



**FIELD INSTALLATION MANUAL
MANUFACTURED HOMES (MOD)
MULTI-SECTION HOMES**

Housing Division of Chief[®] Industries, Inc.

111 Grant Street, P.O. Box 127

Aurora, Nebraska 68818-0127

Visit us at www.chiefcustomhomes.com

January 2007

13.0050

FOREWORD

Thank you for choosing Chief[®] Industries as your home builder. We hope your new home brings you comfort and pleasure for many years to come. This home was engineered, constructed and inspected to comply with the *International Residential Codes (IRC)* in effect on the date of construction.

Our intent is to produce a safe and comfortable home for you. Our company standards surpass compliance with national standards. Chief[®] Industries has highly qualified plant personnel to inspect these standards throughout the construction process.

Before set up can even begin, you must contact the building officials in your area for necessary permits, licenses and inspections required for installation of this home. It is extremely important in preparing your home for its occupancy that it be properly supported, set and leveled by an experienced home mover, dealer or installer. Correct procedures in setting your home could prevent any costly future reconstruction.

The following step-by-step instructions were designed to assist you with the installation of your home. *Due to changes that are brought about by Chief[®] Industries continuing effort to improve our product and provide our customers with a wide variety of features; there may be products in or on your home that are not thoroughly covered by this manual.* **Before starting the set up process, you should go completely through your home owner's information carefully to see if there are supplemental details before any attempt is made in setting your home.**

NOTICE: This manual addresses the setting, repairing and maintaining of products manufactured by **Chief Custom[®] Homes**. In the case that the dealer, retailer or customer wishes to vary from these procedures **Chief Custom[®] Homes** will not be responsible for quality, durability and safety. In such case the entity varying from these procedures shall bear all responsibility for their methodologies in setting, repairing and maintaining of such products.

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CHIEF[®] INDUSTRIES, INC.
HOUSING DIVISION

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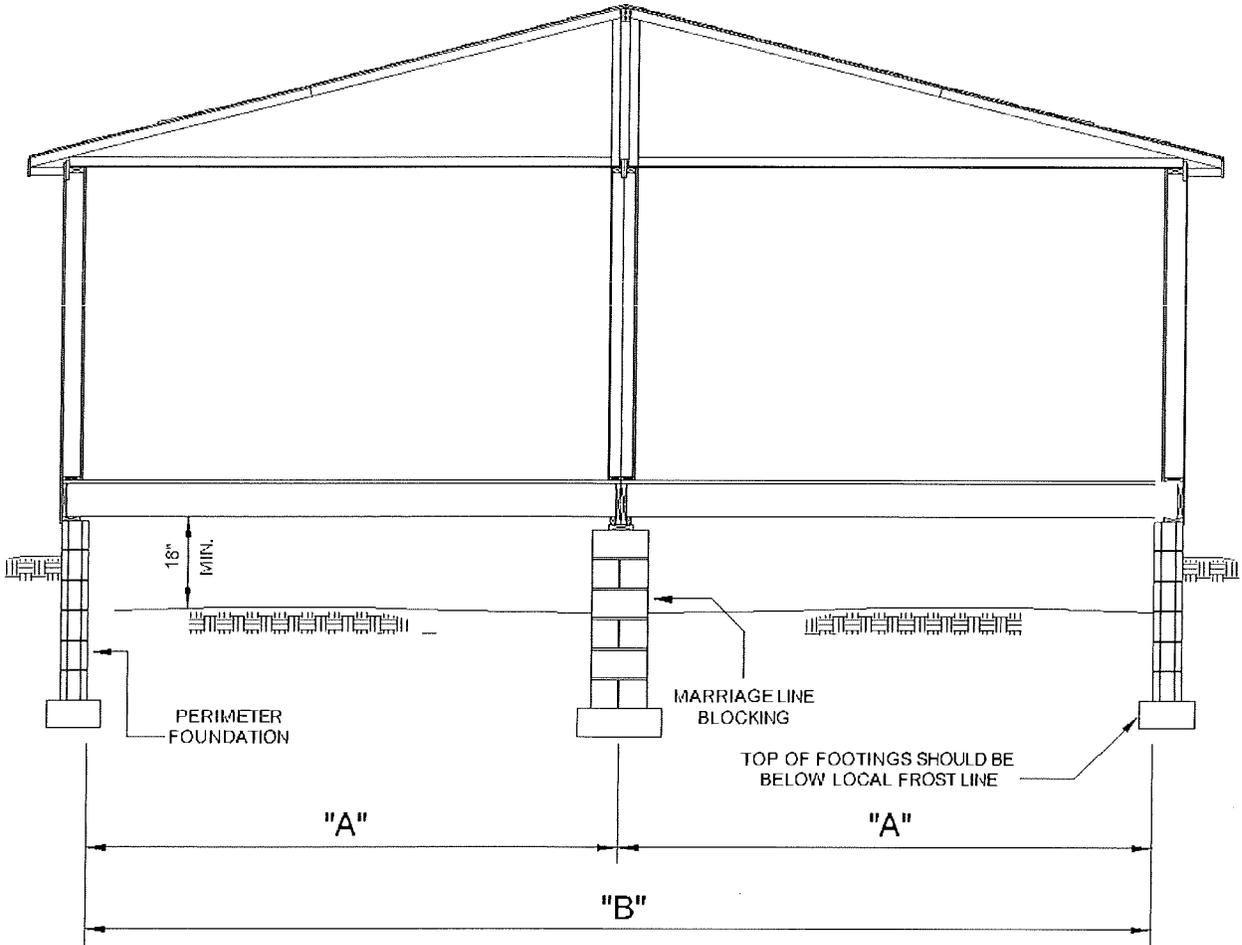
This booklet contains **Field Installation Specifications**
for all Chief[®] Industries, Inc., Housing Division,
Manufactured Homes (MOD) Multi-Section Homes, per category as follows:

SECTION I	SERVICE LOCATION
SECTION II	CRAWL SPACE CONSTRUCTION
SECTION III	BASEMENT CONSTRUCTION
SECTION IV	TYPICAL ANCHORAGE & FOOTING INSTRUCTIONS
SECTION V	SITE ASSEMBLY INSTRUCTIONS

SECTION I
SERVICE ENTRANCE LOCATIONS
Modular Homes

SECTION II
CRAWLSPACE CONSTRUCTION
Modular Homes

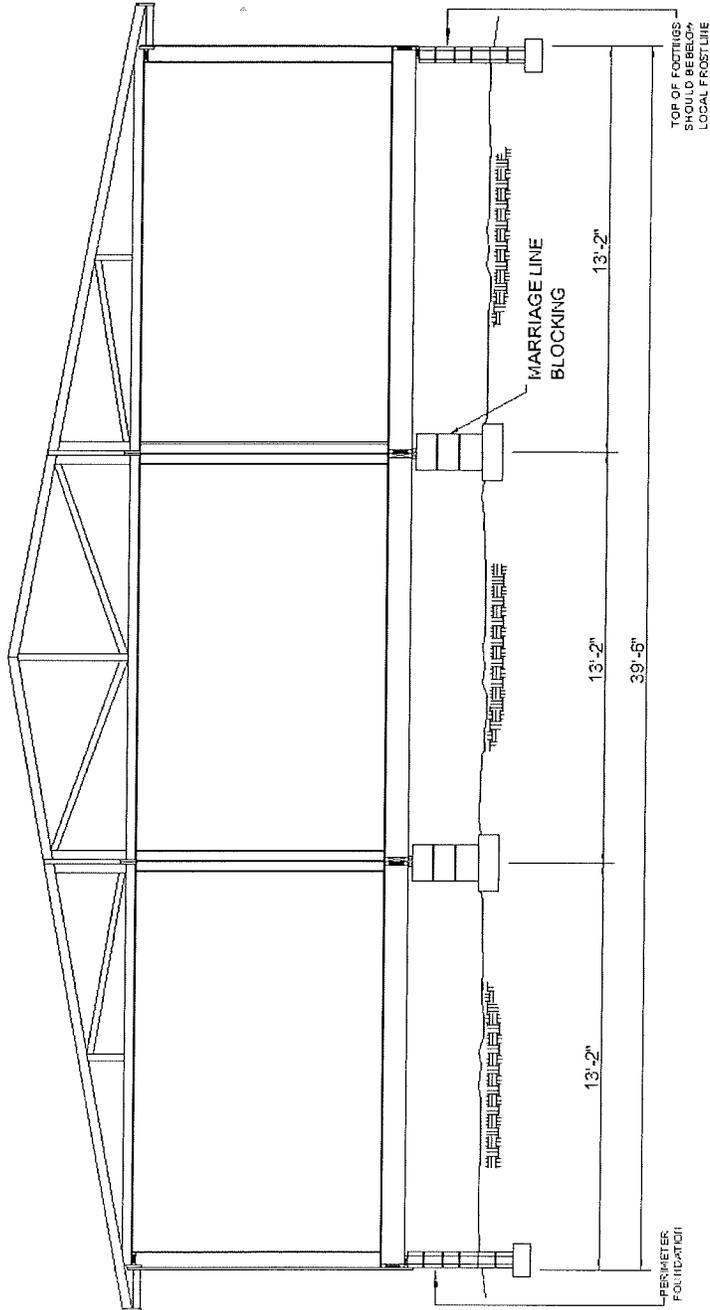
CRAWLSPACE FOUNDATION



BOX SIZE	DISTANCE "A"	DISTANCE "B"
28' DOUBLE WIDE	13'-2"	26'-4"
32' DOUBLE WIDE	14'-6"	29'-0"

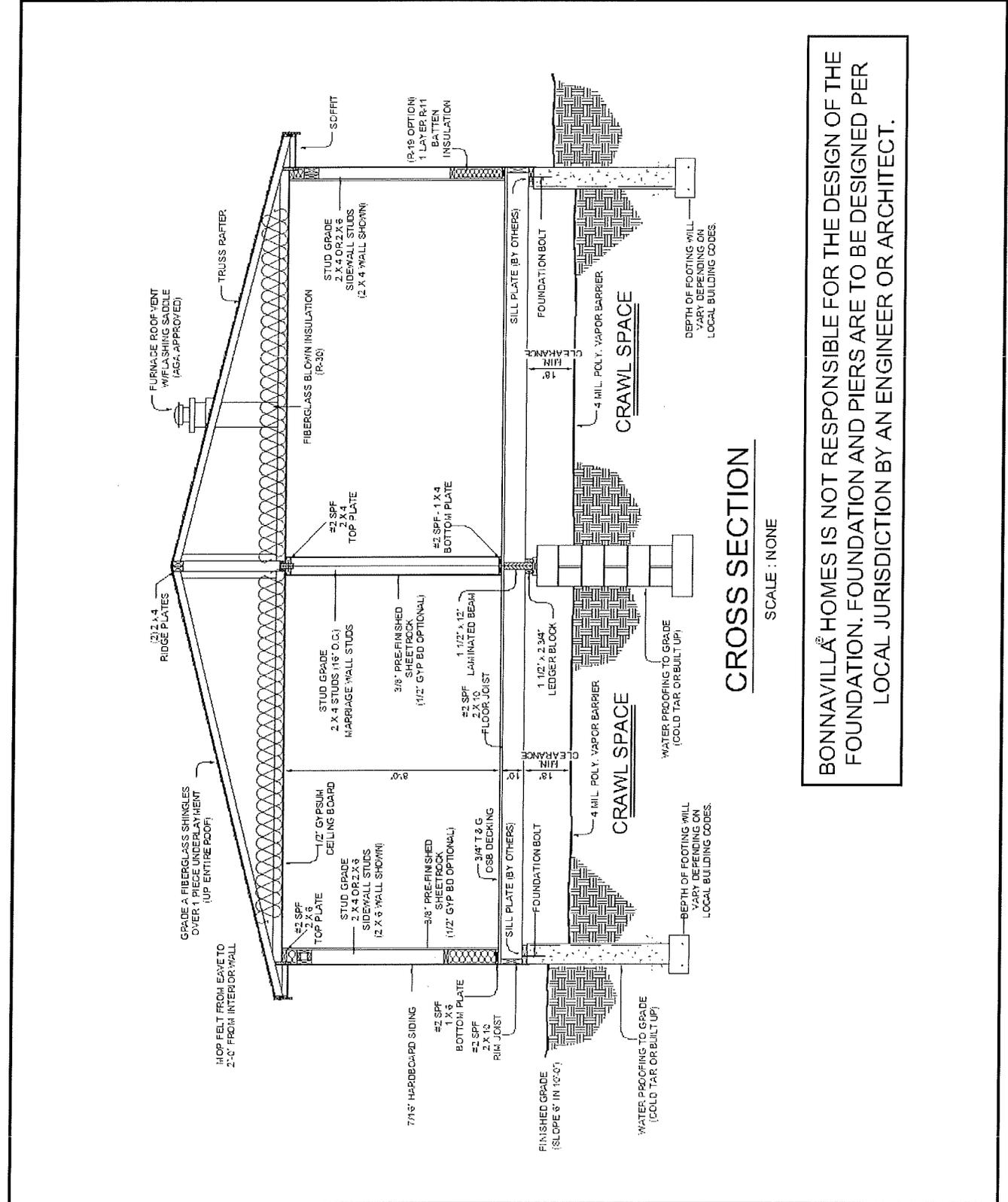
REVISIONS	DATE	 CHIEF® INDUSTRIES HOUSING DIVISION	DRWG. BY: DM	5/13/98
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CRAWLSPACE FOUNDATION



42' WIDE HOME

REVISIONS	DATE	 CHIEF® INDUSTRIES HOUSING DIVISION	DRWG. BY: CES 04/19/05
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			SCALE: NONE 13.0056



CROSS SECTION

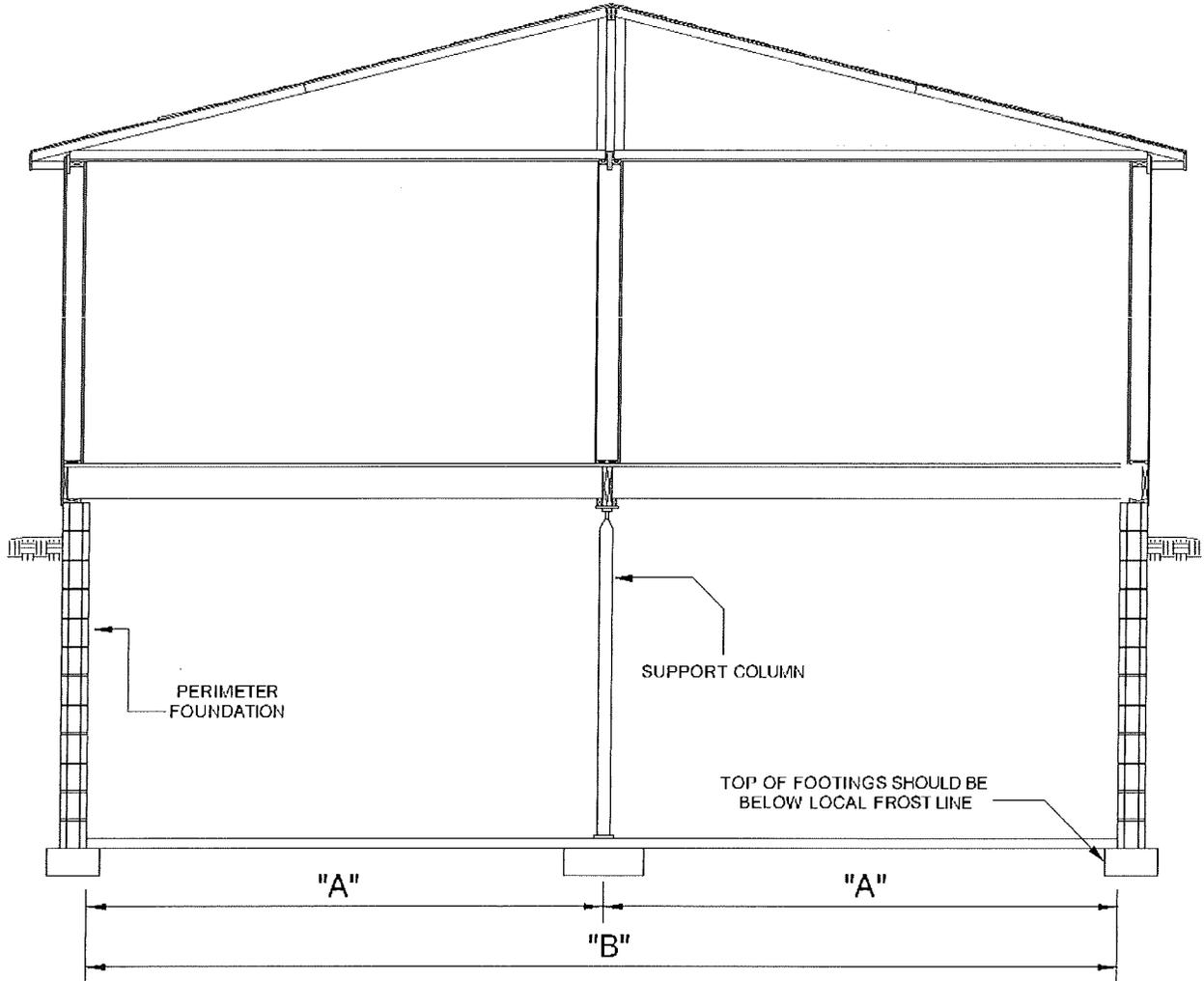
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BONNAVILLÁ HOMES IS NOT RESPONSIBLE FOR THE DESIGN OF THE FOUNDATION. FOUNDATION AND PIERS ARE TO BE DESIGNED PER LOCAL JURISDICTION BY AN ENGINEER OR ARCHITECT.

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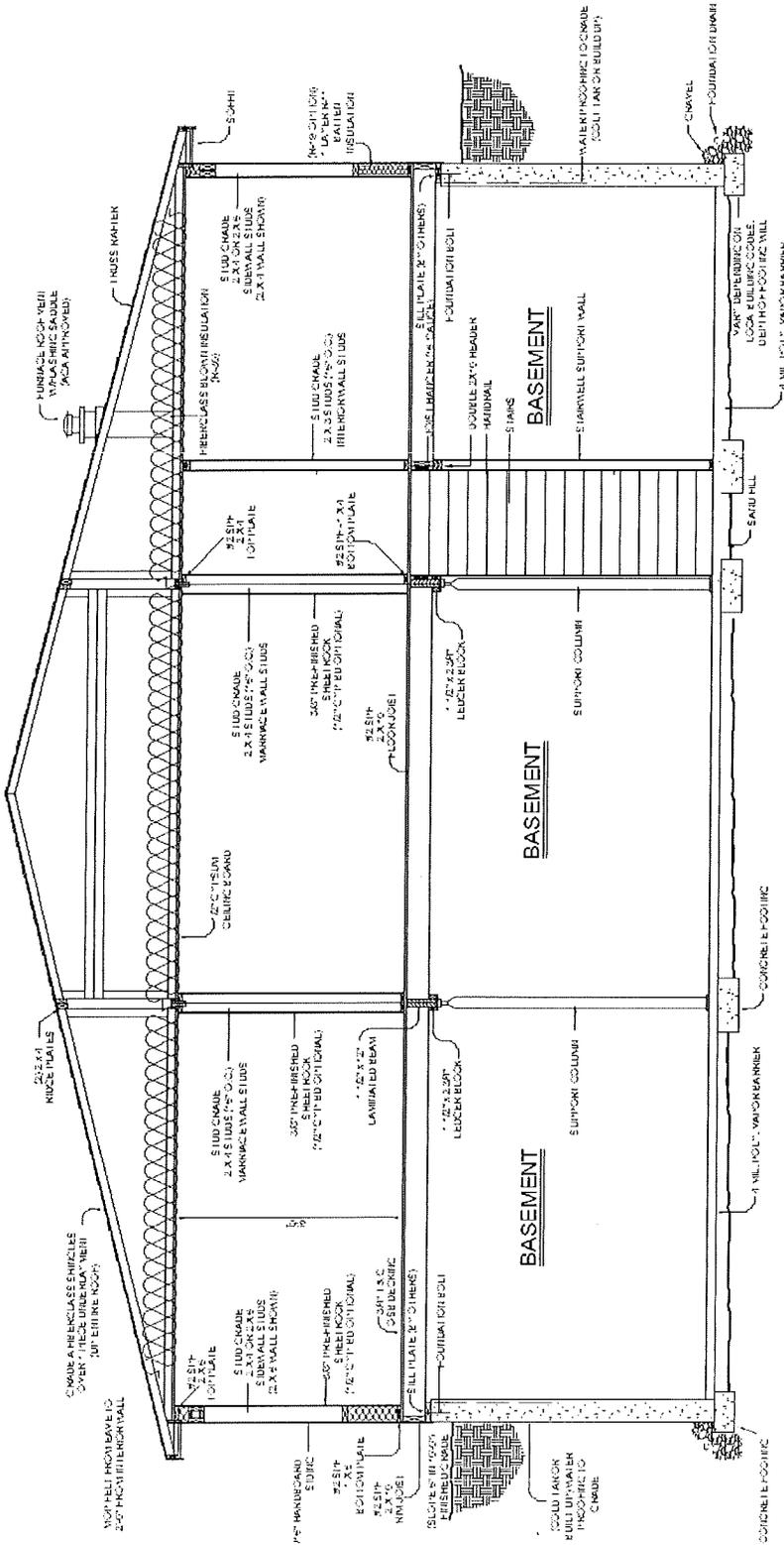
SECTION III
BASEMENT CONSTRUCTION
Modular Homes

BASEMENT FOUNDATION



HOME SIZE	DISTANCE "A"	DISTANCE "B"
28' DOUBLE WIDE	13'-2"	26'-4"
32' DOUBLE WIDE	14'-6"	29'-0"

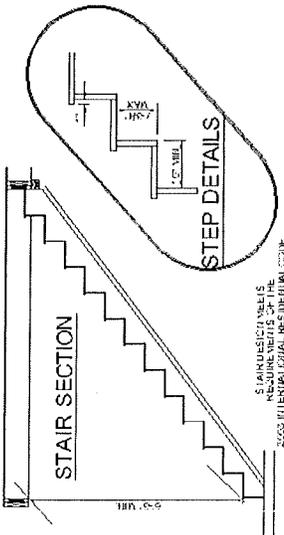
REVISIONS	DATE	 CHIEF® INDUSTRIES HOUSING DIVISION	DRWG. BY: DM	5/13/98
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			SCALE: NONE	13.0060



CROSS SECTION

SCALE : NONE

BONNAVILLA HOMES IS NOT RESPONSIBLE FOR THE DESIGN OF THE FOUNDATION. FOUNDATION AND PIERS ARE TO BE DESIGNED PER LOCAL JURISDICTION BY AN ENGINEER OR ARCHITECT.



STAIR AND STEP DETAILS REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE

REVISIONS

DATE



CHIEF® INDUSTRIES
HOUSING DIVISION

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SCALE: NONE 13.0063

SECTION IV
TYPICAL ANCHORAGE &
FOOTING INSTRUCTIONS
Modular Homes

MODULAR FOUNDATION DETAILS

TABLE 4.1

MAXIMUM SPANS FOR CENTER RIM JOIST BEAM					
ROOF AND FLOOR LOAD AREAS (UNDER MARRIAGE WALL) (DENOTED BY "A")					
ROOF LIVE LOAD		30 PSF	46.2 PSF	66.7 PSF	100 PSF
1 1/2" X 11 7/8" LVL BEAM	MAX. SPAN	9'-0"	7'-5"	7'-1"	5'-9"
	MIN. LOAD	15,912	16,946	17,220	18,908

NOTES:

1) CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO FOUNDATION CONSTRUCTION

2) 1 1/2" x 11 7/8" LVL RATED AT 2800 F_b AND 2.0E

3) DESIGN LOADS SPECIFIED ARE ROOF LIVE LOADS AFTER CONVERSION FROM GROUND SNOW LOADS. CONVERSION BACK TO GSL IS THE RESPONSIBILITY OF THE BUILDER PER LOCAL CODE.

TABLE 4.2

PIER LOADS FOR COLUMN SUPPORTS - MAXIMUM RIDGE BEAM SPANS (DENOTED BY "B")						
LOADS	SPANS	10'-0"	12'-0"	14'-0"	16'-0"	18'-0"
30 PSF		15,268	16,731	18,190	18,995	19,798
46.2 PSF		16,975	18,675	20,293	21,335	22,377
66.7 PSF		17,428	19,191	20,872	21,977	23,082
100 PSF		20,212	22,363	24,432	25,925	27,418

* THESE LOADS ASSUME "C" PIER @ MIDPOINT

TABLE 4.3

FLOOR LOAD ONLY AREAS (CLEAR SPAN) (DENOTED BY "C")						
MAX. SPAN - "C"		13'-9" (FOR ALL ROOF LOADS)				
1 1/2" X 11 7/8" LVL BEAM	BEAM SPANS - "B"	10'-0"	12'-0"	14'-0"	16'-0"	18'-0"
	LOAD PER PIER - "C"	3292	3950	4608	5267	5925

THE LOADS TABULATED DO NOT INCLUDE FOUNDATION DEAD LOADS

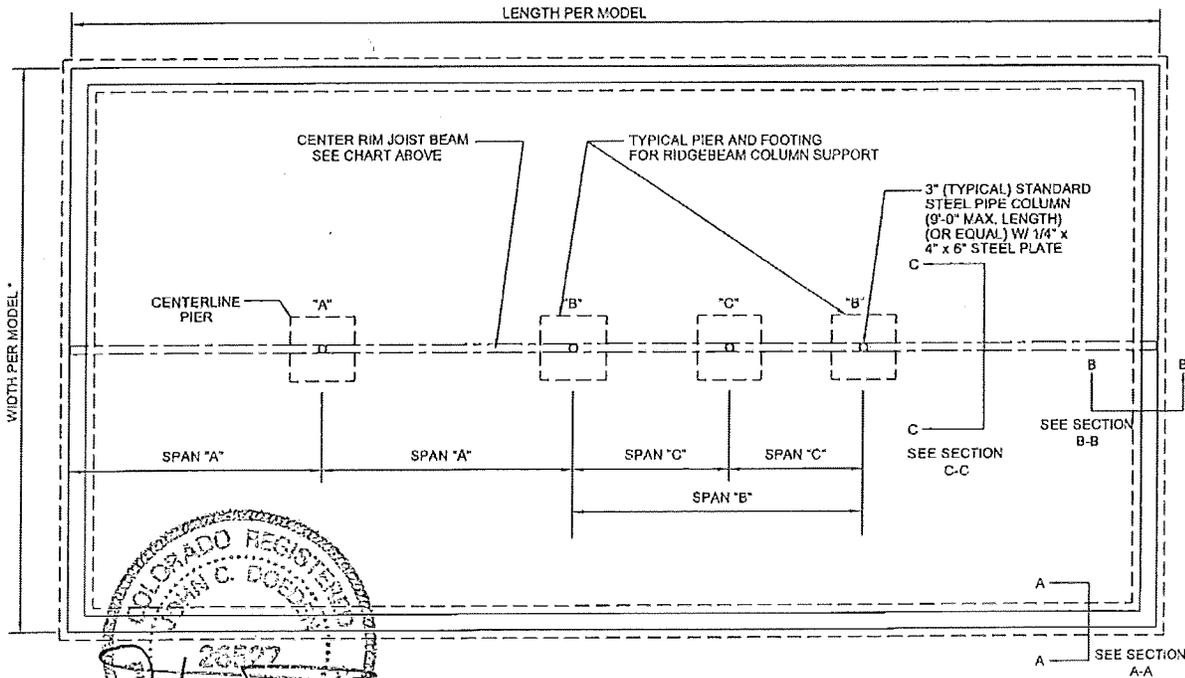
TABLE 4.4

LOADING FOR WALLS PER LINEAL FEET				
ROOF LIVE LOAD	30 PSF	46.2 PSF	66.7 PSF	100 PSF
MARRIAGE WALL	950	1426	1952	2326
EXTERIOR WALL	502	692	932	1398

FLOOR LOADS ARE 40 PSF LIVE LOAD AND 10 PSF DEAD LOAD
WALL DEAD LOAD IS 5 PSF
ROOF DEAD LOAD IS 15 PSF

* APPLICABLE TO MAXIMUM UNIT WIDTH OF 26'-4" WITH 18" EAVE MAXIMUM

BONNAVILLA® HOMES IS NOT RESPONSIBLE FOR FOUNDATION DESIGN. FOUNDATION AND PIERS ARE TO BE DESIGNED PER LOCAL JURISDICTION REQUIREMENTS BY AN ENGINEER OR ARCHITECT



TYPICAL FOUNDATION PLAN (CRAWL SPACE OR BASEMENT)

REVISIONS	DATE	CHIEF® INDUSTRIES HOUSING DIVISION	DRWG. BY: CES	03/27/06
Change load/span criteria	2/08		CHKD. BY:	
			SCALE: NONE	13.0065
				13.0065

MODULAR FOUNDATION DETAILS

TABLE 4.5

MAXIMUM SPANS FOR CENTER RIM JOIST BEAM ROOF AND FLOOR LOAD AREAS (UNDER MARRIAGE WALL) (DENOTED BY "A")					
ROOF LIVE LOAD	30 PSF	46.2 PSF	66.7 PSF	100 PSF	
1 1/2" X 11 7/8" LVL BEAM	MAX. SPAN 8'-6"	7'-0"	6'-9"	5'-7"	
	MIN. LOAD 16,160	17,235	17,510	19,272	

TABLE 4.6

PIER LOADS FOR COLUMN SUPPORTS - MAXIMUM RIDGE BEAM SPANS (DENOTED BY "B")					
LOADS	10'-0"	12'-0"	14'-0"	16'-0"	18'-0"
30 PSF	16,000	17,586	18,845	19,705	20,565
46.2 PSF	17,782	19,615	21,122	22,230	23,340
66.7 PSF	18,240	20,137	21,708	22,880	24,052
100 PSF	21,141	23,442	25,417	26,993	28,569

* THESE LOADS ASSUME "C" PIER @ MIDPOINT

TABLE 4.7

FLOOR LOAD ONLY AREAS (CLEAR SPAN) (DENOTED BY "C")						
MAX. SPAN - "C"		13'-1" (FOR ALL ROOF LOADS)				
1 1/2" X 11 7/8" LVL BEAM						
	BEAM SPANS - "B"	10'-0"	12'-0"	14'-0"	16'-0"	18'-0"
	LOAD PER PIER - "C"	3625*	4350*	5075	5800	6525

* NOT REQUIRED

TABLE 4.8

LOADING FOR WALLS PER LINEAL FEET				
ROOF LIVE LOAD	30 PSF	46.2 PSF	66.7 PSF	100 PSF
MARRIAGE WALL	994	1492	1618	2428
EXTERIOR WALL	626	939	1051	1577

FLOOR LOADS ARE 40 PSF LIVE LOAD AND 10 PSF DEAD LOAD
WALL DEAD LOAD IS 5 PSF
ROOF DEAD LOAD IS 15 PSF

NOTES:
1) CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO FOUNDATION CONSTRUCTION

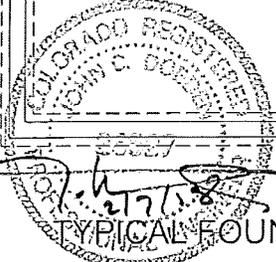
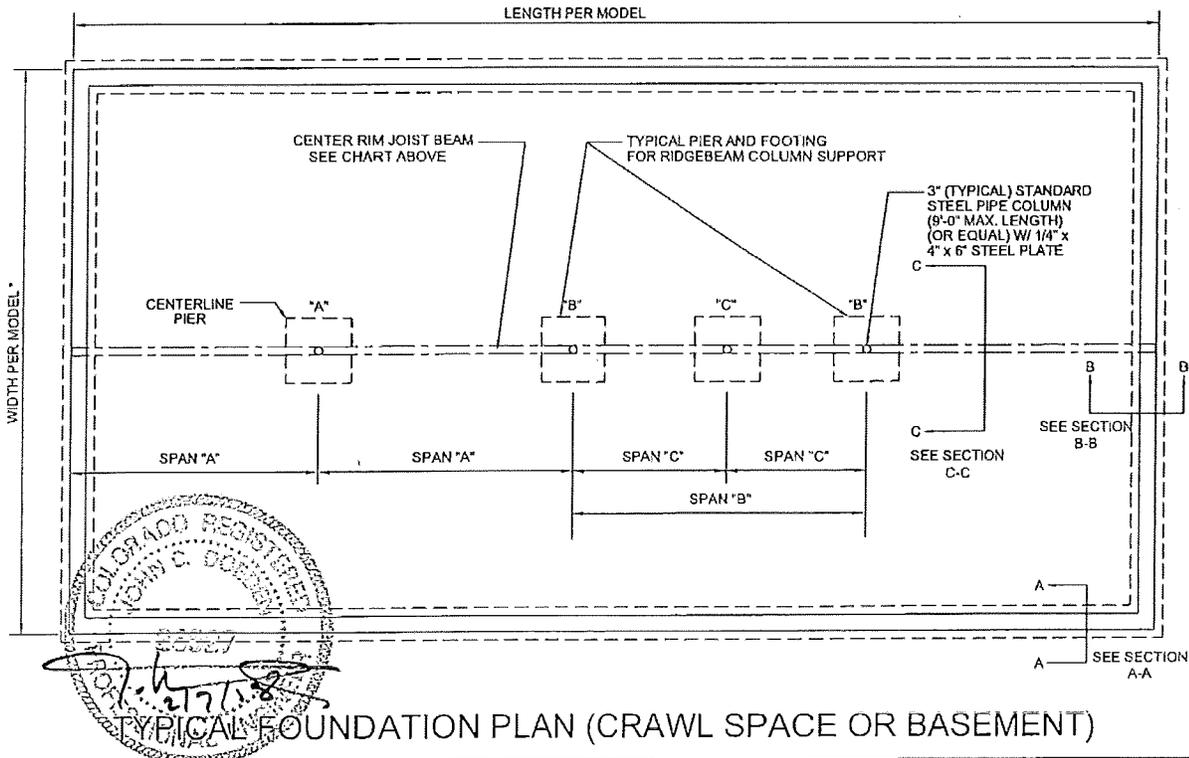
2) 1 1/2" x 11 7/8" LVL RATED AT 2800 F_b AND 2.0E

3) DESIGN LOADS SPECIFIED ARE ROOF LIVE LOADS AFTER CONVERSION FROM GROUND SNOW LOADS. CONVERSION BACK TO GSL IS THE RESPONSIBILITY OF THE BUILDER PER LOCAL CODE.

THE LOADS TABULATED DO NOT INCLUDE FOUNDATION DEAD LOADS

*APPLICABLE TO MAXIMUM UNIT WIDTH OF 29'-0" WITH 18" EAVE MAXIMUM

BONNAVILLA HOMES IS NOT RESPONSIBLE FOR FOUNDATION DESIGN. FOUNDATION AND PIERS ARE TO BE DESIGNED PER LOCAL JURISDICTION REQUIREMENTS BY AN ENGINEER OR ARCHITECT.



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Change load/span criteria	2/08		CHKF. BY:	
		CHIEF® INDUSTRIES	SCALE: NONE	13.0066
		HOUSING DIVISION		13.0066

MODULAR FOUNDATION DETAILS

TABLE 4.9

MAXIMUM SPANS FOR CENTER RIM JOIST BEAM ROOF AND FLOOR LOAD AREAS (UNDER MARRIAGE WALL) (DENOTED BY "A")						
ROOF LIVE LOAD		30 PSF	46.2 PSF	66.7 PSF	100 PSF	
1 1/2" X 11 7/8" LVL BEAM	MAX. SPAN	9'-0"	7'-5"	7'-1"	5'-9"	
	MIN. LOAD	15,912	16,946	17,220	18,908	

TABLE 4.10

PIER LOADS FOR COLUMN SUPPORTS - MAXIMUM RIDGE BEAM SPANS (DENOTED BY "B")						
LOADS	SPANS	10'-0"	12'-0"	14'-0"	16'-0"	18'-0"
30 PSF		15,268	16,731	18,190	18,995	19,798
46.2 PSF		16,975	18,675	20,293	21,335	22,377
66.7 PSF		17,428	19,191	20,872	21,977	23,082
100 PSF		20,212	22,363	24,432	25,925	27,418

* THESE LOADS ASSUME "C" PIER @ MIDPOINT

TABLE 4.11

FLOOR LOAD ONLY AREAS (CLEAR SPAN) (DENOTED BY "C")						
1 1/2" X 11 7/8" LVL BEAM	MAX. SPAN - "C"	13'-9" (FOR ALL ROOF LOADS)				
	BEAM SPANS - "B"	10'-0"	12'-0"	14'-0"	16'-0"	18'-0"
	LOAD PER PIER - "C"	3292	3950	4608	5267	5925

TABLE 4.12

LOADING FOR WALLS PER LINEAL FEET				
ROOF LIVE LOAD	30 PSF	46.2 PSF	66.7 PSF	100 PSF
MARRIAGE WALL	950	1426	1952	2326
EXTERIOR WALL	502	692	932	1398

FLOOR LOADS ARE 40 PSF LIVE LOAD AND 10 PSF DEAD LOAD
WALL DEAD LOAD IS 5 PSF
ROOF DEAD LOAD IS 15 PSF

NOTES:
1) CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO FOUNDATION CONSTRUCTION

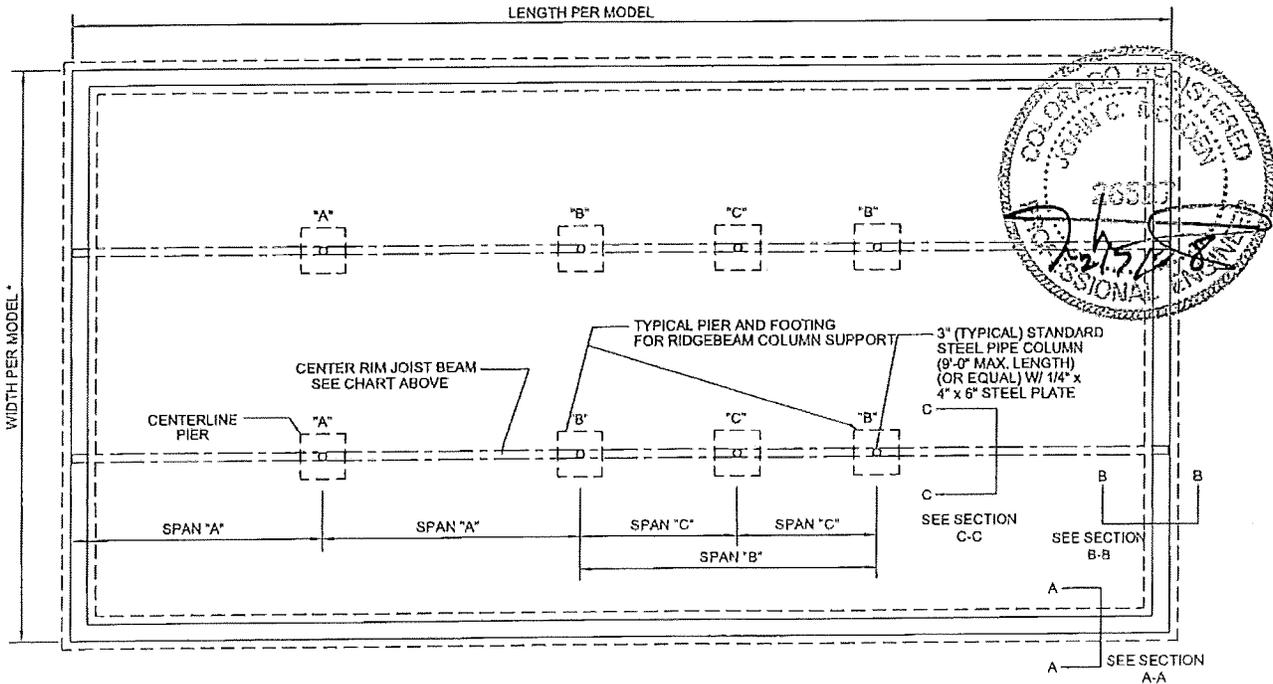
2) 1 1/2" x 11 7/8" LVL RATED AT 2800 F_b AND 2.0E

3) DESIGN LOADS SPECIFIED ARE ROOF LIVE LOADS AFTER CONVERSION FROM GROUND SNOW LOADS. CONVERSION BACK TO GSL IS THE RESPONSIBILITY OF THE BUILDER PER LOCAL CODE.

THE LOADS TABULATED DO NOT INCLUDE FOUNDATION DEAD LOADS

*APPLICABLE TO MAXIMUM UNIT WIDTH OF 39'-6" WITH 18" EAVE MAXIMUM

BONNAVILLA HOMES IS NOT RESPONSIBLE FOR FOUNDATION DESIGN. FOUNDATION AND PIERS ARE TO BE DESIGNED PER LOCAL JURISDICTION REQUIREMENTS BY AN ENGINEER OR ARCHITECT

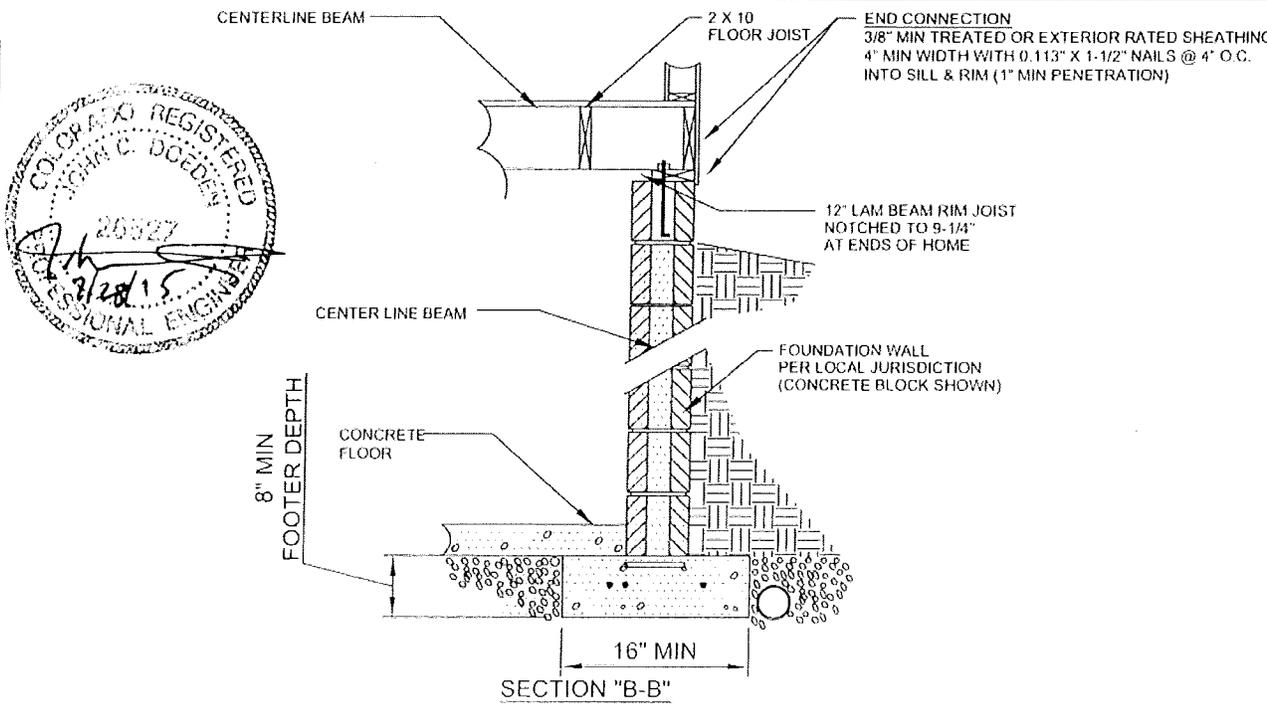
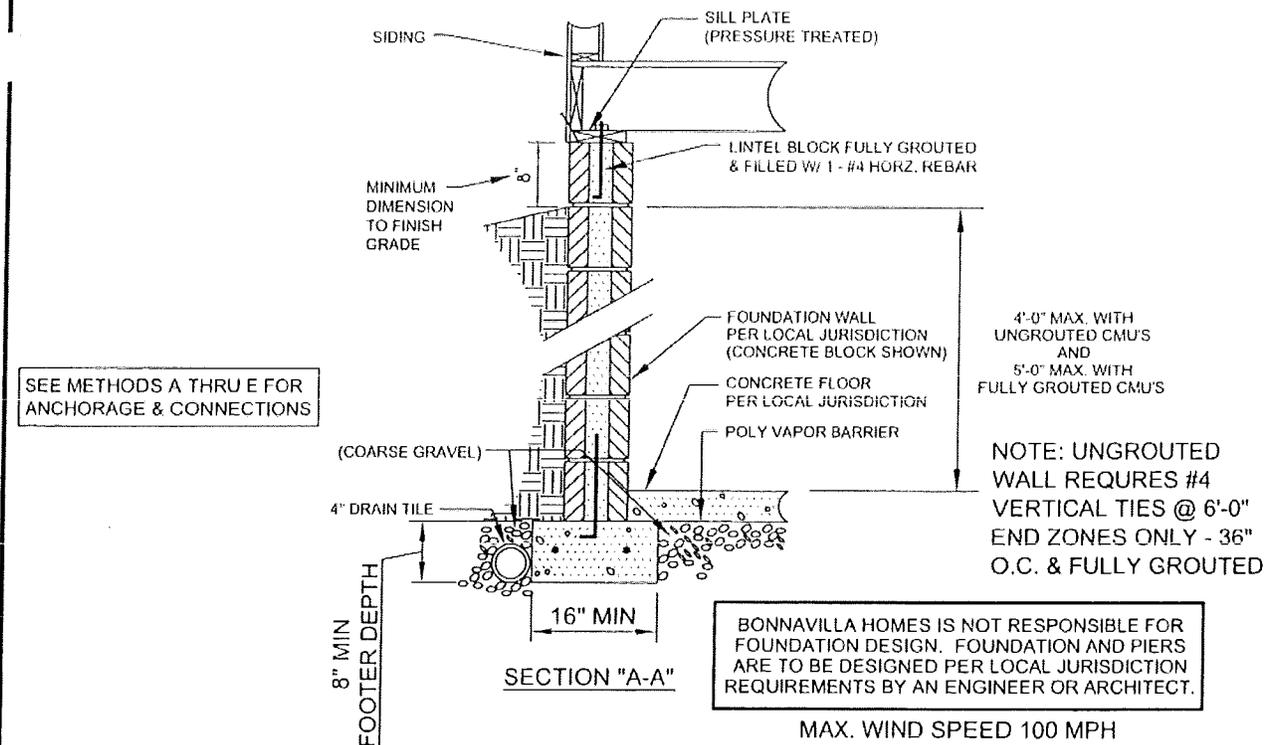


TYPICAL FOUNDATION PLAN (CRAWL SPACE OR BASEMENT)

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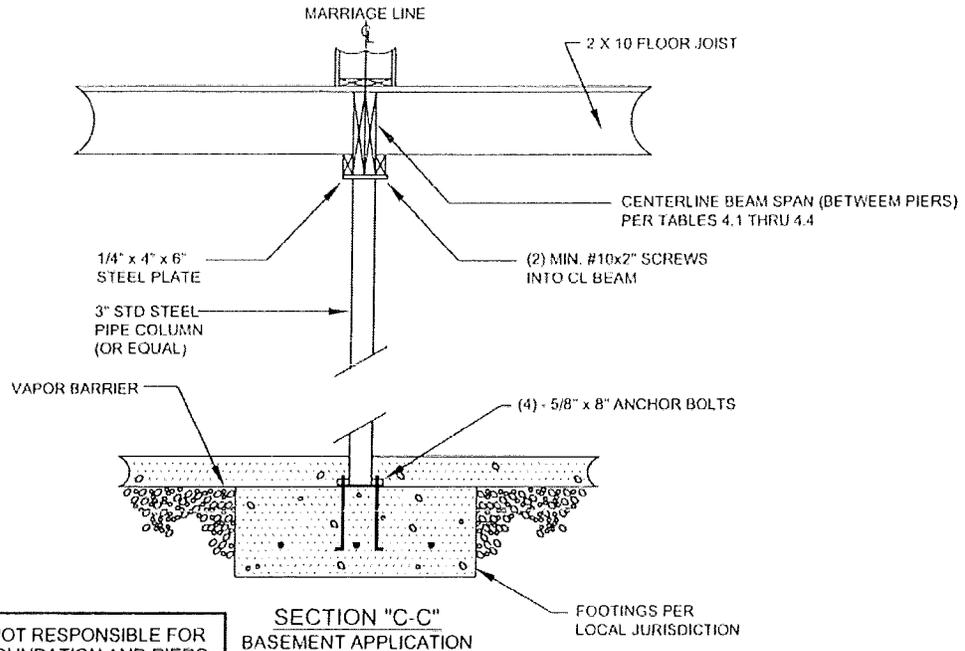
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BASEMENT DETAILS



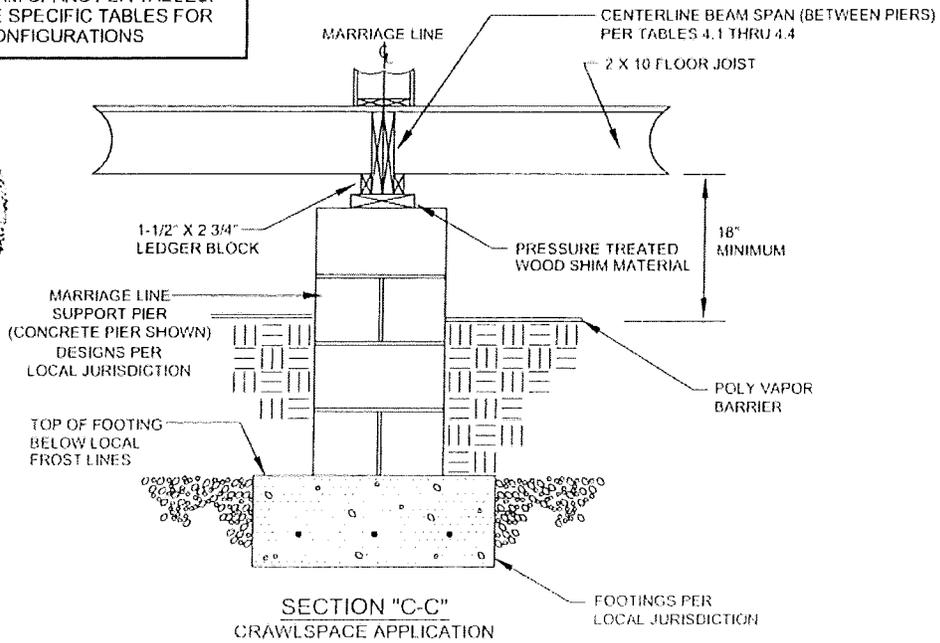
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MARRIAGE LINE SUPPORT



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THE CENTERLINE BEAM SPANS PER TABLES. THIS SHOULD BE THE SPECIFIC TABLES FOR ALL THREE CONFIGURATIONS



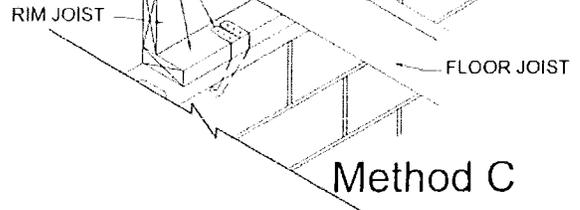
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Sill Plate Connections (Method A, B & C)

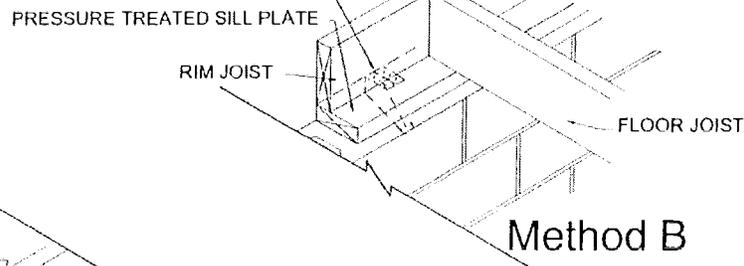
MAXIMUM WIND SPEED
100 MPH (3 SECOND GUSTS)
EXPOSURE 'C'

NOTE:
EXCEPT AT ENDWALLS AND ALL AREAS IN WIND ZONES EXCEEDING
90 MPH SIMPSON MAS (OR EQUIVALENT) CONNECTORS MAY BE
INSTALLED ON INSIDE OF SILL PLATE (BOTH SIDEWALLS)

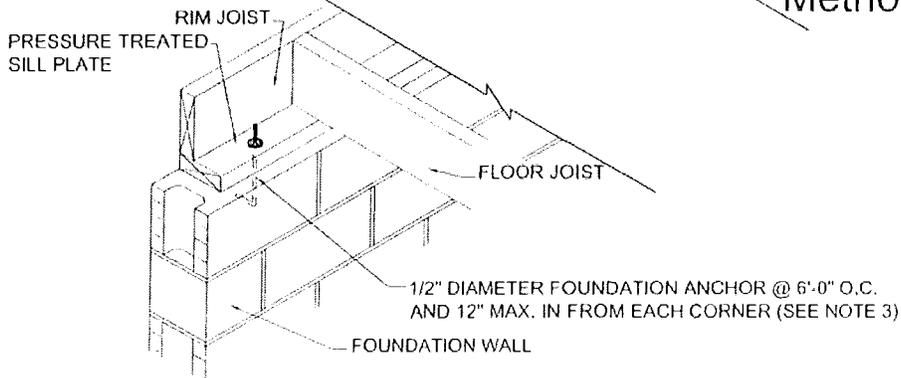
INSIDE APPLICATION (SEE NOTE)
PRESSURE TREATED SILL PLATE



2-10D @ SIDE & 4-10D @ TOP NAILS AT EACH MUD SILL ANCHOR
SIMPSON MAS (OR EQUIVALENT) INTO SILL PLATE, 6'-0" O.C
STARTING @ 12" MAX. FROM EACH CORNER.



Method A



* THESE DETAILS APPLY TO
BOTH CRAWLSPACE
CONSTRUCTION & BASEMENT
CONSTRUCTION.

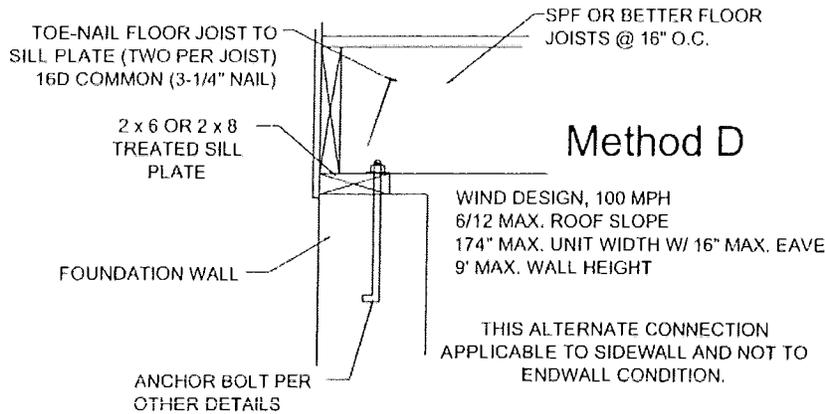


NOTES FOR METHOD A & B :

- 1) ROOF PITCH UP TO 6/12, MAX. SIDEWALL HEIGHT = 9'-0", MAX. EAVE = 16".
- 2) ALL FASTENERS (INCLUDING ANCHOR BOLTS & WASHERS) IN CONTACT WITH PRESSURE TREATED SILL PLATE TO BE G185 COATED.
- 3) ANCHOR BOLTS & WASHERS TO BE GALVANIZED TO G185 (Z MAX) COATING, MIN. MINIMUM EMBEDMENT INTO CONCRETE IS 7" & MIN INTO MASONRY IS 15".
- 4) SEE METHODS D THRU F FOR FLOOR TO SILL CONNECTION.

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Joist to Sill Plate Connections (Method D, E & F)

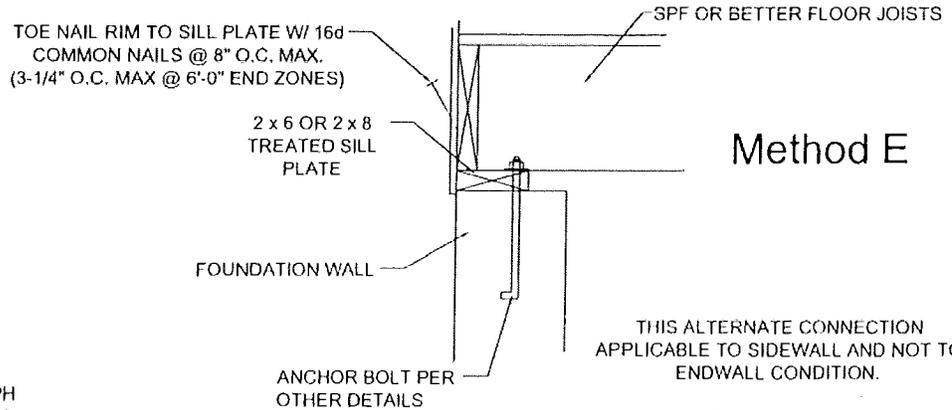


* THESE DETAILS APPLY TO BOTH CRAWLSPACE CONSTRUCTION & BASEMENT CONSTRUCTION.

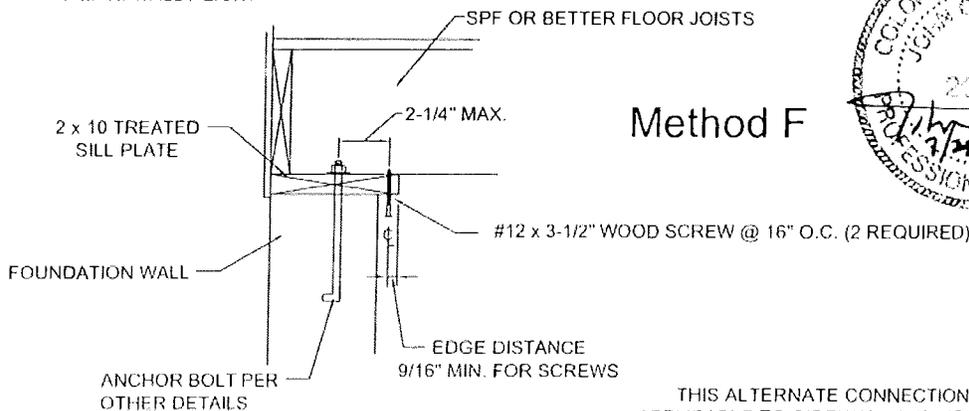
MAX. WIND SPEED 100 MPH

NOTES FOR METHOD A, B & C:
1) ROOF PITCH UP TO 6/12, MAX. SIDEWALL HEIGHT = 9'-0", MAX. EAVE = 16".
2) ALL FASTENERS (INCLUDING NAILS) IN CONTACT WITH PRESSURE TREATED SILL PLATE TO BE G185 COATED.

WIND DESIGN, 100 MPH
6/12 MAX. ROOF SLOPE
174" MAX. UNIT WIDTH W/ 16" MAX. EAVE
9' MAX. WALL HEIGHT



WIND DESIGN, 100 MPH
6/12 MAX. ROOF SLOPE
174" MAX. UNIT WIDTH W/ 16" MAX. EAVE
9' MAX. WALL HEIGHT



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			CHKD. BY:
			SCALE: NONE 13.0071

FOUNDATION DESIGN: GENERAL NOTES

GENERAL NOTES:

1. THIS FOUNDATION HAS BEEN DESIGNED FOR SITES WITH AN ALLOWABLE SOIL BEARING CAPACITY OF 2000 PSF MINIMUM.
2. FOUNDATIONS TO BE CONSTRUCTED ON SOIL WITH A LOWER BEARING CAPACITY SHALL BE DESIGNED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICE BY A LICENSED ENGINEER TO LOCAL CONDITIONS AND CODES.
3. CONCRETE COMPRESSIVE STRENGTH AT 28 DAYS TO BE 3000 PSI MINIMUM.
4. REINFORCING STEEL SPECIFIED TO BE GRADE 60 BARS MEETING ASTM A615, A616 AND A617.
5. FOUNDATION WALL MAY BE POURED CONCRETE EIGHT (8) INCHES THICK, REINFORCED WITH #4 REBAR AT (12) INCHES O.C. VERTICAL AND #5 REBAR AT 18" O.C. HORIZONTAL.
6. UNIT COLUMN SUPPORTS FOR CENTERLINE RIDGE BEAMS REQUIRE ADDITIONAL PIER SUPPORTS UNDER CENTERLINE BEAM LOCATIONS PER FLOOR PLAN.
7. THESE SPECIFICATIONS ARE TYPICAL. LOCAL CODES MAY CONTAIN ADDITIONAL REQUIREMENTS.
8. FOUNDATION WALL STEMS MAY BE CONCRETE OR CONCRETE BLOCK.
9. CONCRETE BLOCK SHALL CONFORM TO ASTM C-90.
10. IN CONCRETE BLOCK STEM WALLS A MINIMUM OF (2) - #4 REBARS ARE TO BE INSTALLED IN BLOCK WITH MUD SILL ANCHORS. FULLY GROUT EACH CELL CONTAINING REBAR.
11. ALL LUMBER IN CONTACT WITH CONCRETE SHALL BE OF PRESSURE TREATED TYPE OR OF SPECIES APPROVED FOR USE IN DIRECT CONTACT WITH CONCRETE. STEEL (FASTENERS, CONNECTORS OR BEAMS) MUST BE EITHER ISOLATED FROM ANY CONTACT WITH LUMBER CONTAINING COPPER PRESERVATIVES OR MUST BE ZINC PLATED TO MEET G185 COATING RATING.
12. THE INSTALLATION SITE MUST BE GRADED SO THAT WATER DRAINAGE IS AWAY FROM STRUCTURE AND DOES NOT ACCUMULATE UNDER THE HOME.
13. BACK FILL ADJACENT TO THE FOUNDATION SHALL NOT BE PLACED UNTIL THE WALL HAS SUFFICIENT STRENGTH OR HAS BEEN BRACED TO PREVENT DAMAGE.
14. MINIMUM FOUNDATION VENTILATION REQUIREMENTS:
 - A. 18" X 24" ACCESS CRAWL SPACE UNDER FLOOR AREA.
 - B. 1-1/2 SQUARE FEET OF VENTILATION PER 25 LINEAL FEET OF FOUNDATION WALL.
 - C. COVER VENT OPENINGS WITH CORROSION-RESISTANT WIRE MESH NOT LESS THAN 1/8" NOR MORE THAN 1/2" IN ANY DIRECTION.
15. THIS FOUNDATION SYSTEM IS FOR USE WITH FLOOR SYSTEMS WHICH ARE DESIGNED TO SPAN FROM PERIMETER WALL TO CENTERLINE SUPPORTS.
16. DAMP PROOFING OF CONCRETE OR MASONRY WALLS TO BE IN ACCORDANCE WITH LOCAL CODES. IN THE ABSENCE OF CODE REQUIREMENTS, THE FOLLOWING SHALL APPLY:
 - A. EXTERIOR FOUNDATION WALLS OF MASONRY CONSTRUCTION ENCLOSING BASEMENTS SHALL BE DAMP PROOFED BY APPLYING NOT LESS THAN 3/8" OF PORTLAND CEMENT PARGING TO THE WALL FROM THE FOOTING TO THE FINISH GRADE. THE PARGING SHALL BE COVERED WITH A COAT OF APPROVED BITUMINOUS MATERIAL APPLIED AT THE RECOMMENDED RATE. EXTERIOR FOUNDATION WALLS OF CONCRETE CONSTRUCTION ENCLOSING BASEMENTS SHALL BE DAMP PROOFED BY APPLYING A COAT OF APPROVED BITUMINOUS MATERIAL TO THE WALL FROM THE FOOTING TO THE FINISH GRADE AT THE RECOMMENDED RATE.

GENERAL NOTES:

- B. FOUNDATION WALL OF HABITABLE ROOMS LOCATED BELOW GRADE SHALL BE WATER PROOFED WITH MEMBRANES EXTENDING FROM THE EDGE OF THE FOOTING TO THE FINISH GRADE LINE. THE MEMBRANE SHALL CONSIST OF EITHER 2-PLY HOT MOPPED FELT, 6-MIL POLYVINYL CHLORIDE, 55 LB. ROLL ROOFING OR EQUIVALENT MATERIAL. THE LAP IN THE MEMBRANE SHALL BE SEALED AND FIRMLY AFFIXED TO THE WALL.
- C. FOUNDATION WALLS MAY BE DAMP PROOFED OR WATER PROOFED USING MATERIALS AND METHODS OF CONSTRUCTION OTHER THAN COVERED IN THIS SECTION WHEN APPROVED BY THE LOCAL BUILDING OFFICIAL.
17. DRAINS SHALL BE PROVIDED AROUND FOUNDATIONS ENCLOSING HABITABLE OR USEABLE SPACES LOCATED BELOW GRADE AND WHICH ARE SUBJECT TO GROUND WATER CONDITIONS. DRAINS SHALL BE INSTALLED AT OR BELOW THE AREA TO BE PROTECTED AND SHALL DISCHARGE BY GRAVITY OR MECHANICAL MEANS INTO AN APPROVED DRAINAGE SYSTEM.
18. THE TOP OF OPEN JOINTS OF DRAIN TILES SHALL BE PROTECTED WITH STRIPS OF BUILDING PAPER AND THE DRAINAGE TILES SHALL BE PLACED ON 2 INCHES OF WASHED GRAVEL OR CRUSHED ROCK ONE SIEVE SIZE LARGER THAN THE TILE JOINT OPENING OR PERFORATION AND COVERED WITH NOT LESS THAN 6 INCHES OF THE SAME MATERIAL.
19. THE DESIGNS ON THIS AND ACCOMPANYING SHEETS ARE APPLICABLE TO SEISMIC ZONES 0, 1 AND 2.
20. THIS FOUNDATION DESIGN IS NOT FOR INSTALLATION ON A FLOOD PLAIN. WHEN INSTALLING CRAWL SPACE OR BASEMENT IN AN AREA WITH SOILS HAVING POOR DRAINAGE, CONSIDERATION SHOULD BE GIVEN TO METHODS OF ELIMINATING ACCUMULATION OF WATER IN THE CRAWL SPACE OR BASEMENTS, SUCH AS THE USE OF SUMP PUMP(S). INSTALLATION OF SUMP PUMPS TO BE IN ACCORDANCE WITH LOCAL CODE REQUIREMENTS.



REVISIONS	DATE	 CHIEF® INDUSTRIES HOUSING DIVISION	DRWG. BY: CES 01/19/04
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			SCALE: NONE 13.0072

SECTION V
SITE ASSEMBLY INSTRUCTIONS
Modular Homes

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Summary

General

Introduction

Thank you for choosing Chief® Industries as your home builder. We hope your new home brings you comfort and pleasure for many years to come. This home was engineered, constructed and inspected to comply with the *International Residential Code* in effect on the date of construction.

Our intent is to produce a safe and comfortable home for you. Our company standards surpass compliance with national standards. Chief® Industries has highly qualified plant personnel to inspect these standards throughout the construction process.

Before set up can even begin, you must contact the building officials in your area for necessary permits, licenses and inspections required for installation of this home. It is extremely important in preparing your home for its occupancy that it be properly set by an experienced home mover, dealer or installer. Correct procedures in setting your home could prevent any costly future reconstruction.

The following step-by-step instructions were designed to assist you with the installation of your home. *Due to changes that are brought about by Chief® Industries continuing effort to improve our product and provide our customers with a wide variety of features; there may be products in or on your home that are not thoroughly covered by this manual.* Before starting the set up process, you should go completely through your home owner's information carefully to see if there are supplement details before any attempt is made in setting your home.

Data describing the roof and wind loads for which your home was designed may be found on the data plate in your home. The support system must resist all vertical loads from the weight of your home, plus temporary extra roof loading and it must resist side loads imposed on the structure by wind gust.

All modular home installations shall comply with the requirements of local zoning ordinances and conditional use permits established by local authorities pertaining to any health and/or safety codes.

Set Up Responsibility

Many local codes require that your home must be set up by a dealer, installer or home mover specially licensed for this procedure. If your dealer is not licensed himself, he will make the arrangements with a contractor who is licensed. It is strongly recommended that the home be set and leveled by a professional experienced in the construction and set-up of modular homes.

Site Implications

When selecting a site some items to be considered are as follows:

- Is your site suitable for its intended use?
- Does this intended use act in accordance with any jurisdiction over it? (Federal, State, and Local laws)
- Have you considered inherent potential hazards?

Considering such things as:

- proximity to flood plains or water features; these might cause flooding, excessive humidity, erosion, and sediment deposition.
- proximity to noise and air pollution such as industrial sites, construction sites, landfills, traffic ways and airports.
- "hidden" factors such as groundwater table level, soil composition and bearing capacity, frost line and possible termite infestation.

Once all problems encountered on your site are addressed with corrective work, you will be able to begin site preparation.

Home Installation

Site Preparation

The process of supporting your home for occupancy has two initial steps--site preparation and setting. These are the first of many important steps to be seriously adhered to in order to prevent costly reconstruction measures you may encounter in the future.

The area around the home should have enough slope to allow for good water drainage. The recommended slope is one (1) inch for every four (4) feet. The rest of the site should be graded in a manner that rainwater and melting snow will be diverted from the foundation of the house. If the house is installed over a crawlspace, a vapor barrier such as a layer of polyethylene plastic sheeting or similar material must be placed on the ground under the home.

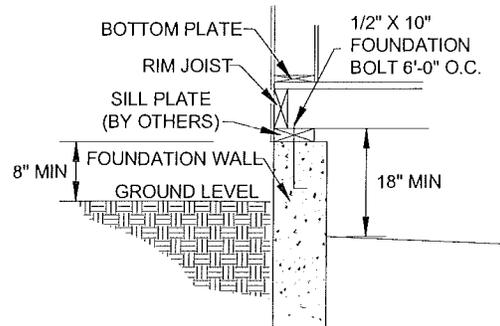
In addition, provision for utilities must be made before the home is set. Installation of lines and equipment supplying water, electricity and fuel, plus sewage disposal systems must be completed and ready for connection in accordance with all local codes and regulations. Your county engineer, building inspector or local utility company officials can advise you on the requirements in your community.

Foundations & Footings

Proper support for your home includes footings, foundation walls and blocking. The purpose of a foundation wall is to distribute the load of your home as evenly as possible on the footings and to provide a sturdy base. The footings carry and distribute the weight of the home placed on the foundation wall.

Support columns placed along the marriage line of the home distribute house loading along the centerline of the house.

Foundation walls can be constructed of either poured concrete or concrete blocks. Support columns can be constructed of concrete footings and a variety of other materials to form a pier for a crawlspace or a basement application. The perimeter foundation setup allows for either a crawlspace or a basement application.



TYPICAL PERIMETER FOUNDATION

The footings must lie below the frost line in your community. This minimizes the heave and fall of the foundation wall and piers during the freeze and thaw cycle. **BonnaVilla® Homes is not responsible for foundation design. Foundation and piers are to be designed per local jurisdiction requirements by an Engineer or Architect.** Refer to the respective sections in this manual dealing with these areas.

This next set of instructions is specifically for finishing a tip-up roof application. This feature is an option and is not included with a standard specification house.

Tip-Up Roof Trusses & Dormer Completion

Instructions for setting up Tip-Up roof truss and/or Dormer completion are included in a separate section enclosed with this Installation manual. Refer to the appropriate section if this applies to your home.

This next set of instructions is specifically for a snow load roof option. This is an option and is not included with a standard specification house.

Snow Load Designed Roofs

In order to support the snow load applied to the home, perimeter blocking becomes a necessity. To accommodate this additional blocking prints are provided with your installation manual.

- 1) The blocking prints provided will demonstrate proper pier spacing for your situation. Refer to the appropriate section for information on the foundation type that you have chosen.
- 2) Pier size and construction are also listed on the charts for pier loading.
- 3) Continue set up per foundation type.

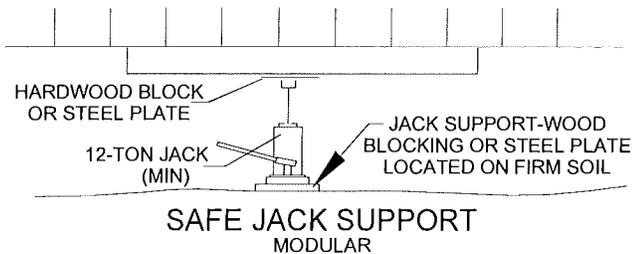
Lifting Considerations

By following this information you will minimize the set-up related problems you may have during the installation of your home.

WARNING: SITTING UNDER A MODULAR HOME WHEN IT IS SUSPENDED ON JACKS IS DANGEROUS. IF THE HOME SLIPS OFF OF THE JACK(S), YOU OR SOMEONE COULD BE SERIOUSLY OR EVEN FATALY INJURED.

If it is ever necessary to be underneath the home, make sure that there is sufficient blocking to safely carry the load of the home. If the home is being moved by rollers or beams, make sure there are timbers or other safety blocking material supports in place so as to safely limit the distance the home can fall or unexpectedly move. Never suspend a home more than four (4) inches above safety supports. Always follow the six (6) **minimum** safety precautions when lifting a home:

- 1) Use only jacks in good condition with a (12) ton minimum rating.
- 2) Provide a firm support such as wood blocking or a steel plate underneath the jack bases to prevent them from tipping.



- 3) Remove all lag screws fastening the transportation frame to the floor joist system before lifting home. This reduces the hazard of separating the home from the frame.
- 4) Distribute the concentrated loads created by the jacks by using (4" x 4" x 6") steel square beams or (4" x 4" x 6') hardwood posts between the jacks and the floor joists systems.

WARNING: NEVER APPLY THE JACK DIRECTLY TO THE I-BEAM OR OTHER STRUCTURAL MEMBER.

Such a concentrated load may cause the I-Beam or structural member to fail resulting in the home sliding off the jack.

- 5) Position building support beams beneath the rim joists of both the exterior walls and the marriage walls.
- 6) Avoid overstressing structural members.

Craning Method

Another method of placing the home sections onto a foundations is with the use of a crane(s), otherwise referred to as "slinging a home." The procedure involves lifting each home section with slings suspended from a crane. The slings should always be secured to a spreader bar at the lifting point to prevent damaging the homes' exterior components (see **Figure 1**). Typically, two cranes are used to locate the slings at the correct position lengthwise. Slinging homes has the benefit of

the ability to set the home in a quicker time span and allow adaptation to current property and landscape restrictions. Unfortunately, there are some negative aspects to this system as well. In

some cases, if slings are not located in structurally sound locations of the home, damage to the framing and wall finish can occur. To determine the capacity of the cranes needed contact a BonnaVilla® Homes Salesperson or Engineering Department representative for typical home weights. This information can also be found on the BonnaVilla® Homes website in the Dealer Section.

The initial steps of preparing the home for craning will be no different from those requirements described in "Lifting Considerations" section of the Installation Manual. Chief® Industries, Inc. recommends the use of synthetic flat straps rather than the cable slings. In addition, removable shipping walls on the marriage lines of the home are to remain in place until the units are set. Finally, all set-up materials (siding, shingles, lumber, etc.) will need to be removed from the units prior to craning, as this will provide maximum strength of the unit with the least amount of weight during the craning process, then the slings should be placed in the lifting locations (these locations shall be reinforced with lumber to resist penetration of the structure and/or damage to exterior siding). These locations are based on several factors: First, the location should be spaced according to **Figure 2** and **Figure 3** to balance the weight of the home.

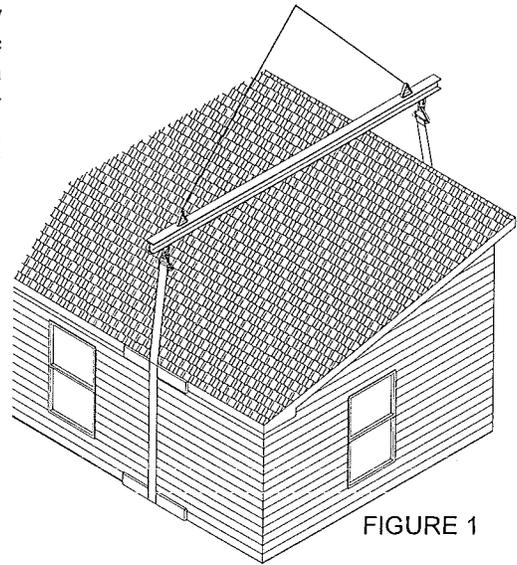
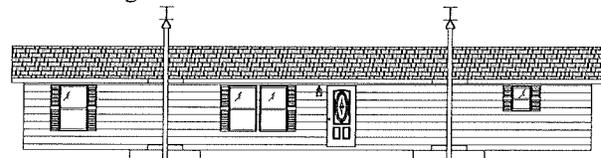
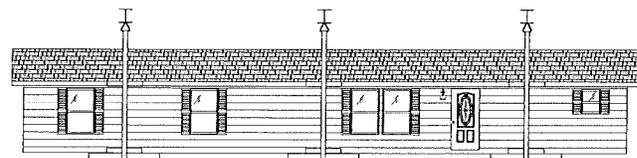


FIGURE 1



64' (60' floor) or less - Figure 2



68' (64' floor) or more - Figure 3

Secondly, the straps should be located in an area where a minimum of four (4) foot of exterior and marriage wall occurs. This would be away from window, door and archway locations, if possible. A final consideration is **two (2) slings are required as a minimum on a 64' home (60' floor actual size) or less and three (3) slings are required as a minimum on 68' home (64' floor actual size) or longer.** Thirdly, the slings should be placed over a framing member (floor joist, exterior wall stud and marriage wall stud) - mandatory.

When the slings are placed across the floor joist of the home it is necessary to protect all mechanical structures beneath the floor joist, this is the responsibility of the **installer** to provide adequate material to clear such structures. These are as listed: drain lines, water lines, electrical wiring and all HVAC ductwork. Provision should be made on the foundation and marriage line for the removal of the slings once the home sections are set. One method is to leave a masonry block out wherever a sling will be located. If the perimeter wall is constructed of poured concrete, the sill plate can be cut at locations of the slings. Once the home is placed drive the sill plates back into position and seal properly with a quality silicone caulk.

After tension has been applied to the slings, the frame can be separated from the home by removing all lag screws. Steps should be taken to prevent the frame from moving during this process. Lift the first section of the home and place into location. Lower the home onto foundation slowly to allow for correct placement. After the first section has been set, remove slings only after section has been adequately support at the marriage line.

At this time, additional section(s) are ready to be set using the same procedures as described above. As subsequent units are placed on the foundation, a 4" x 4" block should be placed on the endwall foundation within four (4) foot of the previously placed unit (see **Figure 5**).

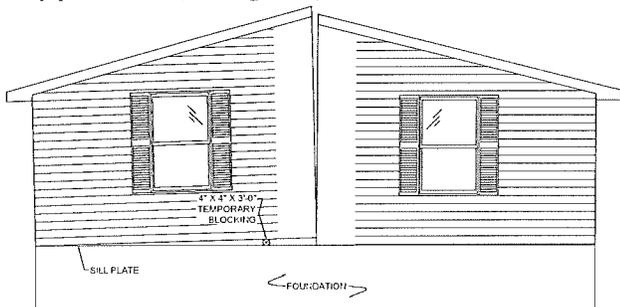


Figure 5

Since the unit is on an angle, the sling can be removed at the marriage line easier while still keeping the units as tight as possible. Once the slings have been removed, an eye bolt or large lag screw should be installed on a floor joist of each unit at two (2) different points. A come-along is to be attached to each unit to the minimum gap at the marriage wall. At this time, using cribbing and a floor jack, remove the 4" x 4" block and lower the mating wall to the foundation (see **Figure 6 and 7**).

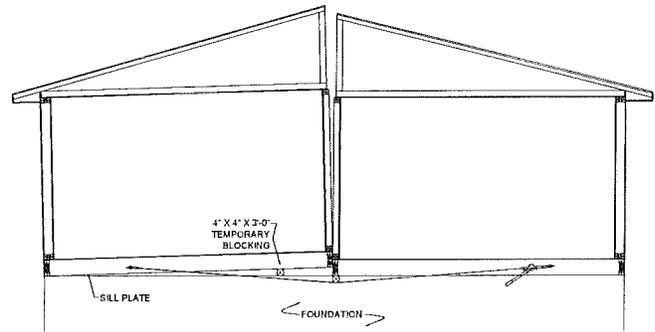


Figure 6

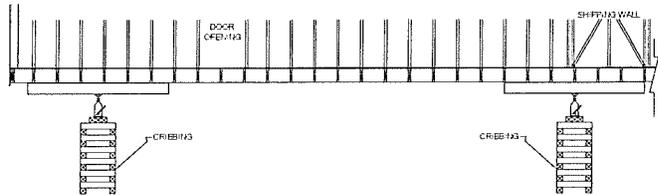


Figure 7

At all times, maintain constant tension on the units with the come-along to minimize the gap between sections. One point to remember is to align ends of the home and not the interior archways. It is much easier to shim finish material on archways than it is for endwalls. Another design consideration is locating slings where porches are constructed. Porches are constructed strictly with floor loads and will not withstand the force when a sling is place in this area.

WARNING: Some homes have designs that do not lend itself to point loads (slinging). Such cases are porches, recessed decks and chamfered corners. When placing slings, avoid locating in these areas. Additional supports (beams, lumber, etc.) maybe required if a sling must be located in one of these areas. Chief® Industries is not responsible for damage to the home as a result of sling or beam placement during the set process. The home may now be completed as described in the remainder of this manual.

Setting, Blocking & Positioning

General

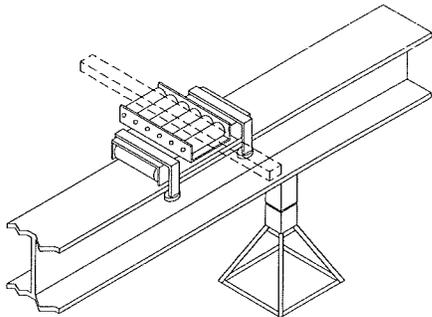
NOTE: Excessive or nonuniform lifting during the leveling process can cause the home to be racked and twisted. This could result in serious structural damage to the home, thus voiding your warranty.

It is imperative that you provide a legal drain tile or other approved method for draining water away from the foundation footing. You must also provide a means of interior support for a basement wall until the backfilled earth on the exterior of the wall has stabilized. It is the responsibility of the homeowner to see that this support is done and not removed until the proper time.

NOTICE: This list is Chief®'s recommendation for home set

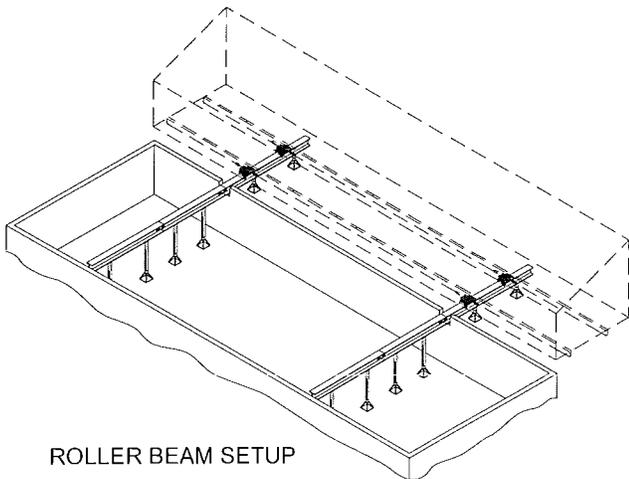
-up, however other methodology may be employed provided that these allow for complete structural integrity during the whole setting process.

- 1) Full foundation must be completed. A (2 x 8) sill plate must be secured to the foundation wall with one (1) - (1/2"x10") foundation anchor every six (6) feet on center beginning one (1) foot (maximum) from each corner.
- 2) Carefully remove the plastic material covering the marriage wall gasket material on the one half remains firmly secured around the perimeter of the living area. Should any of this material be loose, it should be reattached to the home using (1-1/4) inch roofing nails. If you have ordered a stairwell, remove temporary flooring over stairwell area.



ROLLER DEVICE ON BEAM

- 3) Set up the "Roller Beam" or I-Beam within the foundation walls per *Setting System* manufacturer guidelines. Place roller devices on the proper beams. Place a support beam on top of the roller devices to help distribute the weight of the home evenly. Make sure that appropriate jacks (12-ton jack minimum) or temporary blocking are spaced as listed. **If the floor length of your house is 60'-0" or longer, we require the use of three (3) beams for setting the house.**



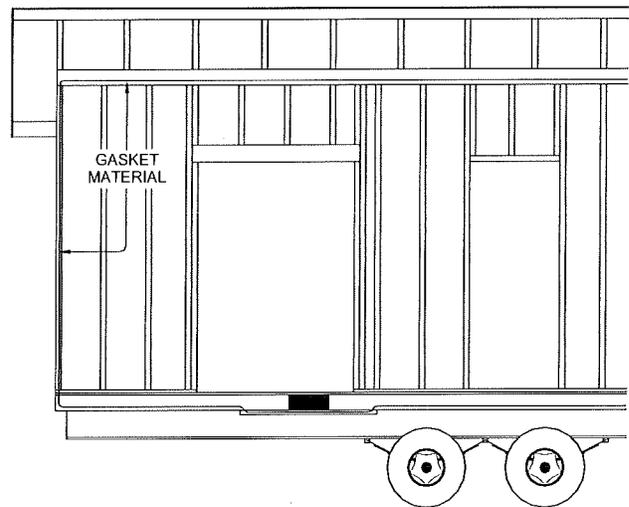
ROLLER BEAM SETUP

- 4) Raise the house high enough to slide "Roller Beam" or I-Beam under the frame leaving a height allowance for the

roller devices used for sliding the house. (See "Lifting Considerations.") Also leave enough room for the (4"x4") structural beams that will disperse the weight of the house evenly on the rollers. In order to prohibit excess shear stress to the main structural members, distribute concentrated loads by using a plate or smaller beam.

WARNING: SITTING UNDER A MODULAR HOME WHEN IT IS SUSPENDED ON JACKS IS DANGEROUS. IF THE HOME SLIPS OFF OF THE JACK(S), YOU COULD BE SERIOUSLY OR EVEN FATALY INJURED.

- 5) Slowly lower the home onto the support beams.
- 6) Slide section into final position over foundation.
- 7) To prevent damage to electrical wiring and interior floor coverings (carpet and linoleum) in marriage wall openings, temporarily fasten away from edge or home to prevent material from getting caught between two (2) sections.
- 8) Before moving the second half into position, make certain that the connection seal for the duct system as well as the marriage wall gasket is in place prior to joining the two (2) halves. **CAUTION: THE JOINT FORMED BY THE CONNECTION OF THE TWO (2) HALVES SHOULD BE TIGHT TO RESIST ANY AIR INFILTRATION.** Special care should be taken to assure that this step is performed.



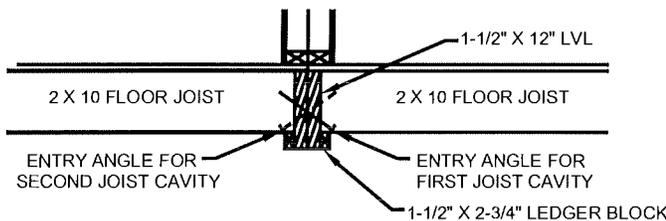
Marriage Wall Gasket Placement

- 9) Repeat **steps 4 through 6** for second half of home. Slide the second section to within a few inches of the first section.
- 10) Pull halves as tight as possible together with a hand winch.
- 11) **WHEN ALIGNING HALVES KEEP EXTERIOR ENDWALLS FLUSH. DO NOT JUDGE BY INTERIOR DOORWAYS.** This will allow the exterior endwalls to be sided with minimal shimming.
- 12) Lower halves simultaneously to the foundation.
- 13) Nail flooring system to sill plate in one of these manners: (refer to details on pages MODSM19 & MODSM20)
 - a. After the home has been set into place, toenail one

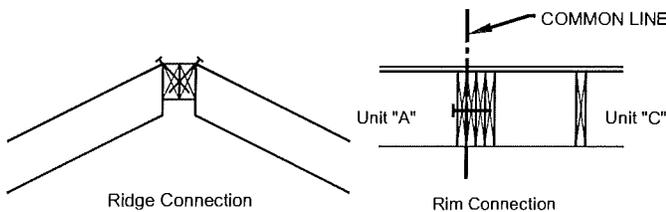
(1) 16d box nail every eight (8) inches on center along the sidewalls of the home, from the rim joist into the foundation sill plate. Toe-nails should be driven at an angle of approximately (30) degrees with the rim joists. After the home has been secured to the foundation, apply lower trim batten. Caulk all horizontal siding joints, then paint to match home.

b. Toe-nail two (2) 16d box nails from each floor joist into sill plate and one (1) 16d box nail every six (6) inches on center through the length of each endwall rim joist. Toe-nails should be driven at an angle of approximately (1/3) of the length of the nail from the end of the joist.

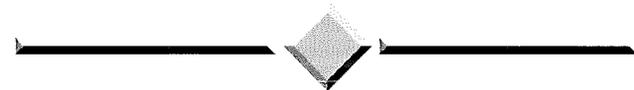
14) Align the floor sections. Sections should fit tightly together. Gapping between sections may occur. However, these gaps should be no more than one (1) inch. If spacing between halves is less than (1/2) inch no fill material is necessary. Should the spacing be (1/2) inch to one (1) inch fill with lumber. Use (3/8" x 5-1/2") lag screws at (16) inches on center throughout length of the home. Alternate angles for every screw installed ensuring the screws run through any fill material that may be used. After completion of this task repair the moisture barrier with the sealing tape provided. Should your home be placed over a basement the barrier may be removed if so desired.



Securing Floor Sections



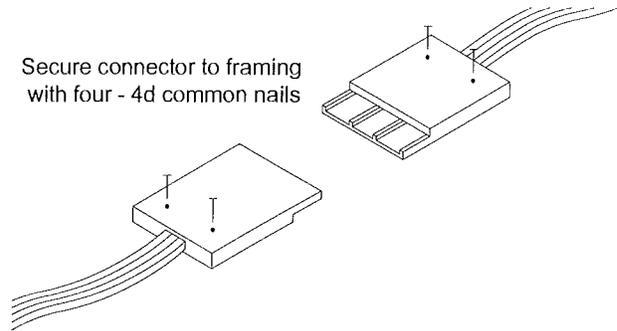
15) Place support columns along marriage wall line spaced as shown on the foundation print. Supports and piers should be designed per local jurisdiction requirements by an Engineer or Architect. After support columns are placed as outlined, remove the temporary house supports.



Post Foundation (Finish) Setup

1) Each 120V wire that crosses the marriage line has been fitted with a special cable splicing device. Orient the splices so the mating ends align.

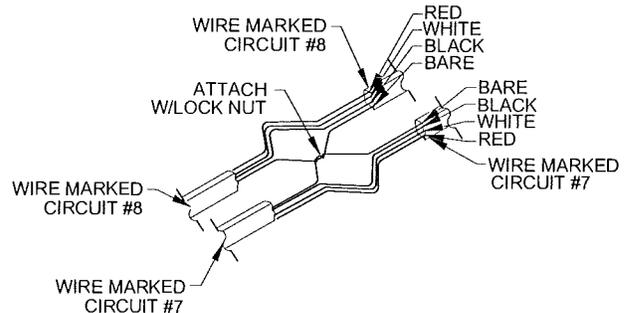
Secure connector to framing with four - 4d common nails



120 VOLT ELECTRICAL SPLICE

WARNING: BEFORE CONNECTING THE ELECTRICAL WIRES, BE POSITIVE THE POWER HAS BEEN DISCONNECTED.

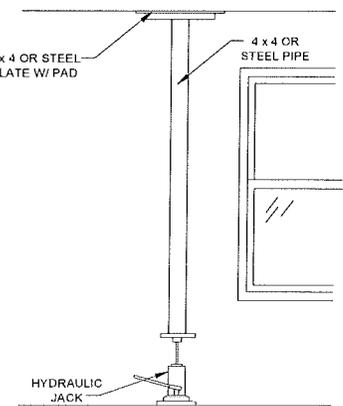
Slide the splices together until the locking latch is engaged. Once coupled, the splices are NOT to be uncoupled. Finally, nail the coupled splices to a floor joist with four (4) 4d common nails. **CAUTION!! Do not use oversized nails or drive nail heads into the splice!!**



240 VOLT ELECTRICAL SPLICE

2) Each 240V wire that crosses the marriage line has been fit into a covered junction box. Using a cutting blade, split the cable sheathing back approximately (1-1/8) inch. Remove the sheathing back to the cable split. Attach the two (2) ungrounded or "black" wires together with locknut. Repeat this step for the two (2) neutral or "white" wires and the two (2) grounded or "bare" wires.

3) To level all ceiling sections set a jack at the lower section. Carefully raise the jack until the two (2) ceiling sections are flush. Then finish fastening the two (2) ridge beams together on the outside of the home with (#10 x 3-1/2") woodscrews at (12) inches on center, for the entire length of the home. This procedure

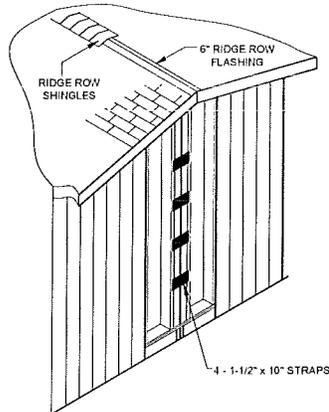


INTERIOR JACK PLACEMENT

should be followed at each location if one part of the ceiling is low. By carefully inspecting the ceiling or using a straight edge, low points can be determined. To raise the low portion, use a wood member such as a (4" x 4") or a steel pipe placed on the top of a hydraulic jack. A second piece of (2 x 4) properly padded is placed on top of the vertical posts and directly underneath the low point.

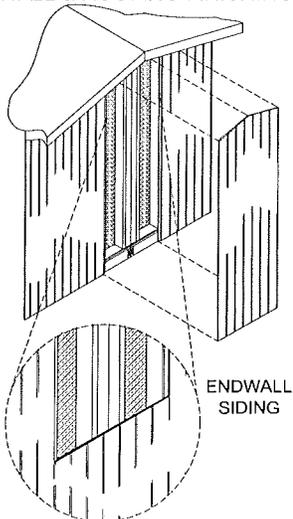
- 4) Remove shipping walls. Be aware of the potential damage when the studs fall. **(Do not remove prior to setting home.)**

- 5) The ceiling panels and the endwalls on each half must align on the inside of the house. If the halves are not in proper alignment they may be adjusted by raising the back corner on one half. It should be noted that the opposite end of the home should be blocked while raising one end. This lift will cause the ceiling to move forward.



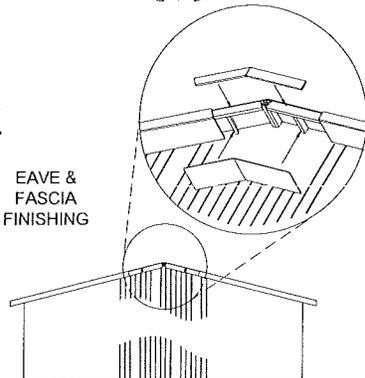
ENDWALL & ROOFING FINISHING

- 6) The front and rear endwalls should now be fastened and finished. The home will be shipped to you with the endwall sheathing or hardboard siding held back from the marriage line approximately (16) inches. To secure the sections, use the four (4) strips of (1-1/2" x 10") metal strips. Space the metal along the height of the endwall, fastening to the studs with (1-1/4) inch galvanized roofing nails every eight (8) inches along both edges. To finish securing, cut a piece of sheathing or siding large enough to cover the remaining uncovered portion of the endwall. With OSB sheathing, leave about an (1/8) inch gap at the seams to allow for expansion.



ENDWALL SIDING

- 7) Once the home is set in it's final position, fasten at (12) inches on center the (6" x 10") pieces of angled ridge metal along the ridge line with the galvanized roofing nails provided. Next, apply roofing underlayment the entire length of the home.

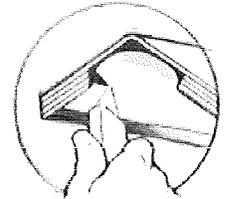
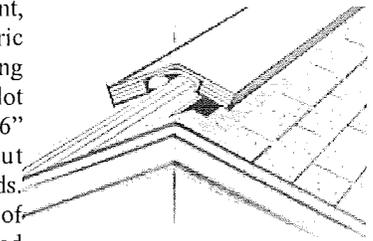


EAVE & FASCIA FINISHING

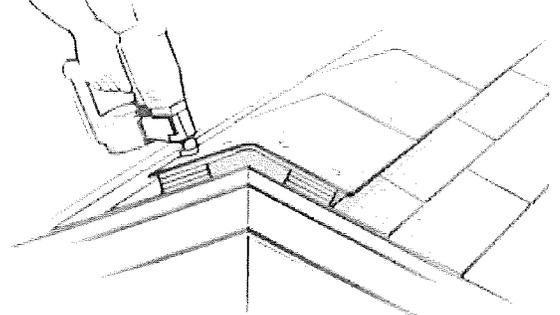
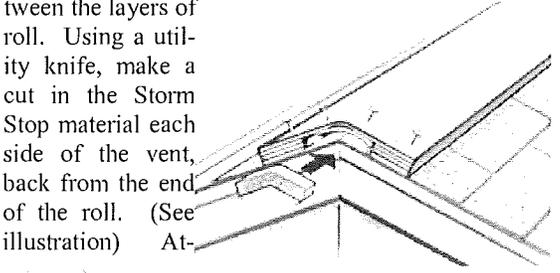
After this, complete the ridge by fastening ridge row shingles.

- 8) **Optional Vented Ridge Cap**

- a) Roll out the vent, Storm Stop fabric side down, along entire length of slot also covering the 6" minimum uncut ridge on both ends. Multiple length of vent can be joined by inserting an end cap at the end of each roll (see step #2) and butting the rolls tightly together.



- b) For End Cap Installation, pull apart a precut section of the foam end cap found between the layers of roll. Using a utility knife, make a cut in the Storm Stop material each side of the vent, back from the end of the roll. (See illustration) At-



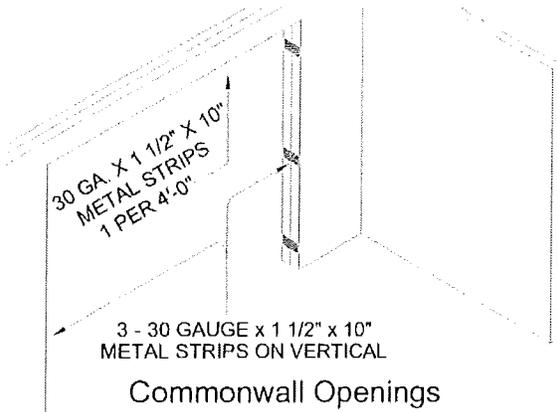
tach vent to the roof deck by driving a nail in each of the two (2) corners on both ends of the vent. Also, drive two (2) nails through the vent and foam end cap to hold foam in place on the ends of the ridge only.

- c) Nail ridge cap shingles with (1-1/2) inch roofing nails in a common overlapping pattern. It is important when installing this vent that you maintain the pitch of the roof. The vent has been installed properly if the bottom of the vent is flat on the roof and the peak is slightly rounded.
- 10) **For Hardboard Siding---** To finish the exterior siding, cut a piece of siding large enough to cover manufacturers precut lap joint. The edges of the fiberboard siding should also be remedied to properly fit the manufacturers lap joint. This can be accomplished by cutting the panel with a circular saw blade set at the appropriate depth. Complete eave by installing the ridge soffit panel. This panel must be cut to fit for length between the two (2)

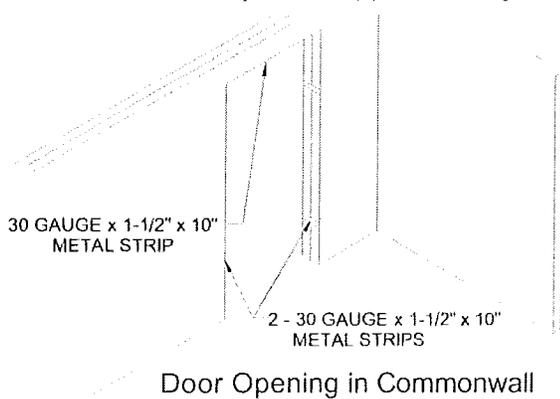
factory installed soffit panels.

For Vinyl Siding --- The endwalls will need to be completely sided. To begin, nail a vinyl starter strip to the bottom edge of the wall. The corner trim piece will already be in place when the home is shipped. Trim will need to be fitted next to the soffit before pieces can go up to the peak of the wall. Start a piece of siding by snapping it into place and then nailing it about every eight (8) inches to allow for expansion and contraction of the vinyl.

- 11) All openings in the commonwall should be secured with 1/2" x 10" strips of 30 gauge metal. The metal should be secured with (1-1/4) inch galvanized roofing nails. One (1) strip of metal per four (4) feet of opening should be used for the top of the archway as well as three (3) pieces on each side.

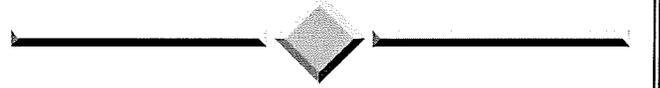
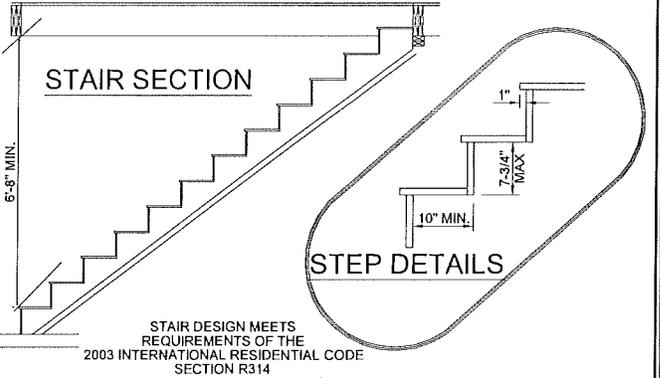


- 12) Openings that have a door installed should be secured with 1-1/2" x 10" straps. Three (3) on the side jambs and



- a piece on the top jamb.
- 13) Doors in the marriage wall that have been installed will now be completed. After securing opening as outlined in **step 12**, apply the 10" x 1/2" MDF Particle Board or *Ash trim jamb assembly* directly to stud on hinge side of opening. Now mount door on hinge side of opening, allowing ample space on top and bottom of door. After door has been mounted, apply the 10" x 1/2" MDF Particle Board or *Ash trim jamb assembly* directly to the remaining side, shimming where necessary. This will complete the sides of the door framing. Now complete top of door framing with the same steps as for the side jambs. After door jambs have been completely installed, locate and secure molding to be used as a door stop, except if your home has *Ash trim option*. Finally trim the doorway with mold-

-
- ing provided.
- 14) All archway openings should now be sheetrocked and bullnosed with the material provided. These openings will then need to be taped and textured.
- 15) Completion of all plumbing should be made. Check all work for leaks, improper sizing or slope with instructions provided in Owners Manual.
- 16) The electrical system should be wired to supply and then



checked for operation.

Utility Connections

General
Before connecting any utility systems, it is recommended that local, county and state authorities be consulted for compliance with local requirements.

CAUTION: IT MUST BE POSSIBLE TO GAIN ACCESS TO UTILITY HOOKUPS, either by crawlspace access or basement entry.

Heating, Ventilation and Air Conditioning

It is imperative that you read and understand the owner's manual provided by the manufacturer of each piece of equip-

NUMBER OF STRAPS			
OPENING SIZE	PER SIDE OF OPENING	TOP OF OPENING	TOTAL
4'-0" & UNDER	2	1	5
4'-1" & 5'-0"	2	2	6
5'-1" & 8'-0"	3	2	8
8'-1" & 12'-0"	3	3	9
12'-1" & 16'-0"	3	4	10
16'-1" & 18'-0"	3	5	11

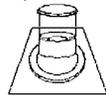
ment in the house. In the event that there is a discrepancy between this manual and the appliance manufacturers' provided manual, follow the instructions given by the manufacturer of the appliance.

It is mandatory that the combustion air and flue tube assembly be fully engaged at back, sides and front and combustion air tube securely fastened to the furnace with sheet metal screws in the screw holes provided.

CAUTION: Vent piping must be insulated with R-5 insulation if it will be subjected to freezing temperatures such as routing through unheated areas. The combustion air pipe should also be insulated when it passes through a warm, humid space.

Installation of Exterior Roof Jack Extension

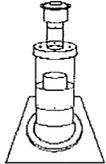
- 1) Remove weather cover. Remove the three (3) screws that secure the weather cover to the roof jack barrel. Remove and discard the cover.
- 2) Install crown assembly. Slide the crown assembly over the roof jack barrel. Secure with the three (3) screws previously removed from the weather cap, using the prepunched holes as guides.
- 3) Remove upper and lower caps. Remove the two (2) screws that secure the upper cap to the crown assembly base and remove the upper cap. Next, remove the three (3) screws that secure the lower cap to the crown assembly base. Set both caps aside for later use.
- 4) Install Extension. Place the roof jack extension on top of the crown assembly base, pushing down firmly to assure a snug fit. **IMPORTANT:** Make sure that the pipes are connected. Using the four (4) holes at the base of the extension as a guide, drill four (4) holes (1/8) inch in diameter into the crown assembly base. Secure the extension to the crown assembly base with the four (4) screws provided.
- 5) Reinstall Upper and Lower Cap to Extension. Install the lower cap on top of the extension so that the center pipe sticks through the hole in the lower cap. Using the three (3) screws removed in **step 3**, attach the lower cap to the extension bracket. Install the upper cap over the center pipe of the extension. Using the two (2) holes located at the base of the upper cap as guides, drill two (2) holes (1/8) inch diameter into the center pipe. Finally, attach the upper cap to the center pipe using the two (2) screws removed in the **step 3** to center the pipe.



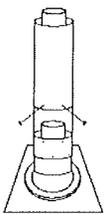
Step 1



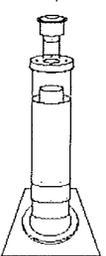
Step 2



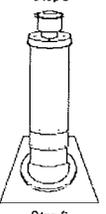
Step 3



Step 4



Step 5



Step 6

Use (1/2) inch blunt or sharp end metal screws to fasten roof jack combustion air pipe to furnace combustion air collar. Screw holes are provided in the pipe and collar. Excessively long screws may extend to the flue pipe and puncture it.

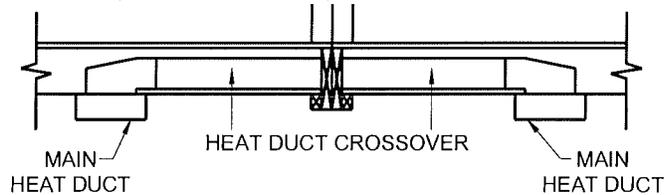
Screws are not to exceed (1-1/2) inch in length.

Combustion air tube and flue pipe are part of the same assembly. Only the combustion air tube need be fastened to the furnace.

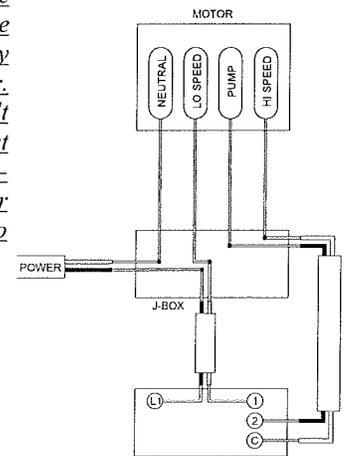
- 1) Check to be certain that the flue pipe and combustion air tube are present.
- 2) Pull the telescoping flue tube and combustion air tube assembly down from the roof jack. Slide the flue tube/ combustion air tube assembly down firmly over the furnace outlet and combustion air collar. Insure that the back side, and front of combustion air tube collar is fully engaged. Fasten the combustion air tube to the furnace combustion air collar using two(2) (1/2) inch sheet metal screws. (Screw holes are provided in combustion air tube and furnace combustion air collar.)

At this time have all the gas connections checked for air pressure and the flue checked to tightness. Then a serviceman can light the pilot. Change the furnace filter as often as needed. Clean the air distribution system regularly to prevent the motor from overheating. Keep up maintenance on the air distribution system as defined in the manufacturer's instructions. Check the flue pipe regularly for soot, rust or corrosion.

On modular homes, the flow of heat from one section to the other is accomplished by a crossover duct system. This crossover system consists of a rigid duct that connects the two (2) main duct trunks. This rigid crossover duct is sealed together at the commonwall line with insulation. Be sure that the commonwall insulation that is placed when setting the house is not constricting the air flow between the two (2) halves. (See heat duct detail.)



OPTIONAL: Branch circuits installed at the factory for the purpose of energizing an exterior air conditioning panel through the floor. You must connect the air conditioning equipment according to the instructions given in the Owners Manual provided by the equipment manufacturer. The supports or slab built for the air conditioner must be freestanding. The condensation tubing for the air conditioner must drain to the exterior of the house.



5 WAY SWITCH TO EVAPORATE COOLER WIRING

Check all air intakes and outlets regularly to make sure that they are completely free from any constrictions. Be sure to check the return air filter which must also be kept clean.

Water Heater Side Wall Air Inlet Set - For Field Installation Over Basement or Crawl Space ONLY!

WARNING: This is a Direct Vent Appliance and care must be taken to ensure that the installation of the water heater and this kit are airtight!

1. **LOCATE AIR DIVERTER:** Determine which outside wall the Air Diverter Base will be located on.

CAUTION: Location of the Air Diverter Base must take into consideration the (16) foot maximum length of Flexible Duct allowed between the Air Diverter Base and Air Inlet Plenum. The Air Diverter Assembly must be located a minimum of (12") from ground level. Refer to Figure 3. The Flexible Duct must be run reasonable straight (no turns).

2. **AIR INLET ASSEMBLY:** Remove the screws, which attach the wind baffle to the existing air inlet vent pipe located underneath the home. Refer to Figure 1. Discard the wind baffle and screws as they are no longer required with this field installation set.

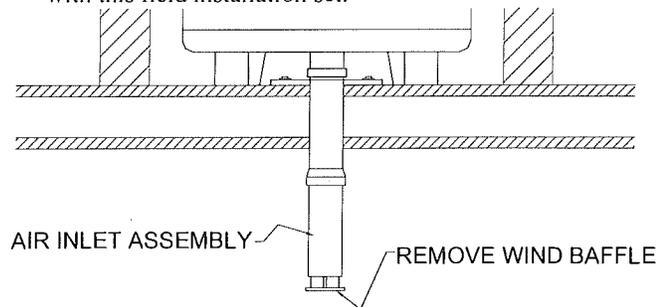


FIGURE 1

3. **CHECK LENGTH OF AIR INLET PIPE:** It may be necessary to trim the length of the three (3) inch air inlet pipe so that the pipe fits into the plenum box without touching the bottom of the box. The three (3) inch air inlet pipe should fit into the plenum box about two (2) inch from the bottom of the box. Refer to Figure 3.

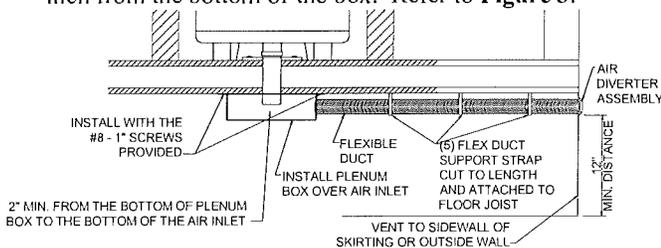


FIGURE 3

4. **ATTACH FLEX DUCT TO PLENUM:** Place one (1) of the clamps provided over one (1) end of the five (5) inch flex duct and attach flex duct to air inlet plenum box five (5) inch diameter collar. Ensure that the flex duct wire is pulled over and past the collar flush with the wall

of the air inlet plenum box. Tighten the clamp to secure the flex duct to the collar. Tighten securely but do not over tighten.

5. **ATTACH PLATE (3-1/8" HOLE) TO PLENUM BOX:** Make sure plate covers (5-7/8") hole with flange on inside of plenum box. Attach plate with three (3) - (1/8") hole to plenum box using the four (4) - (#8 - 1/2") sheet metal screws provided.

6. **POSITION PLENUM:** Align the three (3) - (1/8") hole in the plenum box with three (3) inch air inlet vent pipe located underneath the home. Position the air inlet plenum box so that the five (5) inch diameter collar faces the proposed direction of the air inlet diverter.

7. **INSTALL PLENUM:** The air inlet plenum box side flanges should be positioned so that they can attach to the underside of the floor joists. Once in place, securely attach the air inlet plenum box to the underside of the floor joists using the (#8 - 1") self-tapping screws provided through the flanges into the floor joists. (Use at least three (3) screws on each side of the plenum box.)

8. **AIR DIVERTER BASE:** Cut a five (5) inch to (5-1/2) inch opening in sidewall or foundation wall to allow entrance of air diverter tailpiece and five (5) inch flexible duct. Attach air diverter base to outside wall using the (#8 - 1") screws provided. Be sure that the screw holes are aligned so that the air diverter cap can be installed with screw holes on top. The air diverter base must be located a minimum of (12") from ground level.

9. **CUT FLEX DUCT TO LENGTH:** Extend flex duct from the collar of the air inlet plenum box to the outside wall location of the air diverter base must be located a minimum of (12") from ground level.

10. **SUPPORT FLEXIBLE DUCT:** Support must be provided for the flexible duct at a minimum of four (4) foot intervals. Use the one (1) inch wide support strap and fasten with screws, staples or nails to support the duct.

11. **ATTACH AIR DIVERTER CAP:** Attach the air diverter cap to the air diverter base using the tamper proof fasteners provided.

12. **INSPECT COMPLETE ASSEMBLY:** Inspect the complete assembly to ensure that all procedures have been completed.

Collar Installation through Exterior

Determine the location of the opening in the rim joist and cut a (3-3/4) inch hole **30 or 40 gallon** or (4-3/4) inch hole **50 gallon** through the rim joist.

The three (3) inch or four (4) inch PVC, ABC or CPVC Schedule 40 vent pipe, whichever is the most convenient, can be run from the water heater. The vent pipe must extend a minimum of (1-1/2) inch through the exterior wall. Note that the inside collar must be slipped over the vent piping before locating the pipe through the wall. Before securing the inside and the outside collars to the wall, use a silicone sealer between the pipe and opening to insure a water tight seal.

WARNING: A gas water heater cannot operate properly without the correct amount of air for combustion. Provide ventilation and combustion air by

means of floor and wall openings as shown in the drawing. Never obstruct the flow of combustion and ventilation air. If you have any doubts or questions at all, call your gas company. Failure to provide the proper amount of combustion air can result in a fire or explosion and can cause **property damage, serious bodily injury, or even death.**

Water Heater Side Wall Drainage for Pan - For Field Installation Over Basement or Crawl Space ONLY!

- 1. LOCATE DRAIN FROM WATER HEATER PAN:** Locate where the Air Diverter is on the exterior wall and connect the drain pan to the exterior in same general location.

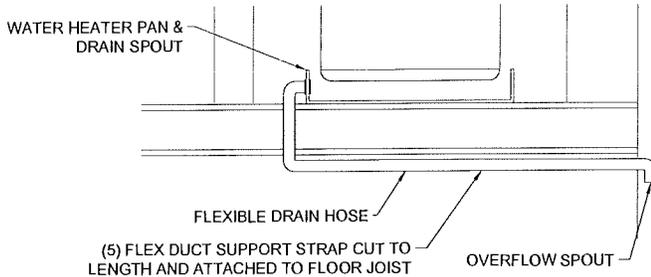
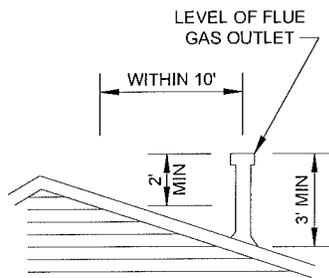


FIGURE 1

- 2. OVERFLOW SPOUT:** Cut a one (1) inch to (1-1/2) inch opening in sidewall or foundation wall to allow entrance of overflow spout. Attach to drain from water heater pan with flexible pipe.
- 3. CUT FLEX PIPE TO LENGTH:** Extend flex pipe from the drain spout on the water heater pan to the outside wall location near the air diverter base.
- 4. SUPPORT FLEXIBLE DUCT:** Support must be provided for the flexible pipe at a minimum of four (4) foot intervals. Use the one (1) inch wide support strap and fasten with screws, staples or nails to support the pipe.
- 5. INSPECT COMPLETE ASSEMBLY:** Inspect the complete assembly to ensure that all procedures have been completed.

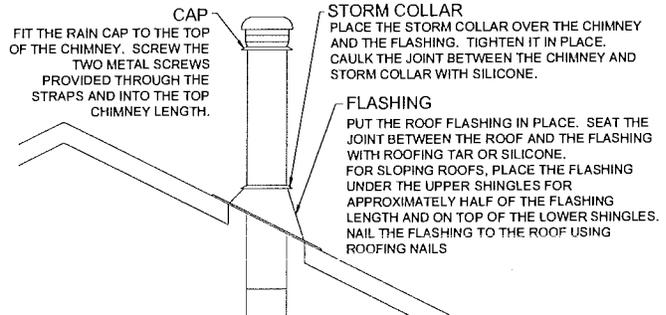
Fireplace Installation

Once the home is set and leveled, finish the chimney for the fireplace. All chimney extensions must extend a minimum of three (3) feet above the highest point where it passes through the roof and must be at least two (2) feet above the roof within a (10) foot horizontal span. **IMPORTANT: If an exposed portion of chimney is greater than four (4) feet above the roof line, use support wires to keep chimney secure.** The support wires may be attached to the outer pipe of the chimney with screws, provided the screws do not penetrate the inner flue pipe.



CHIMNEY CLEARANCES

When starting a fire in the fireplace remember to fully open the glass doors and flue damper for sufficient air combustion. Always keep the fire from coming into contact with the glass doors. Clean the glass with any commercial glass cleaner or soap and water. Do NOT use any abrasive material to clean glass. Do NOT clean glass with cool water if it is still hot from fire.



The damper control lever should be located inside the fire chamber. Pull down to close, push up to open. The damper must be open when lighting a fire, not doing so will cause smoke spillage into the room. When the fireplace is not in use, close the damper to prevent downdrafts to enter the room.

The grate in the fire chamber is there to provide air combustion space beneath the solid fuel. Remember to keep the ashes cleaned out for this reason.

Electrical System

Your home is typically designed to be connected to an electrical supply source rated at (240V, 3 pole, 4-wire) including ground system. If an option was purchased for an overhead mast or meter hub, refer to name plate on exterior of home to determine type of system.

In making the feeder connections to this power source, it is extremely important that wire of the correct size be used. If the wire is incorrectly sized, the ampacity for that wire may be exceeded and you will experience a voltage drop to your home. Ampacity is the safe carrying capacity of a wire expressed in amperes. The greater the amperes flowing, the greater the heat produced.

Moreover, if the amperage is allowed to become too great, the wire may become so hot that it will damage the insulation or even cause a fire. A voltage drop in your home can cause a drop in the efficiency of all lights as well as appliances. Motors may burn out and you may be paying for electricity that you do not use. Refer to the following table to determine recommended conductor type and size for the size of panel box.

SERVICE AMPS	WIRE SIZE			CONDUIT SIZE
	FEEDER	GROUNDING CONDUCTOR	GROUNDING ELECTRODE CONDUCTOR	
100	#4	#8	#8	1-1/2"
150	#1	#6	#6	2"
200	#2/0	#4	#4	2"
225	#3/0	#4	#4	2"

COPPER CONDUCTOR TYPES: RH-, RHH, -RHW, -THHN, -THW, -THWN, -XHHN

It is also critical for the protection of the occupants of the home that all non-current-carrying metal parts be properly grounded. The only safe and approved method of grounding your home is through an electrical-isolated grounding bar in the manufactured home power supply panel which grounds all non-current-carrying metal parts to the electrical system in your home at a single point.

The ground conductor of the power supply feeder cable connects the grounding bar to a good electrical ground. Insulate the grounded circuit conductor (neutral or white) wire from the grounding conductors (green wires) and from equipment enclosures and other grounded parts. Bonding screws, straps or buses in the distribution panel board should have been removed and discarded at the manufacturing facility.

Homes with a factory-installed service meter base must be grounded differently. The exterior equipment and enclosure must be waterproof, and conductors must be suitable for use in wet locations. When a meter is provided on the home, connect the neutral (white) conductor to the system grounding (green) conductor on the supply side of the main disconnect. The grounding electrode conductor is run from the meter to the grounding electrode conductor(s). The grounding electrode should be an eight (8) foot length of (1/2) inch diameter copper rod or bury it horizontally in a (2-1/2) inch deep trench. Connect the grounding conductor wire to the grounding electrode with a grounding clamp.

! WARNING: On a 3 pole, 4 wire feed it is extremely important that the neutral connector not be grounded in or on the manufactured home or the home service entrance cabinet.

Electric crossovers between halves of section homes are located along the center line between the sections. The crossover wires will be located in the first floor joist cavity from either end of the home. These crossover locations can be distinguished by access cover panels. Remove these panels and connect the enclosed wires using the numbered splicing devices, connecting them to their corresponding numbered device on the adjacent section.

Smoke Alarm Installation and Testing

In the floor system, in the second floor joist cavity in from either/both end(s) of the home there will be an electrical box with the wiring to connect the home's smoke alarm system. Connect the wires from one section to the other by tying the wires black to black, white to white, red to red and bare to bare.

Once the wiring is connected, press the test button on each alarm individually. As you test, be sure that the alarm sounds on every mechanism in the system. Should any of the alarms you are testing not sound, check all wiring connections. If necessary replace the alarm with a new and similar mechanism. Perform another operational test on all alarms.

When your home is designed to be placed over a basement, it is required that this lower level be protected by a smoke alarm(s). You should check with your local authority to see if other alarms may be required due to the design of your basement.

A smoke alarm with a battery back up will be sent with

the home and should be interconnected with the other alarms on the main level of the home. This is done so that it will sound when any of the other alarms on the main level of the home are triggered. The are steps that need to be taken to connect this lower level smoke alarm to the remainder of the system.

Towards the front or rear of the home the electrical crossover is located in the floor system, there will be an electrical box with the wiring to connect to the smoke alarm. Connect the wires on the alarm to the wiring in the box tying the wires black to black, white to white, green to green and the yellow wire on the alarm to the red wire in the box.

Once the wiring is connected and the alarm secured in place, press the test button on each alarm (including those on the main level) individually. As you test, be sure that again, the alarm sounds on every mechanism in the system. Should the alarm(s) you are installing or the others in the system you are testing not sound, check your wiring connections. If necessary, replace the alarm with a new and similar mechanism. Perform another operational test on all alarms.

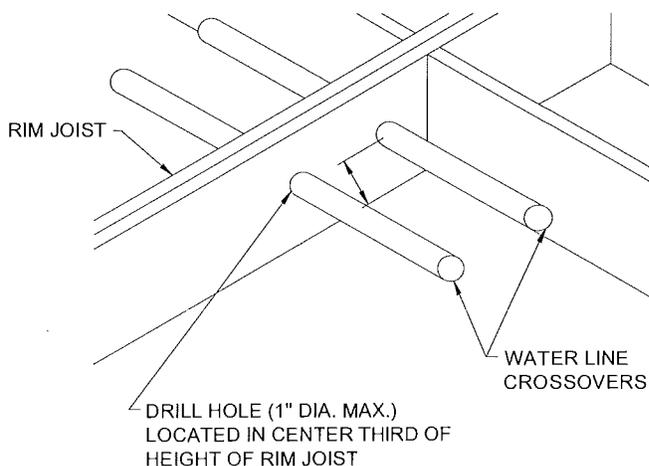
Phone and Television Hookups

If you have ordered phone and television hookups, these will be located in the third floor joist cavity from the rear of the house. These will be (12) inches away from the marriage wall on each section. If there are hookups on both sections of the house you will have to connect these at the marriage wall line.

Water System

Your homes water system has been designed for an inlet water pressure of 80 psi. Should the home be installed in an area where pressure exceeds 80 psi, a pressure reducing valve should be installed.

A (3/4) inch threaded inlet is provided by the manufacturer for the water supply systems connection. This inlet is located below the home and usually near the water heater compartment. A tag on the side of the home indicates the location of the water inlet. A shutoff valve must also be installed between the water supply and the house inlet. The valve must be a full port gate valve or a full port ball valve.



CAUTION: THE MAIN SHUTOFF VALVE IS NOT SUPPLIED BY THE MANUFACTURER, BUT MUST BE INSTALLED ON THE SYSTEM TO COMPLY WITH THE FEDERAL CONSTRUCTION AND SAFETY STANDARDS.

If your home has fixtures that require water located on both sections, there will be proper pieces and fittings provided for connecting the water lines. A (1/2) inch water line that crosses the marriage wall line uses a single fitting because one (1) side is cut back while the corresponding line on the other half will have extra length to compensate. A (3/4) inch water line that crosses the marriage wall line will have (12) inch sections of line equipped with the appropriate fittings to connect to the water lines that are cut back from the marriage line on both sections. The dimensions to the crossover will be listed on the *Water Line* print (assuming presence of crossover).

Drain, Waste, and Vent

BonnaVilla® Homes has designed this home to meet the current issue of the *International Plumbing Code or Uniform Plumbing Code*. Because of some constraints in the construction of the home itself, some of the drain may not be complete upon delivery. Therefore, the system must be completed on site after the home is set. A drawing showing a recommended method of completion has been enclosed for your use. You may, however, adapt the final assembly to meet your requirements as long as the plumbing meets the requirements of the authority having jurisdiction.

When connecting this drain outlet to the main sewer system, approved three (3) inch connectors should be used at both ends. The drain lines installed on the home must have a slope of (1/4) inch per foot and be supported at intervals not exceeding four (4) foot..

After assembly, the plumbing system must be inspected to ensure proper assembly. This inspection must be witnessed by a Building Official, or similar type person.

Testing shall be completed as follows:

1. Responsibility - The equipment, material and labor necessary for inspection or tests shall be furnished by the person to whom the permit is issued or by whom inspection is requested.
2. Media - The piping of the plumbing, drainage and venting systems shall be tested with water or air. The Administrative Authority may require the removal of any clean outs, etc., to ascertain if the pressure has reached all parts of the system. After the plumbing fixtures have been set and their traps filled with water, they shall be submitted to a final test.
3. Water Test - The water test shall be applied to the drainage and vent systems either in its entirety or in sections. If applied to the entire system, all openings in the piping shall be tightly closed, except the highest opening and the system filled with water to point of overflow. If the system is tested in sections, each opening shall be tightly plugged except the highest opening of the section under test and each section shall be filled with water, but no section shall be

tested with less than a (10) foot (3 m) head of water. In testing successive sections, at least the upper (10) feet (3 m) of the next preceding section shall be tested, so that no joint or pipe in the building (except the uppermost (10) feet (3 m) of the system) shall have been submitted to a test of less than a (10) foot (3 m) head of water. The water shall be kept in the system, or in the portion under test, for at least (15) minutes before inspection starts. The system shall then be tight at all points.

4. Air Test - The air test shall be made by attaching an air compressor testing apparatus to any suitable opening and after closing all other inlets and outlets to the system, forcing air into the system until there is a uniform gage pressure of five (5) pounds per square inch (34.5 kPa) or sufficient to balance a column of mercury (10) inches (254 mm) in height. The pressure shall be held without introduction of additional air for a period of at least (15) minutes.
5. Building Sewer Test - Building sewers shall be tested by plugging the end of the building sewer at its points of connection with the public sewer or private sewage disposal system and completely filling the building sewer with water from the lowest to the highest point thereof, or by approved equivalent low pressure air test, or by such other test as may be prescribed by the Administrative Authority. The building sewer shall be water-tight at all points.

Gas System

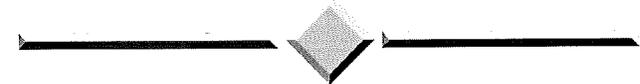
The heating system in your home has been designed to operate effectively on natural gas. If your energy source is LP (liquid propane) modifications must be made to each gas appliance in the house. Check with each respective appliance manual for conversion standards, these conversions are to be done by qualified individuals.

The gas line has been stubbed through the floor for completion on site.

To avoid possible damage to associated gas valves and regulators incorporated on appliances, do not pressurize the gas line in excess of eight (8) ounces maximum after final connections are made.

After final testing of the gas lines, the home can be connected by using a listed gas connector of the capacity indicated on the label by the gas supply source.

In making all electrical connections in your home, connections should be made only by a qualified electrician.



Interior Finishing

Large Light Fixtures

If your home has large fixtures or ceiling fans, you will have to complete installation on site. The light fixtures will be shipped loose with the home. Locate the junction box that has been placed where your light fixture will be attached. Remove the cover plate from the junction box, this will expose

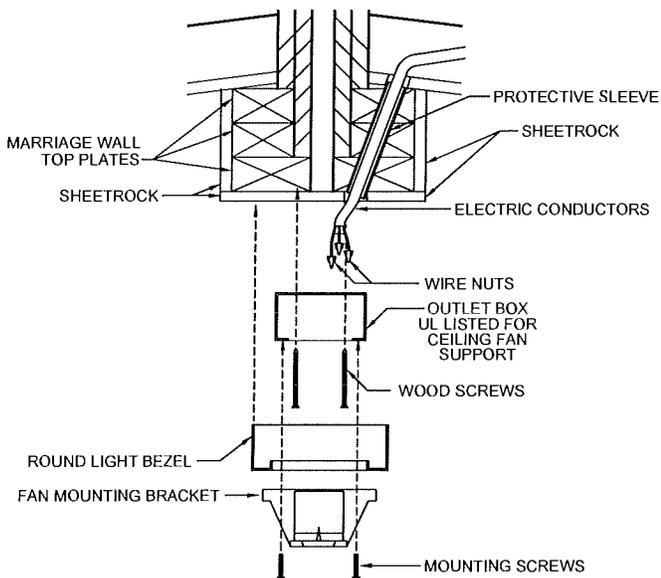
the wires for assembly.

Remove the wire nuts from the end of the wires and complete as follows:

- 1) Connect wires together according to color (i.e. black to black) using a wire nut. Note: Grounding wires may be either bare or color coded green.
- 2) Grounding of the mounting bracket must be made by attaching the grounding conductor to the bracket grounding screw or if no screw exists, a listed clamp must be used. This connection must be made prior to the connection of the fixture.
- 3) Place fixture over junction box, secure it with the bracket supplied by the fixture manufacturer.

Ceiling Fan on Marriage Wall Beam

If you have ordered a ceiling fan that should be placed on the marriage wall beam, your home has been constructed with provisions for the installation of the fan. This installation shall be completed following the setting and fastening of your home. This fan shall be installed as follows:



Ceiling Fan Attachment

- 1) Once the sections have been fastened together, you should make sure the electricity has been turned off at the circuit breaker or panel box to reduce the risk of electrical shock.
- 2) Remove the wire nuts from the electrical conductors and take the electrical box from the bottom of the marriage wall beam before removing shipping wall components. This should allow the conductors to pass through as the shipping wall top plate is removed.
- 3) Finish the marriage wall opening as detailed, but remember to allow electrical conductors to pass through the finish material.
- 4) Open one of the knock-out holes in the top of the electrical box that is provided. (This electrical box must be UL listed for ceiling fan support.) Feed the

electrical conductors through this hole and slide the electrical box up to the beam. Secure the box to the marriage wall beam with a minimum of three (3) - (#8 x 2-1/2") screws that are provided.

- 5) Once the electrical box is solidly fastened into place, slide the round light bezel over the box. Using the mounting screws provided, fasten the fan mounting bracket to the electrical box. This will hold the ends of the electrical conductors into the center of the mounting bracket.
- 6) From this point, there are several options in mounting your ceiling fan. Consult the ceiling fan manufacturer's installation instructions, decide which ceiling fan mounting you will use and proceed with the appropriate instructions per their manual. Where necessary, each section will note the different procedures for the various types of mounting and wiring.

Appliance Installation

General

A gas or electric clothes dryer installed in the home must be exhausted on the outside by a moisture lint exhaust duct and termination fittings. Ducts shall not terminate beneath the home.

Clothes Dryer

Your home has been constructed with provisions for a dryer vent. This installation shall be completed prior to the use of your appliance. The dryer vent shall be installed as follows:

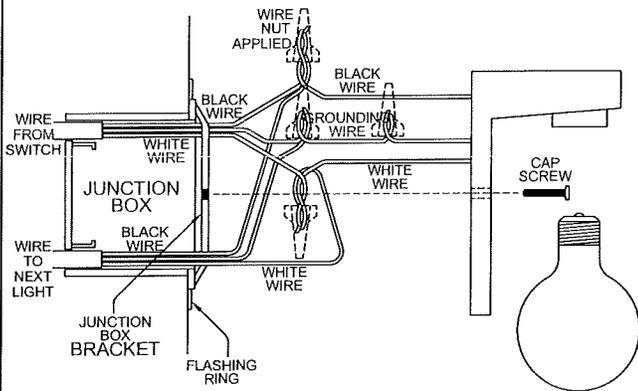
- 1) A four (4) inch diameter access has been provided in the floor directly behind the dryer. The access hole has been covered with a plywood cover.
- 2) Select a length of four (4) inch dryer hose to complete the vent. This hose will be required to exhaust to the outside of the home. The vent can not terminate underneath the home.
- 3) Secure the hose to the vent of the dryer. Feed the hose through the access hole and through the protection membrane covering the underside of the home.
- 4) Install a louvered vent termination kit on the exterior of the home. (This kit is not provided as part of the home and is the responsibility of the homeowner.)
- 5) Completion of the vent shall be the sealing of the outer membrane at the point the hose exits the membrane. Several types of tape sealant are available on the market locally that would adequately seal the membrane from entrance of moisture and/or rodents.

Exterior Finishing

Exterior Light Connection

- 1) Remove junction box cover.
- 2) Connect wires together according to color (i.e. black to black) using a wire nut. Note: Grounding wires may be either bare to color coded green.

- 3) Grounding of the junction box bracket must be made by attaching the grounding conductor to the bracket grounding screw or if no screw exists, a listed clamp must be used. This connection must be made prior to the connection of the fixture.
- 4) Fold wires over the junction box bracket back into junction box.
- 5) Place light fixture over junction box and using a cap screw, secure the fixture into the threads in the junction box bracket.
- 6) Furnish bulb and attach globe.



Exterior Light Connection

Porches & Steps

Porches and steps must be designed and built to the specifications of any local authority having jurisdiction over the site. It is the responsibility of the homeowner to ensure compliance. These must NOT use any part of the manufactured home for structural bearing or support. The home was designed and built to meet specific loading requirements; any alteration to this loading will void the structural warranty and any problems thereafter are the responsibility of the homeowner.

Home Extensions & Additions

Addition or extension design, construction and acceptance is the responsibility of the state, city or municipality having jurisdiction. The home was designed and built to meet specific loading requirements: any alteration to this loading will void the structural warranty and any problems thereafter are the responsibility of the homeowner.

Final Inspection

General

After your home has been completely set up, it is imperative to have a final inspection to insure no items have been overlooked. Any missed step could cause a service problem. Special emphasis should be placed on the following items:

Air Infiltration Barrier

A special material is fastened to the bottom side of your new home. It was installed at the factory to protect against moisture, rodents and unconditioned air. This covering was inspected at the factory, but could have been damaged during transit. It is important that the areas that are damaged be resealed.

Using vinyl patching tape designed to repair tears or holes. If a hole is large, use a patch of the same or similar material as the bottom covering and tape the edges for an airtight seal. Specifications for the sealing tape are listed in the Homeowner's Packet.

Exterior Siding and Trim

A thorough check should be made of all portions of the exterior siding to make certain that it is not cracked, split, buckled or loose in any manner. Any siding observed to be in this condition should be repaired or replaced.

All fasteners that are loose should be retightened or replaced.

All decorative trim pieces or molding strips should have special attention to make certain there are no gaps or voids in the sealant tapes or caulking material. If any such places are observed, they should be resealed.

It is highly recommended that you employ the use of gutters and downspouts to help preserve your exterior siding. The downspouts, if done correctly, will make most water flow away from the foundation of the house.

Roofs

The roof should be checked to make certain that all vent pipe flashings are in place, properly attached and properly sealed.

The shingles should be checked for proper attachment, making certain that none are loose or have been displaced during transit.

Clearances

If there are any low-hanging trees or bushes adjacent to your home which could cause damage the exterior or the roof, they should be trimmed out or cut accordingly. Future growth of these bushes or trees should be considered in connection with possible movement during wind conditions or under snow or ice loads.

Caulking

There are many good brands of caulking material and roof sealers which can be purchased from local retail stores. Whatever brand of caulking and/or sealer is purchased, the instructions regarding application should be read closely. This will include any special preparation of the surface to be coated. Observe the labeling on this material for any notes concerning resistance to running or streaking the sides of the home. This can be very unsightly and in many cases extremely difficult to remove.

Interior

At this time, all furniture, carpet, fixtures or other loose

items should be installed. All clamps or brackets installed on windows and doors for shipping purposes should be removed and the operation of these items checked. After initial leveling, recheck doors, cabinet doors and windows for square and re-square as needed.



Summary

Once you are initially finished with this manual, remember to store it with all your home related manuals for future reference.

This concludes the setup portion in preparing your home for residence. We hope you enjoy your new investment for many years to come. Thank you for choosing Chief® Industries to assist you in making your dream a reality!