screws per bay. The ridge sections had been shimmed between the ridge rails and roof rails with lumber up to approximately 5-inches, and then the ridge sections were nailed in place. See page: CD-1.0 Manufactures construction detail. 700.100, 4 CSR 240-123.065

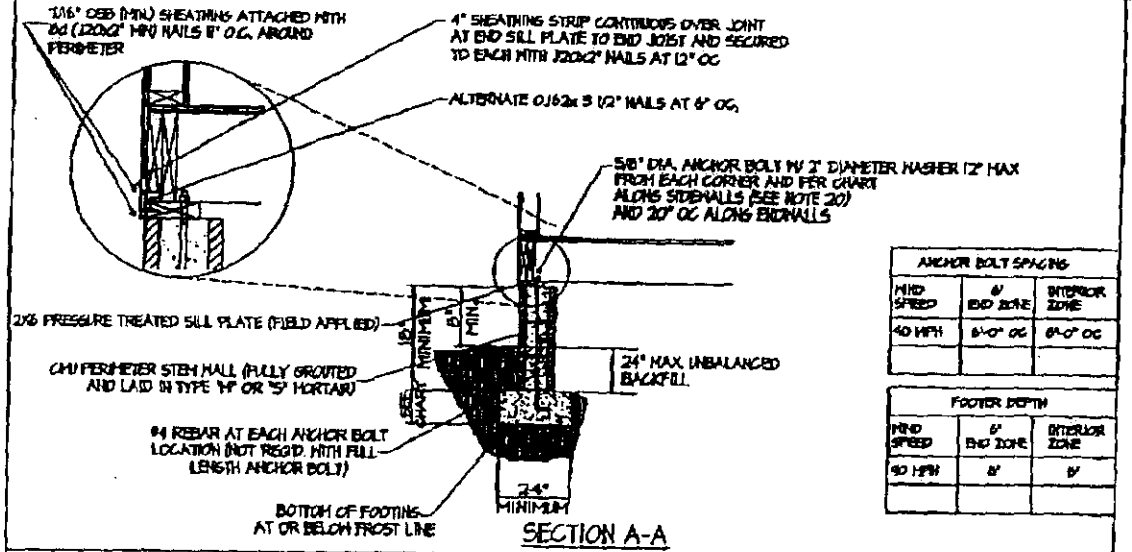
10) The end walls of the two sections were not properly fastened together according to the manufactures installation instructions. The manufacture requires that the end walls of the two sections to be fastened together using #8 x 3" screws spaced at 12-inches apart maximum.
See page: XIII-A.16 Manufactures installation instructions. 700.100, 4 CSR 240-123.065

11) The stairway to the basement is not properly constructed. The stair tread depth is 9" and the minimum tread depth allowed is 10", with a minimum ¾" nosing. R314.2 2000 IRC, 700.100, 4 CSR 240-123.065

12) There were no guards on the sides of the basement stairway. Stairs with total rise of more than 30" above the floor or grade must have guards not less then 34" in height, measured vertically from the nosing of the treads. The required guards shall have intermediate rails that do not allow the passage of a sphere 4-inches in diameter. The triangular opening formed by the riser tread and the bottom rail of the guard at the open side of a stairway must be constructed so that a sphere 6-inches in diameter will not pass through. Guards shall not be constructed with horizontal rails or patterns that result in a ladder effect. R316.1,2 2000 IRC, 700.100, 4 CSR 240-123.065

13) There was no handrail installed on the basement stairway. The basement stairway requires at least one handrail on one side of the stairway. R315.1 2000 IRC, 700.100, 4 CSR 240-123.065

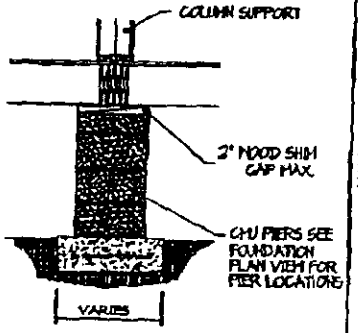
Note. The home has sustained extensive damage.



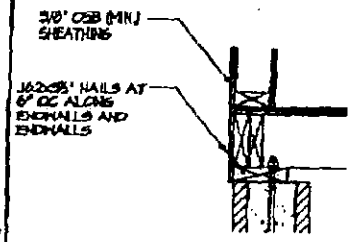
SECTION A-A

ANCHOR BOLT SPACING		
WIND SPEED	6' END ZONE	INTERIOR ZONE
90 MPH	6'-0" OC	6'-0" OC

FOOTER DEPTH		
WIND SPEED	6' END ZONE	INTERIOR ZONE
90 MPH	8'	8'



SECTION B-B



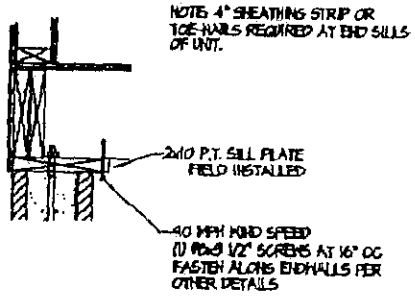
ALT. CONNECTION TO SILL

General Notes:
1. Reserved.
2. If a foundation drawing is provided it is a suggested foundation only. Actual foundation and anchoring to be designed by a local Professional Engineer or Architect familiar with the local soil and climate conditions.
3. Provide crawl space ventilation equal to 1/150 of the actual enclosed crawl space access. (144 sq. in. / 150 sq. ft.)
4. Provide positive under drainage. Minimum 4" pea gravel with 6 mil polethylene vapor barrier.
5. 18"x24" crawl space access to be provided (minimum).
6. Crawl space clearance to be 18" minimum below bottom of floor joists to grade.
7. Minimum footing depth to be 12" but at or below local frost depth and or per local code requirements.
8. Footing sizes/design based on the allowable soil bearing of 2000 psf.
9. Concrete footing shall have a compressive strength of 3000 psi at 28 days.
10. Finish grade to be 8" below top of foundation wall.
11. Provide GFCI receptacle and switched light fixture at crawl space access for service of all mechanical systems.
12. Where interior ground level is below outside grade, adequate precautionary measures shall be taken to assure positive drainage at all times.
13. Wall and piers of hollow masonry units shall be capped with a minimum of 4" solid masonry or poured concrete for dwellings not over 1 story and not less than 8" for other dwellings.
14. Reserved.
15. Concrete blocks shall be laid in type "M" or "S" mortar or dry stacked and bonded with surface bonding cement in accordance with the manufacturers installation instructions.
16. Final details, construction, and approvals by local or state inspectors is the responsibility of the contractor.

General Notes:
17. Height of wall and height of unbalanced fill may have an effect on the size and type of masonry blocks used.
18. Method of bonding veneer to pilaster is subject to local code requirements.
19. Weep holes, flashing, exterior wall covering and masonry tie are subject to local code requirements.
20. Anchor bolt minimum embedment is 15" in mortar and 7" in concrete.

DENOTES PIERS LOCATED ALONG THE MATE LINE BENEATH RIDGE BEAM SUPPORT COLUMNS AND GIRDER SUPPORTS

FOUNDATION PLAN LEGEND



ALT. CONNECTION TO SILL

Four Seasons Housing
1888 C.R. 2
Middlebury, IN 46540
Phone (574) 825-9144
Fax (574) 825-9119

Title
FOUNDATION DETAILS

Date: 10/20/05
Drwn. by: HDS
Rev #:
Rev Date:
Page No.
FN-2.0

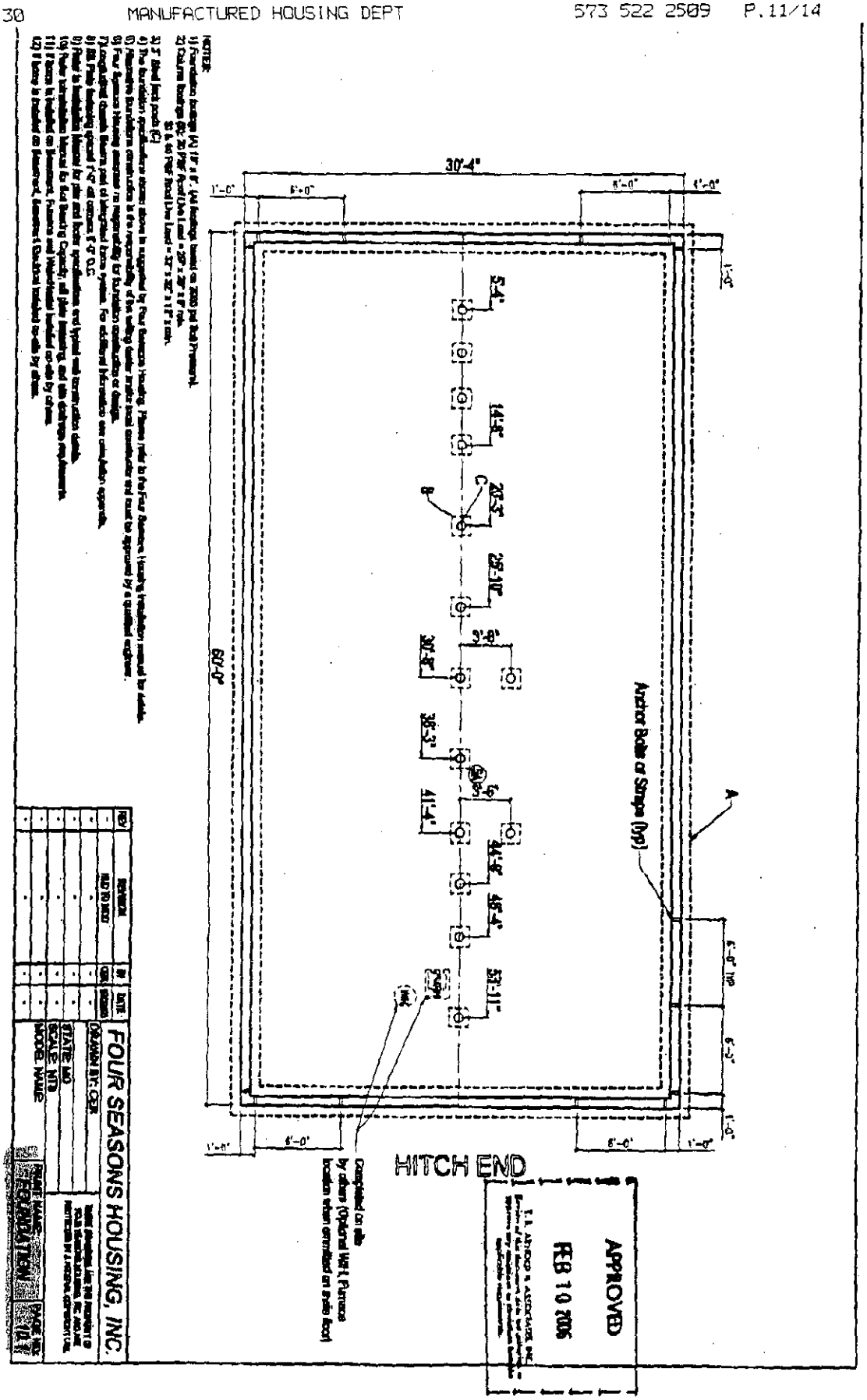
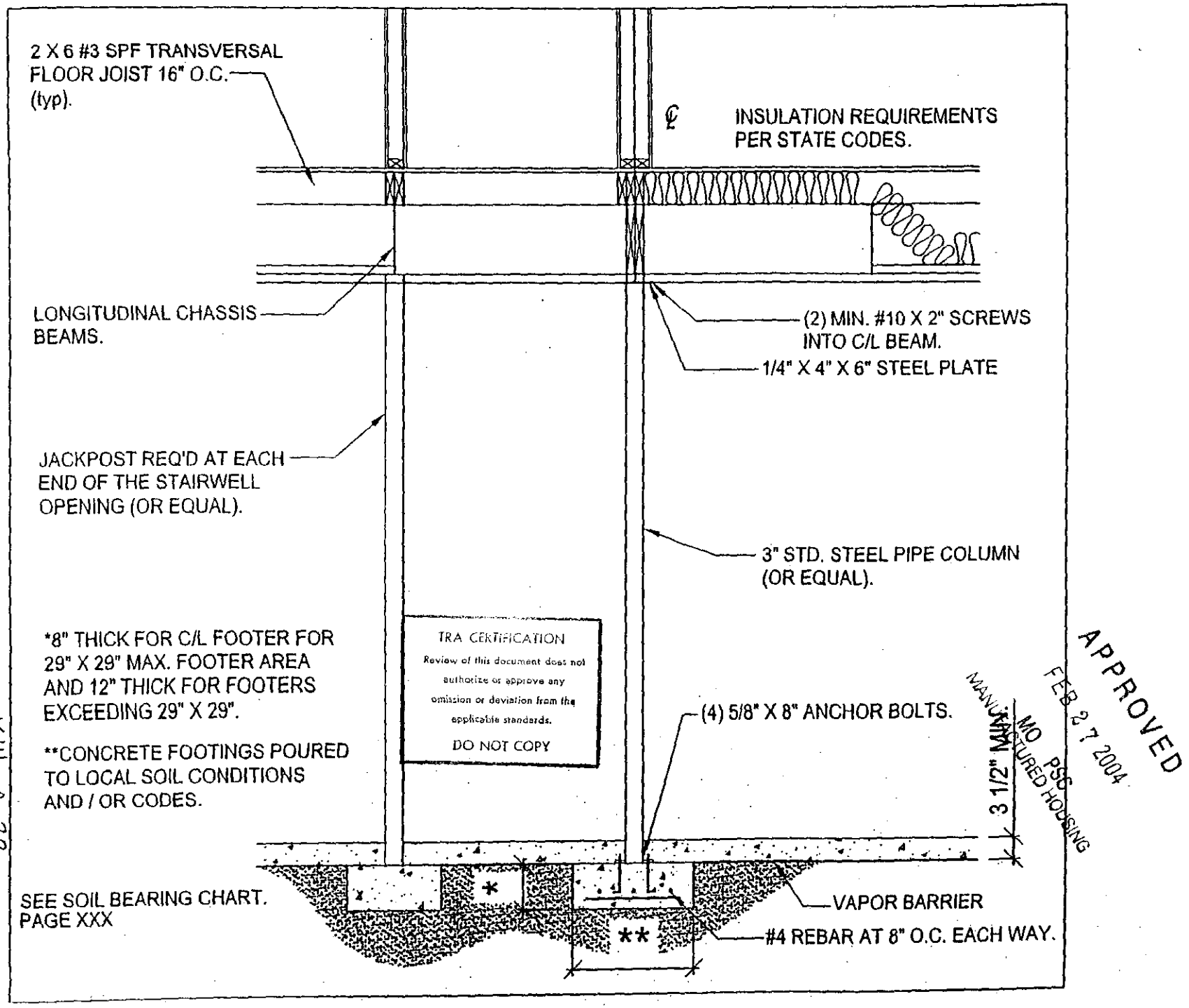

30'-4"
60'-0"
Anchor Bolts or Straps (typ)
HITCH END
APPROVED
FEB 10 2006
FOUR SEASONS HOUSING, INC.

Figure 5.0


2 X 6 #3 SPF TRANSVERSAL FLOOR JOIST 16" O.C. (typ).
℄
INSULATION REQUIREMENTS PER STATE CODES.
LONGITUDINAL CHASSIS BEAMS.
(2) MIN. #10 X 2" SCREWS INTO C/L BEAM.
1/4" X 4" X 6" STEEL PLATE
JACKPOST REQ'D AT EACH END OF THE STAIRWELL OPENING (OR EQUAL).
3" STD. STEEL PIPE COLUMN (OR EQUAL).
*8" THICK FOR C/L FOOTER FOR 29" X 29" MAX. FOOTER AREA AND 12" THICK FOR FOOTERS EXCEEDING 29" X 29".
**CONCRETE FOOTINGS POURED TO LOCAL SOIL CONDITIONS AND / OR CODES.
TRA CERTIFICATION
Review of this document does not authorize or approve any omission or deviation from the applicable standards.
DO NOT COPY
(4) 5/8" X 8" ANCHOR BOLTS.
3 1/2" MIN.
MANUFACTURED HOUSING MO PSG
APPROVED
FEB 27 2004
SEE SOIL BEARING CHART. PAGE XXX
*
**
VAPOR BARRIER
#4 REBAR AT 8" O.C. EACH WAY.
X111-A-39

SECTION 1 INTRODUCTION

1.1 ABOUT THIS MANUAL. This manual contains installation instructions for the set-up of your *FOUR SEASONS* optional hinged roof system (for 5/12 and greater roof pitches). This manual must be used in conjunction with the Modular Installation Manual. Careful adherence to this manual by the homeowner, an experienced set-up crew, and consultation with a registered, professional engineer in circumstances not covered by this manual, will ensure a safe and proper installation of your home.

1.2 SAFETY. ONLY SPECIALLY TRAINED CREWS SHOULD ATTEMPT TO INSTALL THE HOME. Installers should follow the instructions provided in this manual and the Modular Installation Manual as well as general safety procedures, as with any construction endeavor. Remember that the home weighs several tons. Without proper safety blocking and common sense, a rollover or collapse can CAUSE SEVERE INJURY OR DEATH. Always assume that all elements of the home are unstable until they are completely installed. Never place any portion of your body under the hinged portion of the roof until **all** safety blocking is in place. Never walk on the hinged portion of the roof until **all** members are fastened permanently in place. Never allow anyone under the home until **all** support blocking is safely in place. Check all safety equipment for defects before each and every installation.

SECTION 2 HINGED ROOF SET-UP

2.1 PREPARATION OF ROOF. One half of the home may be set with the roof in the shipping position. The other half must be raised prior to setting the home, or it will be impossible to raise and secure the roof. Remove all shipping plastic from the roof and matewalls. The shipping plastic is held in place with strips of wood fastened with staples and/or nails. These must be removed from the decking and shingles. Any penetrations by staples and/or nails in the shingles must be filled with roofing cement. Remove the wide crown staples and secure the kingpost stub to the swingarm. At this point the roof is not secured in place and additional care must be taken to prevent **damage to the roofing system and/or bodily harm.**

2.2 RAISING THE ROOF. The roofing system weighs several hundred pounds and can **cause severe bodily harm or death** in the event of a collapse. Insure that no portion of your body is under the roof while it is being raised. Use jacks with a minimum working load of 800 (eight hundred) pounds. Place one jack at each end, within 2'-0" (two feet) of the endwall. Place additional jacks at 12'-0" (twelve foot) intervals. A 76'-0" home will require 7 (seven) jacks to lift the roof. A crane with at least 3 straps is an alternative method of lifting the roof, in place of jacks. Begin raising the roof in a smooth, even manner. To avoid injury and/or damage to the home *FOUR SEASONS* **does not** recommend that persons lift the roof by hand. Do not let a portion of the roof sag excessively. Once the roof has been raised to the proper height, swing the hinged supports into place and

XIII-A-27

fasten the 2 x 3 center rail into the kingpost stub using 2 (two) #8 x 3" wood screws toe-screwed at each truss.

2.3 ROOF COVERINGS. A portion of the exterior roof coverings must be installed on site to insure uniformity and prevent any possibilities of roof leaks.

2.3.1 DRIP EDGE. The drip edge material (provided by *FOUR SEASONS)* must overlap the roofing paper at the rake by a minimum of 1" (one inch). The roofing paper must overlap the drip edge on the eaves by a minimum of 1" (one inch). Fasten the drip edge in place using galvanized roofing nails or staples at 24" O.C.

2.3.2 SHINGLES. A portion of the shingles (provided by *FOUR SEASONS)* must be installed and/or fastened on site due to interference with the hinged roof system. Shingles may need to be slid underneath an existing row of shingles or several courses of shingles may need to be installed depending upon the design of the hinged roof system. When shingles are slid underneath existing shingles, the fasteners on the existing shingles will have been placed in the upper portion for installation on site. Slide the shingles underneath the temporarily fastened shingles and then fasten according to the instructions given on the shingle packaging. Apply the shingles in the hinged area according to the shingle manufacturer's instructions.

2.3.3 ROOF RIDGE CAP. Follow the detail in **Section 14.02.**

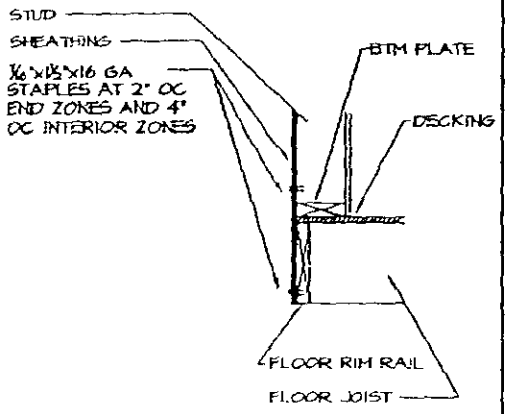
2.4 PLUMBING VTR (VENT THROUGH ROOF)

2.4.1 VTR PIPE(S). Each vent pipe shall extend through its flashing and terminate vertically, undiminished in size, not less than 2" (two inches) above the top portion of the boot. Plumbing vents are minimum 3" ABS pipe. **Vent openings shall not be less than 3'-0" (three feet) from any air intake that opens into habitable areas.** Use a coupler and length of pipe (provided by *FOUR SEASONS)* to extend the vent through the roof cavity. Seal all pipe joints with ABS cement (provided by *FOUR SEASONS).*

2.4.2 VTR BOOTS. Each VTR must have a boot (provided by *FOUR SEASONS).* Slide the boot under the shingles (if they have already been installed). The boot should be under the shingles up to the bottom 1/3 (minimum) of the flange and then on top of the shingles. Fasten the boot over the pipe with 10 (ten) galvanized roofing nails through the flange, one fastener in each dimple.

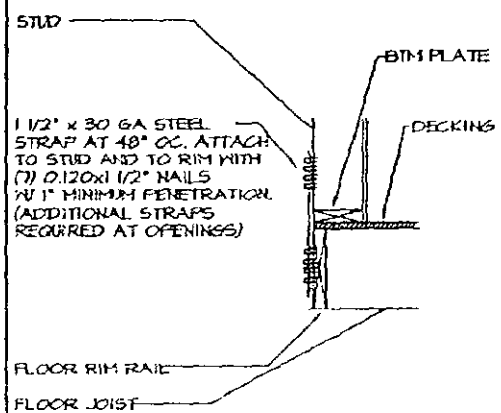
2.5 ROOF JACKS AND VENTS (FOR HEAT PRODUCING APPLIANCES). Vent openings shall not be less than 3'-0" (three feet) from any air intake that opens into habitable areas. Remove any metallic flue covers before continuing. Components shall be secured, assembled, and properly aligned

XIII-A-28

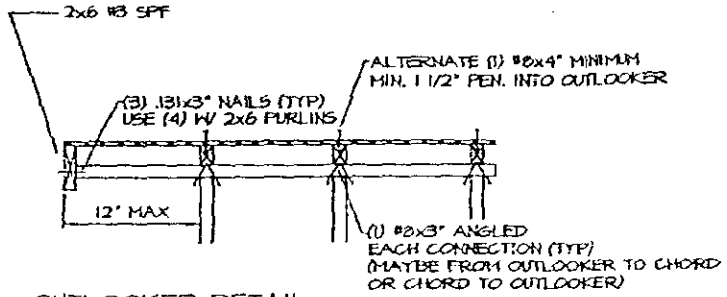


(A) UPLIFT RESISTANCE AT FLOOR

THIS DETAIL FOR USE WHEN LISTED EXTERIOR SIDING IS USED WITHOUT STRUCTURAL SHEATHING UNDERLAY. THIS DETAIL IS AN ALTERNATE TO DETAIL A.



(B) UPLIFT RESISTANCE AT FLOOR (ALTERNATE)

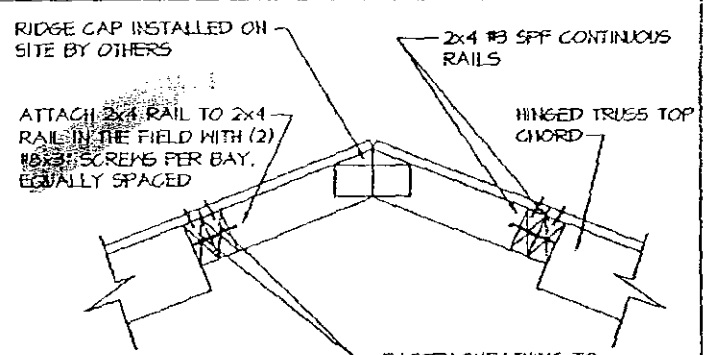


OUTLOOKER DETAIL

FOR USE AT GABLE OVERHANGS

	ROOF LIVE LOAD		
OUTLOOKER SPACING:	40 PSF	60 PSF	90 PSF
2x3 #2 SPF LAID FLAT	48" OC	N/A	N/A
2x4 #2 SPF LAID FLAT	48" OC	48" OC	30" OC
2x6 #2 SPF LAID FLAT	48" OC	48" OC	48" OC

(C) RAKE CONSTRUCTION



DESIGNED FOR 60 PSF GSL WITH 24" OC TRUSSES AND 90 PSF GSL WITH 16" OC TRUSSES AND 90 MPH WIND, EXPOSURE C

(A) ALTERNATE RIDGE CAP DETAIL

Four Seasons Housing
1888 C.R. 2
Middlebury, IN 46540
Phone (574) 825-4999
Fax (574) 825-6718

Date:	10/20/05
Drwn. by:	HDG
Rev #:	
Rev Date:	
Page No.	CD-1.0

Title: CONSTRUCTION DETAILS

flush with the other. Any cuts made in the bottom board must be repaired per **Section 8.1.**

3.7.5.1.3 END WALLS. Fasten the end walls using #8 x 3" screws at 12" O.C.

LOCATION	FASTENER	SPACING
Perimeter Joist	5/16" x 3" Lag bolt w/ washer	48" O.C.
Ridge	3/8" x 5" Lag bolt @ 45 degrees	48" O.C. Zone 1
Endwalls	#8 x 3" screw	12" O.C.

CLOSURE FASTENING SCHEDULE

3.7.5.2 CROSS-OVER CONNECTIONS. Connect water, furnace, sewer, gas, and electrical cross-overs. **Section** 7 describes the utility tests and procedures for connecting to site utilities. When making gas and water connections, make note of the flow. Some of the sewer lines may have to be installed on site. Be sure to use an adequate slope of ¼" per ft. when installing drain lines. Support drain lines at 48" O.C.

3.7.5.3 EXTERIOR FINISHING. Remove all of the shipping materials from the end walls. The starter strip and the channels for the siding are already installed. Install the vinyl siding sections by inter-locking the s-strips. Fasten the siding on a stud using corrosion resistant fasteners that penetrate at least 1" into the receiving member. Fasten the siding in the center of the slots to allow for expansion. Do not install the siding tight against the channels. Allow ¼" gap to prevent buckling. Remove all shipping materials from the roof. Any visible holes left by the shipping material fasteners must be filled with roofing cement. **See Figure 13.0 for Ridge Vent Installation.**

3.7.5.4 INTERIOR FINISHING. All materials needed to finish off the interior of the home have been shipped with it. Some materials may have been shipped separately due to supply problems. Fill all gaps in the exterior walls with fiberglass or latex caulking. Staple or nail the trim in place. Colored putty can be used to fill nail and staple holes. Raw gypsum may have been shipped loose with the home and must be installed on site. These panels should be fastened to the wall and then completed, giving the home a more finished look. The carpet / linoleum seam should be finished by an experienced carpet / linoleum installer. The interior doors at the mating wall will need to be hung. Do not hang the doors until the home is set and level in its final position.

3.7.5.5 STAIRWELLS. It is **not** permissible to modify the floor, frame, or walls of your home to accommodate a stairwell. Typical stair details are included to aid you in the design and construction of your stairs. All local building codes must be considered when designing the stairs. See **Figures 6.0 and 7.0** for typical stair details. All typical stair prints assume an 8'-0" wall height. Some

XIII-A-14