ADAMS COUNTY BUILDING DEPARTMENT

(509) 509-488-9441

Manufactured Home Installation Packet

This packet contains setup information to be followed in the absence of the MH manufacturer's specifications. Enclosed are important forms to be completed by the homeowner.

- Note that state law requires all persons doing setup work on the project (other than the homeowner) be a certified manufactured home installer and shall attach a Washington State Installer Certification (WAINS) Tag to the home. The work completed by each installer must be checked on the tag and the installer must enter their WAINS number at the bottom. A final inspection will not be performed or approved until the applicable tags are completed and attached to the manufactured home.

- If the drain/waste and water supply are installed and tested by the homeowner or by a licensed plumber, complete the attached **MH Plumbing Self-Certification Form** and post on site with your building permit. See Page 15.

  The MH Plumbing Self-Certification Form need not be completed and posted if a certified installer has installed and tested the plumbing and they have attached their WAINS Tag as required and described above.

- Review the **Inspection Schedule,** Page 2.

- Follow the **General Instructions for the Installation of Manufactured Homes**.

* Please Note *

To receive a final inspection your address numbers must be clearly and permanently posted in a manner allowing easy identification by emergency responders.

CITY OF ADAMS COUNTY BUILDING DEPARTMENT

Manufactured Home Inspection Schedule

The 'approved plans' packet for your manufactured home must be kept on site, along with your building permit for reference by installers and inspectors. The packet should be placed in a weather resistant package and should be accessible at the front entry of the home.

FIRST INSPECTION

- Blocking - Perimeter, Main I-Beam, Point Load and Marriage Line as applicable
- HVAC Crossover Ducting
- 6 mil black polyethylene Ground Cover
- Tie-downs - See Page 4
- Water shutoff valve - within 10'0 of crawlspace access
- Drain/Waste line connection
- Plumbing test or Self-Certification form - See Page 15

***WARNING!* - FIRST INSPECTION MUST BE APPROVED BEFORE THE SKIRTING OF THE MANUFACTURED HOME IS INSTALLED.**

If skirting is installed before the approval of the First Inspection, the skirting may be required to be removed before an inspection is conducted ~~or~~ and approved. You may also be required to pay a $100.00 re-inspection fee or be required to hire a special inspector to perform the First Inspection.

If skirting is installed before the First Inspection has been performed and approved, you may be required to: 1) remove the skirting, 2) pay a $100.00 inspection fee, or 3) hire a Special Inspector to perform the First Inspection.

FINAL INSPECTION

- Skirting - Crawlspace Vents
- Crawlspace Access - within 10'0 of Water Supply shutoff valve
- Hot Water Tank pressure relief drain, dryer vent and HVAC condensation lines
- Landings, stairs, handrails and guards - See Pages 5 & 13
- Posted - Address numbers - See Page 1
- Posted - Installer Certification Tag(s) (WAINS) - See Page 1

NOTE: Special inspection fees may be charged for repeat inspections of items that have not been corrected from prior inspections.

Important Information from the
CITY OF ADAMS COUNTY BUILDING DEPARTMENT

General Instructions for the Installation of Manufactured Homes

Manufactured homes are required to be installed per the home manufacturer's specifications. The submitted specifications shall be for the exact make and model of the home being placed on the property, and must show all support blocking locations and the bearing loads imposed on each of them.

Homes that no longer have the manufacturer's specifications available shall be installed as per the nationally recognized ANSI standards, or as per an independent engineered design. This handout follows the ANSI standards. When submitting an engineered design, the plans shall be stamped by an engineer licensed in the State of Washington.

The manufacturers specifications and the instructions in this handout are essential to the structural integrity (blocking/tie downs) of your home. Additionally, this handout contains important code information including the minimum requirements for stairs, landings, guards and handrails.

Review all the enclosed information, paying particular attention to highlighted areas. Compliance with these issues will result in a more efficient inspection and approval process, allowing you to occupy your home without unnecessary delays.

Remember that taking a few moments of your time to carefully review all attached information can save you time and money on your project.

Please Note

When submitted, the manufacturer's specifications shall take precedence over these installation categories, which are detailed on the pages following:

- General Blocking requirements
- Tie downs
- Waste and water system – pressure test section
- HVAC Cross-over ducts
- Skirting

All other listed categories are **required** for both new and relocated homes.

Site Preparation

Finish grade shall slope away from home at least 6 inches in the first 10'-0". See Figure 1 for an example.

1. The site must be in compliance with minimum setbacks from property lines and other buildings. Property lines may need to be identified with stakes and string lines.
2. The foundation/footing must be set on firm undisturbed soil, a minimum of 4 inches below grade. Vegetation shall be removed from the area where the home will be set.
3. Perimeter blocking must be protected from frost upheaval.

Blocking/Supports

Cracked, deformed or otherwise damaged blocks/piers will be rejected during the inspection process. See Figure 4 for blocking/support examples.

1. Main frame I-beam blocking shall be spaced no more than 8 feet on center. See Figure 2 for example. A minimum of 18 inches of clearance must be provided between the bottom of the main frame and the ground/footing.
2. Perimeter blocking shall be placed at both sides of exterior doors, and shall be placed at both sides of all exterior wall openings greater than 4 feet in length.
3. Mating Wall/Marriage Line blocking shall be placed at a minimum as per Figure 3 on Page 8. The manufacturer's installation specifications take precedence.
4. Minimum allowable footing size is 16" x 16" x 4" deep.
5. Piers/blocks may be CMU (concrete masonry units), approved adjustable metal (jack stands), pressure treated wood (minimum .60 retention rating) or other approved, tested device.
6. Jack stands with the listed capacity shall comply with these blocking requirements.

Tie downs

Standard tie downs with a minimum load capacity of 4,725 lbs. are required to be installed down the length of the home on each side starting at a maximum of 2 feet from each end and spaced at no more than 11 feet on center. See Figure 5 and Figure 6 for examples.

Alternate tie down methods:
Alternative tie down methods such as must be stamped by a registered Washington State engineer and must be submitted to the city for approval at time of application.

Ground cover

1. A minimum of a 6-mil black polyethylene vapor barrier shall be installed on the ground throughout the crawl space area.
2. The ground cover may be omitted if the entire under floor area of the manufactured home has a concrete slab floor with a minimum thickness of 3½ inches.

Waste and water systems

For specific information regarding allowable materials and methods of installation please speak to plans examiner or building inspector in this office.

1. Drain/Waste and water piping shall be of materials approved for those functions.
2. Drain/Waste and water systems shall be pressure tested on site. One standard method for testing is to fill the waste system with water to the lowest fixture and allow to stand for a minimum of 15 minutes. Another method to air-test the water system at 80 lbs. psi.
3. All exposed water pipes and waste traps shall be protected from freezing.

4. Hot water pressure relief lines and HVAC condensation lines must be routed to the exterior of the skirting and pointed down. These lines shall not cause hazards on sidewalks or walkways.
5. Water supply systems must be protected at the source with back flow prevention.
6. In addition, outside faucets must also be equipped with back flow prevention devices.
7. The water supply system shall include a shutoff valve installed within 10 feet of crawlspace access.
8. An exterior cleanout for the drain/waste system is required within 24 inches of the building.

Cross-over ducts

Heating system cross-over ducts shall be supported above the ground and shall not be compressed or damaged in a manner that restricts flow.

Dryer ducts

Dryer ducts/vents shall exhaust to the exterior of the skirting and be well supported. The exterior dryer duct shall be constructed of a minimum 28 gauge smooth wall metal pipe with a minimum diameter of 4 inches. The duct shall be run as short a distance as possible to achieve an exterior termination.

Skirting

Skirting materials must be weather resistant and suitable for ground contact. Metal fasteners must be galvanized, stainless steel or other corrosion resistant material. The skirting must be recessed behind the siding or trim. Corrosion resistant wire mesh vents shall be installed in skirting to achieve crawlspace ventilation at a rate of 1/300. Vents shall be spaced evenly to allow adequate cross flow. A crawl space access must provide an unobstructed opening of not less than 24" x 18" and be located to provide access to all areas of the crawl space. An access shall be located within 10 feet of the water supply shut-off valve.

Landings: IRC 311.3

There shall be a landing at each exterior door - including sliding doors - and at the top and bottom of each stairway. The landing for the *required* means of egress door shall be at least the width of the door or stairway served, shall have a minimum dimension of 36 inches measured in the direction of travel, and may not be more than 1½ inches lower than the top of the threshold of the door. See Page 13 *(figure 7)*.

NOTE: A landing may be a maximum of 7¾ inches below the top of the threshold provided the door does not swing over the stairway. At doors other than the required main entry/exit door, a landing is not required where an exterior stairway has two or fewer risers, and provided the door does not swing over the stairway.

Stairways: IRC 311.7

Stairways shall be not less than 36 inches in clear width and shall not have less than 6 feet 8 inches of headroom height. The maximum allowable riser height shall be 7¾ inches. The greatest riser height within any flight of stairs shall not exceed the smallest by more than 3/8 inch. The minimum tread depth shall be 11 inches. The greatest tread depth within any flight of stairs shall not exceed the smallest by more than 3/8 inch.
NOTE: For more information on stairway requirements see Page 13 *(figure 7)*. and/or contact the Adams County Building Department.

Guards: IRC 312

Porches, decks and landings more than 30 inches above the grade or surface below shall have guards not less than 36 inches in height. Guards that are required on the open sides of stairs shall have a height not less than 34 inches measured vertically from a line connecting the leading edge of the treads. Guards for decks and landings shall not have openings which allow passage of a sphere 4 inches in diameter. Guards on the open side of stairs shall not have openings which allow passage of a sphere 4 3/8 inches in diameter. See Page 13 (*figure 7*).

Handrails: IRC 311.5.6

Handrails shall be provided on at least one side of each continuous run of treads or flight of stairs with four or more risers. The handrail height shall be not less than 34 inches and not more than 38 inches measured vertically from a line connecting the leading edge of the treads. Handrails shall be continuous for the full length of the flight and shall be returned or shall terminate by newel post, ~~or~~ safety terminal, volute, or turnout. The handgrip size shall be a minimum of 1¼ inches and a maximum of 2 inches. See Page 13 (*figure 7*).

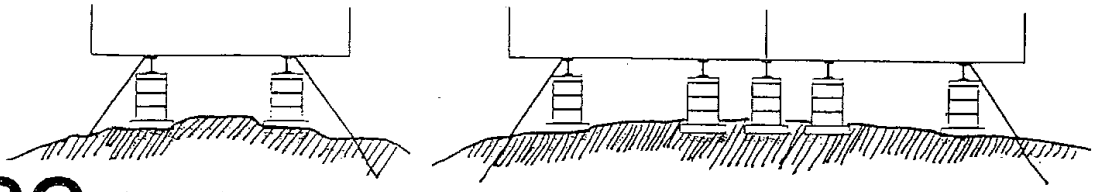
NOTE: All stairways shall be provided with a means to illuminate the stairs; including the landings and treads.

Figure 1

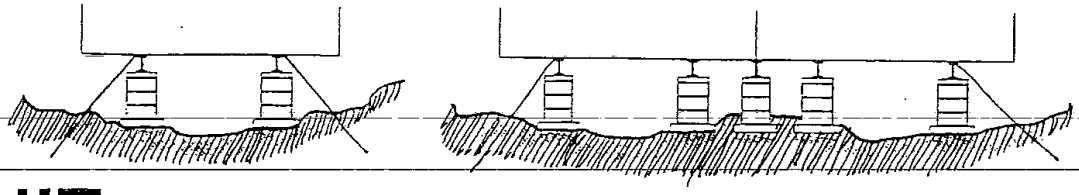
SITE PREPARATION

Single-section

Multisection

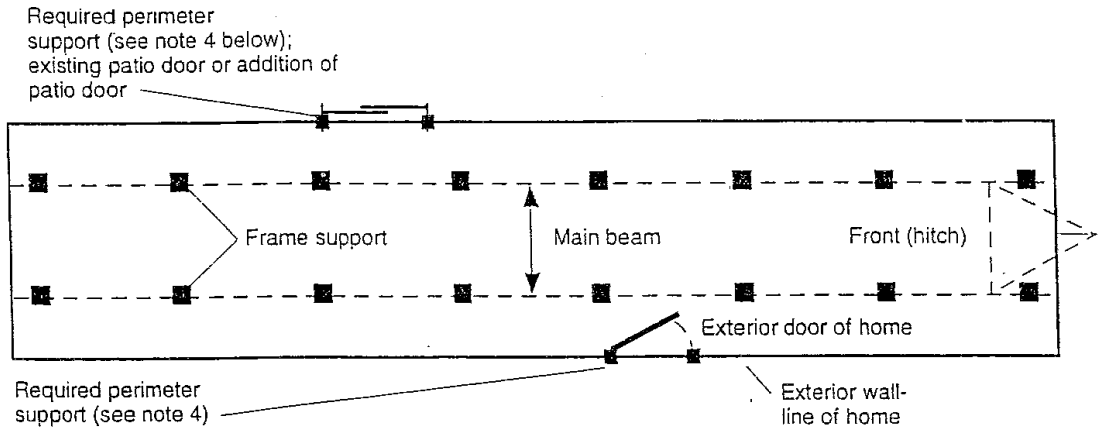


DO: *Crown and grade the site to slope away from the home and cover it with 6-mil-thick polyethylene sheeting or the equivalent.*



DON'T: *Grade the site so that water collects beneath the home.*

Figure 2



-- Typical blocking diagram for single-section home when manufacturer's instructions are not available

Note (applies to both figures 4-2 and 4-3) --

1. See table 4.1 for required pier capacity and spacing.
2. See table 4.3 and section 4.2 for footing requirements.
3. Piers shall be located at a maximum of 2 feet from both ends.
4. Place piers on both sides of entry doors and at any other openings greater than 4 feet in width, such as patio or atrium doors; under porch posts, fireplaces, and wood stoves; and under those places where heavy pieces of furniture such as pianos, organs, waterbeds, etc., may be placed.

BLOCKING UNDER "I" – BEAM

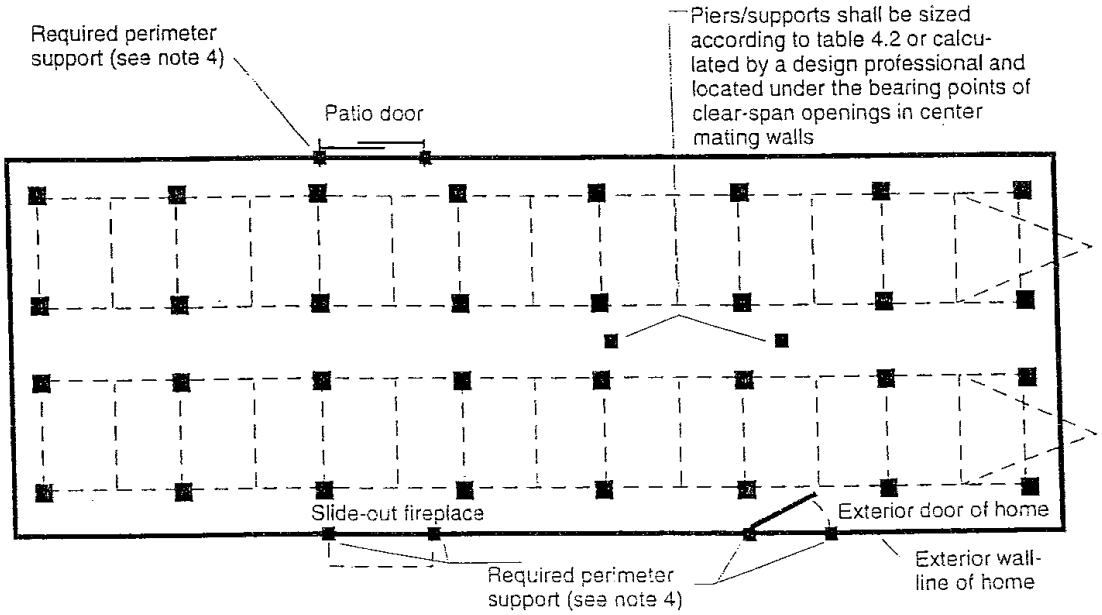


Figure 2 -- Typical blocking diagram for multisection home when manufacturer's installation instructions are not available

Figure 3

Figure 3 – Minimum Pier Capacity
Multisection Center-Beam Blocking

Section Width (feet)	Roof Live Load (pounds per square foot)	Pier Load and Minimum Pier Capacity (pounds)						
		Mating Wall Opening (feet)						
		5	10	15	20	25	30	35
8	20	600	1200	1800	2400	3000	3600	4200
	30	800	1600	2400	3200	4000	4800	5600
	40	1000	2000	3000	4000	5000	5000	7000
10	20	800	1500	2300	3000	3800	4500	5300
	30	1000	2000	3000	4000	5000	6000	7000
	40	1300	2500	3800	5000	6300	7500	8800
12	20	900	1800	2600	3500	4400	5300	6100
	30	1200	2300	3500	4700	5800	7000	8200
	40	1500	2900	4400	5800	7300	8800	10200
14	20	1000	2000	3000	4100	5100	6100	7100
	30	1400	2700	4100	5400	6800	8100	9500
	40	1700	3400	5100	6800	8400	10100	11800
16	20	1200	2300	3500	4700	5800	7000	8100
	30	1600	3100	4700	6200	7800	9300	10900
	40	1900	3800	5800	7500	9700	11600	13600

EXAMPLE: 14-foot section width
30-pounds-per-square-foot roof live load
18-foot-wide mating-wall opening

Follow down the "Section Width" column to "14 feet." Follow across to "30 pounds per square foot" (psf) in the "Roof Live Load" column. Since the mating wall opening is 18 feet wide, follow across to the column headed "20." (For any opening width that is not shown, use the next highest number on the chart.) The required pier capacity is 5,400 pounds.

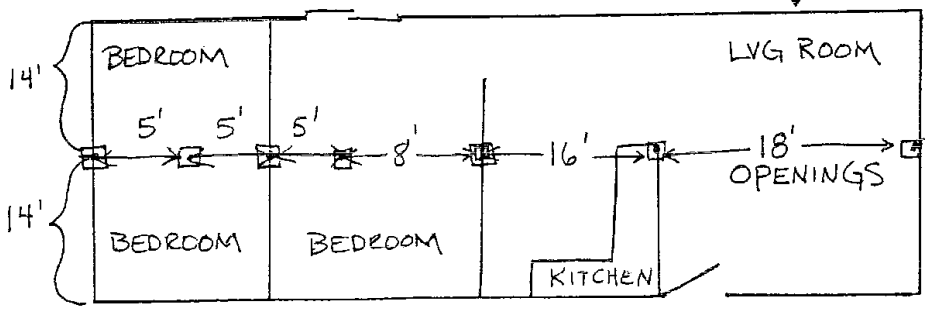
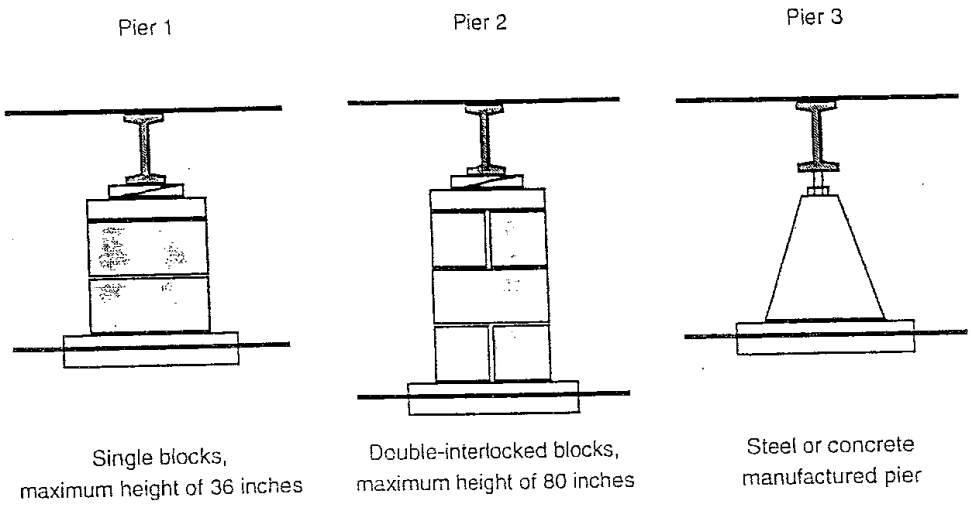
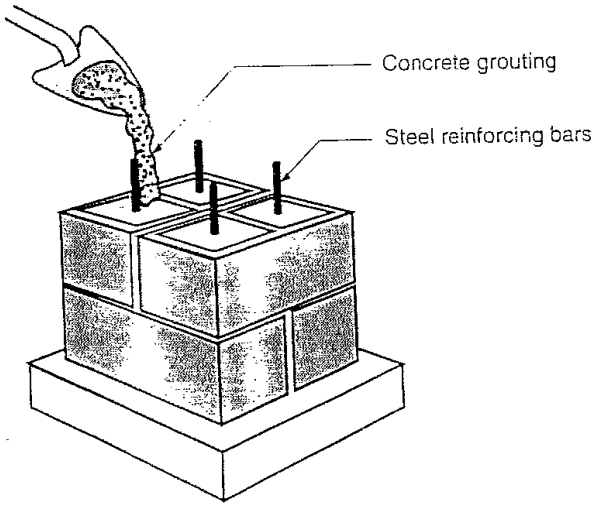


Figure 4





For piers exceeding 80 inches in height, the concrete blocks should be filled with concrete grouting and steel reinforcing bars should be utilized.

Figure 5

Adams County

Use Zone 1

Strap Method	Anchor Min. Ultimate Load Capacity	Maximum Anchor Spacing		
		Zone I	Zone II [3]	Zone III [3]
Single Strap	4725 lbs.	11' - 0"	6' - 0"	4' - 6"
Double Strap	4725 lbs. [1]	11' - 0" [2]	6' - 0" [2]	4' - 6" [2]

Note --

1 Unless listed/labeled for a higher capacity by the anchor manufacturer

2 Unless a greater spacing is specified by the anchor manufacturer

3 All homes located in Wind Zones II and III shall have a vertical tie installed at each diagonal tie location.

TIE DOWN LOCATIONS

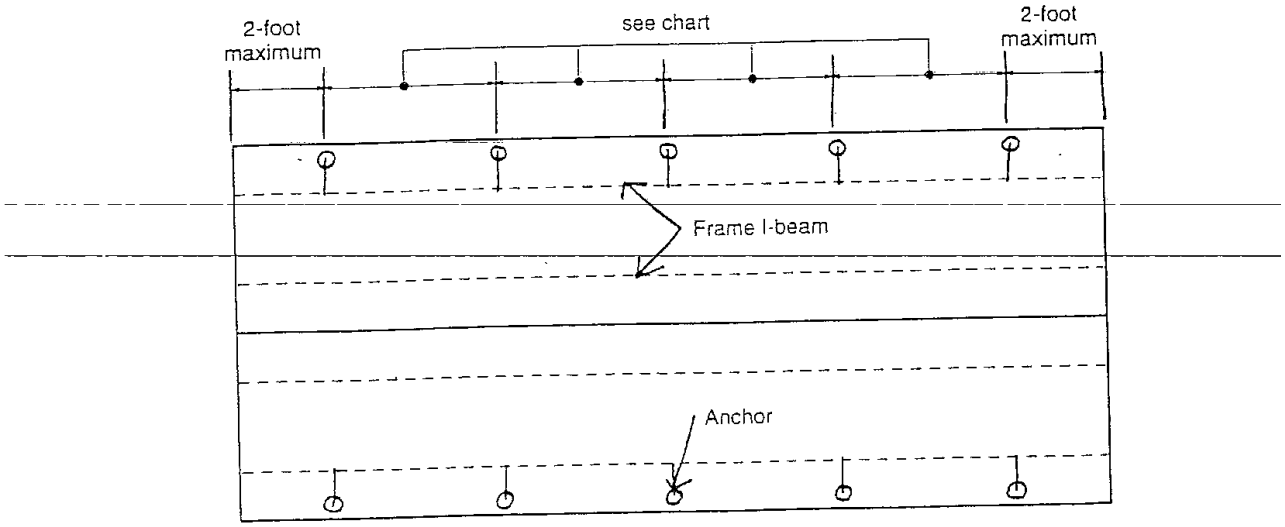
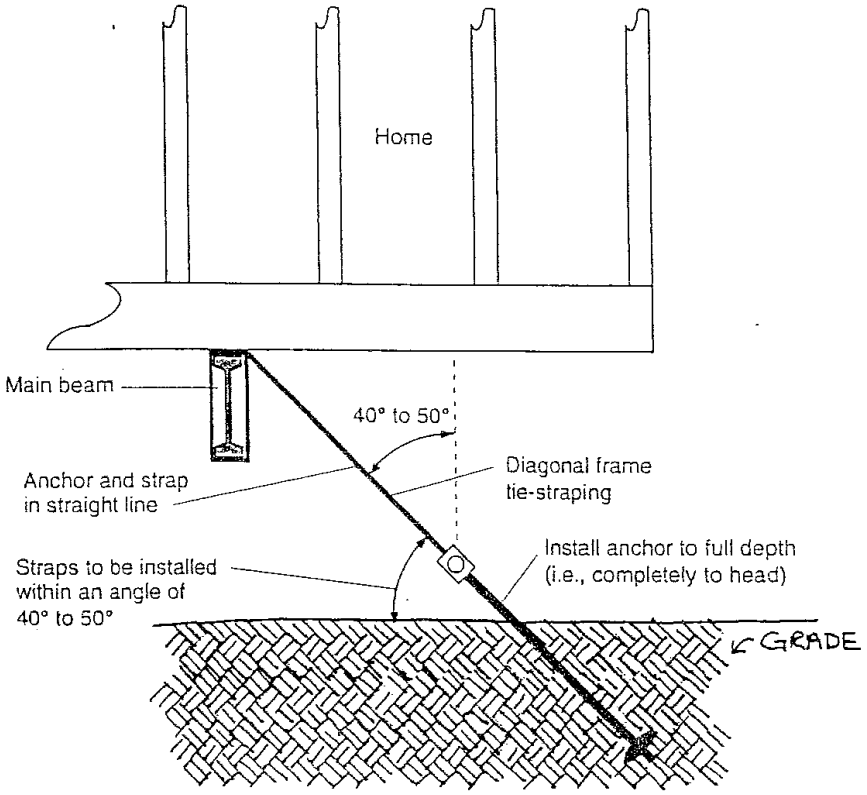


Figure 6

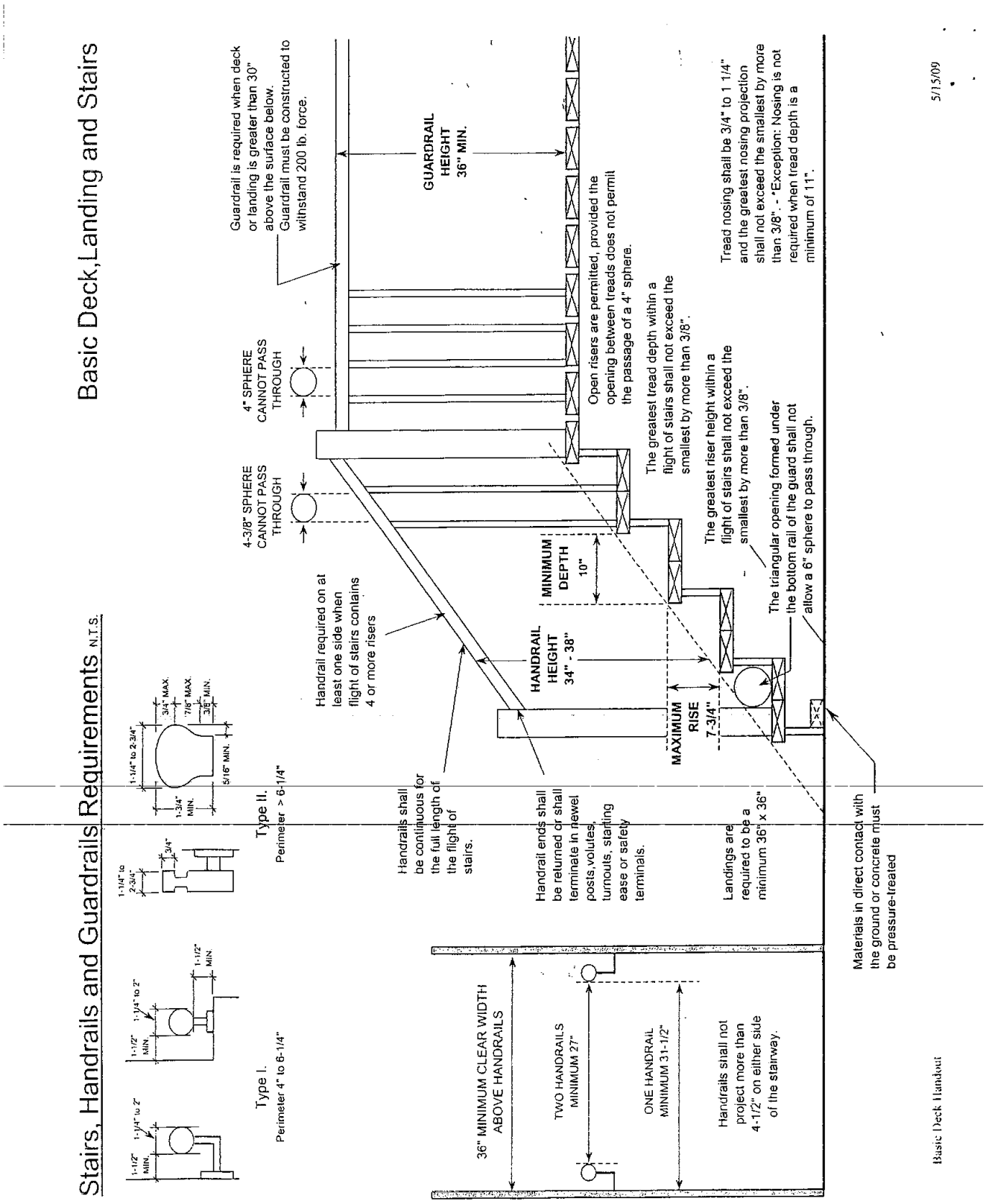
THIS IS A SIDE VIEW OF TIE DOWNS



Note --

1. All anchoring parts must be certified to a 4,725-pound capacity.
2. The ground anchors must be sized in accordance with the direction of the load and the type of soil.
3. The ground anchors' augers must be installed below the frost line.
4. Ground anchors may be installed vertically if either a 10-inch x 18-inch (at a minimum) concrete collar or an approved metal stabilizing device is installed.

Figure 7


Basic Deck,Landing and Stairs
Stairs, Handrails and Guardrails Requirements N.T.S.
Guardrail is required when deck or landing is greater than 30" above the surface below. Guardrail must be constructed to withstand 200 lb. force.
GUARDRAIL HEIGHT 36" MIN.
4" SPHERE CANNOT PASS THROUGH
4-3/8" SPHERE CANNOT PASS THROUGH
Open risers are permitted, provided the opening between treads does not permit the passage of a 4" sphere.
The greatest tread depth within a flight of stairs shall not exceed the smallest by more than 3/8".
Tread nosing shall be 3/4" to 1 1/4" and the greatest nosing projection shall not exceed the smallest by more than 3/8". - *Exception: Nosing is not required when tread depth is a minimum of 11".
Handrail required on at least one side when flight of stairs contains 4 or more risers
MINIMUM DEPTH 10"
HANDRAIL HEIGHT 34" - 38"
MAXIMUM RISE 7-3/4"
The greatest riser height within a flight of stairs shall not exceed the smallest by more than 3/8".
The triangular opening formed under the bottom rail of the guard shall not allow a 6" sphere to pass through.
Handrails shall be continuous for the full length of the flight of stairs.
Handrail ends shall be returned or shall terminate in newel posts, volutes, turnouts, starting ease or safety terminals.
Landings are required to be a minimum 36" x 36"
Materials in direct contact with the ground or concrete must be pressure-treated
36" MINIMUM CLEAR WIDTH ABOVE HANDRAILS
TWO HANDRAILS MINIMUM 27"
ONE HANDRAIL MINIMUM 31-1/2"
Handrails shall not project more than 4-1/2" on either side of the stairway.
Type I.
Perimeter 4" to 6-1/4"
Type II.
Perimeter > 6-1/4"
1-1/2" MIN
1-1/4" to 2"
1-1/2" MIN.
1-1/4" to 2-3/4"
3/4"
1-3/4" MIN.
3/4" MAX.
7/16" MAX.
5/16" MIN.
3/8" MIN.
5/13/09
Basic Deck Handout

Adams County Building Department

MH Plumbing Self Certification Form
For Homeowners and Licensed Plumbers

This form may be completed in lieu of leaving a pressure test on the water and sewer lines for inspection by our office. You must fill out this form completely and return it to the Adams County Building Dept. or leave it on site with your permit for pick up during your inspection.

Permit Holder: _____

Building Permit #: _____

Site Address: _____

MH Make: _____

MH Model: _____

I certify that the drain/waste system and water supply lines for this described home have been site tested in accordance with the Manufacturer's Specifications and/or the WA ST Building Code, and have been found to be free of defects or leaks on this date: _____

_____

Licensed Plumber's Name Plumber's Signature License #

(or)

_____

Homeowner's Name Owner's Signature Phone #

NOTE

This form is not for use by Certified MH Installers. Certified Installers are to complete and attach their installer (WAINS) tag to the home as required.