



City of Ferndale
 2095 Main Street
 Ferndale WA 98248
 Plans Examiner 360-685-2364
 Permit Specialist 360-685-2369
 Building Inspector 360-685-2363

**COMMUNITY DEVELOPMENT DEPARTMENT
 MOBILE/MANUFACTURED HOME
 PLAN REVIEW SPECIFICATIONS FOR PARK**

HOME

Make: _____ Model: _____

Year: _____ Size: (width) _____ X _____ (length)

Serial #: _____ **Height from ground to bottom of floor joist:** _____

Single-Wide: Double-Wide: Triple-Wide:

SITE SOIL

Soil Bearing: _____ **PSF (pounds per square foot from table below)**

Soil Type Based on the Unified Classification System	Allowable Pressure Pounds per Square Foot No allowances made for overburden pressure, embedment depth, water table height, or settlement problems
Rock or hard pan	4,000 and up
Sandy gravel and gravel	2,000
Sand, silty sand, clayey sand, silty gravel, or clayey gravel	1,500
Clay, sandy clay, silty clay, or clayey silt	1,000
Uncompacted fill	Special analysis required
Peat or organic clays	Special analysis required

If soil type cannot be determined, 1,000 PSF soil bearing shall be applied

DESIGN ROOF-LOAD (Your home must meet this design requirement)

Ferndale – 20 PSF (pounds per square foot) minimum

DESIGN WIND-LOAD (Your home must meet this design requirement)

Ferndale – Standard wind Zone 1 – 15 PSF (pounds per square foot) Horizontal 9 PSF uplift

INSTALLATION OPTION - Check only one option – This is the option you are choosing to install your home.

- Option 1: Manufacturer’s Instructions - Read & Use Owner’s manual to install your home
 - See Page 3 for further instructions
- Option 2: Ferndale’s Prescriptive Method
 - See Page 3 for further instructions
- Option 3: ANSI A225.1 (American National Standard Institute)
 - See Page 3 for further instructions
- Option 4: Designed by Professional Engineer or Architect licensed in Washington State
 - See page 3 for further instructions

FOUNDATION - Check the type of foundation you are choosing.

- Pads/Piers; # of Pads/Piers being used: _____
- Continuous concrete footing/runners (Minimum 3 ½” thick). Indicate thickness: _____”
- Slab (Minimum 3 ½” thick). Indicate thickness: _____”
- Magnum System – **Attach copy of manufacturer’s instructions**

PIER BLOCKING - Check the appropriate box for the pier blocking you are choosing.

- Single blocks – maximum height of 36” - Indicate height: _____”
- Double-interlocked blocks – maximum height of 80” - Indicate height: _____”
- Double-interlocked blocks – maximum height of 96”* - Indicate height: _____”
- Steel or concrete manufactured pier - Indicate height: _____”
- Magnum System - **Attach manufacturer’s instructions**

*NOTE: For piers exceeding 80 inches in height, the concrete blocks should be filled with concrete pouring and steel reinforcing bars should be utilized –

ANCHORING - Check the type to be utilized for your home.

- Ground
- Magnum – **Attach manufacturer’s instructions**
- Concrete – 2500 PSI (Per Square Inch)

TIE-DOWN COMPONENTS – MUST BE ANSI APPROVED –

Check the type to be utilized for your home. Attach manufacturer’s specifications, if new home.

- Ground Anchors; # of Ground Anchors: _____ Spacing between each one: _____ Ft. on Center
 - Concrete Deadman Anchor
 - Auger Anchor
 - Cross/Spike Anchor
 - Anchors in Concrete Slab

TIE-DOWN STRAPS – MUST BE ANSI APPROVED –

Attach manufacturer’s specifications, if new home.

- How many per side? _____ Spacing between each one: _____ Ft. on Center
- Hold-down capacity per Strap _____ lbs.

CHECK THE BOX TO INDICATE YOUR INSTALLATION OPTION #

Option 1: **Manufacturer's Installation** - Read & Use Owner's Manual for installation requirements.

1. Submit two (2) copies of the following from the home's manual:
 - a) Floor Plan (must identify Model & Make on copy)
 - b) Identify any additional "Option" you are choosing on floor plan
 - c) Pier Construction Diagram
 - d) Blocking Layout Diagram
 - e) Frame Tie-Down Diagram

Option 2: **Ferndale's Prescriptive Method** – Installation must be done as follows:

1. Minimum 4" thick Pier Pad of 16" x 16" or
2. Minimum 3 ½ " thick Strip Footing or
3. Minimum 3 ½ " Full Slab
4. All Perimeter Pier Support & Frame Blocking shall be placed at four (4) feet on center.
5. Piers shall be placed at a maximum of two (2) feet from both ends.
6. Piers shall be placed on both sides of entry doors & at any other opening greater than four (4) feet in width, such as patio or atrium doors; under porch posts, fireplaces, and woods stoves; and under those places where heavy pieces of furniture such as pianos, organs, waterbeds, etc., may be placed.
7. Tie-Down Straps shall be a minimum 4725 lbs. and there shall be no less than five (5) straps per side up to 52' in length & six (6) straps per side over 52' feet in length & no less than one (1) strap every 8'.

Option 3: **ANSI A225.1**

1. Use Tables 4-1, 4-2 & 4-3 found on pages 6 & 7 for installation – NOTE: You can only install according to a Live Roof Load of 20 lbs. PSF (Per Square Foot) in Ferndale.
2. See Table 4-1 for required pier capacity and spacing.
3. See Table 4-3 for footing size (See footnotes 1 & 2 at bottom of table).
4. Concrete footings shall be a minimum of 3 ½" thick.

Option 4: **Designed by Professional Engineer or Architect licensed in Washington State**

1. Submit one (1) original wet-stamp designed by an Engineer or Architect licensed in Washington State.

PLAN SUBMITTAL INSTALLATION REQUIREMENTS for OPTIONS 2, 3 or 4

Using a scale of $\frac{1}{4}'' = 1'$, or $\frac{1}{8}'' = 1'$, submit two (2) copies on 8 $\frac{1}{2}$ x 11 or 11 x 17 sheets of paper (do not use pencil) showing the following information: (Note: your drawing needs to be consistent with the design method as laid out on Pages 1 and 2).

1. Exterior wall lines - Indicate dimensions.
2. Front Hitch.
3. Frame I-Beam.
4. Frame Support/Pier Blocking – Indicate locations and spacing dimensions between each one.
5. Perimeter Support/Pier Blocking – Indicate locations and spacing dimensions between each one.
6. Identify all window locations and indicate their size.
7. Identify all exit door landings (minimum 3' x 3' required). (DO NOT ATTACH LANDING TO HOME)
8. Identify all Anchor locations and spacing dimensions between each one.
9. Identify all Tie-Down Strap locations and spacing dimensions between each one.

NOTE:

1. If exit landing is 30" above grade, guardrails/handrails are required. (DO NOT ATTACH LANDING TO HOME)
2. Firm, stable, slip resistant 3' x 3' landing required at bottom of stairs.

OPTION #3 ONLY
USE TABLES 4-1, 4-2 & 4-3

**TABLE 4-1 – MINIMUM PIER CAPACITY
 BASED ON THE AMERICAN NATIONAL STANDARD (ANSI)
 FERNDAL ROOF LIVE LOAD OF 20LBS PSF
 FRAME PLUS PERIMETER BLOCKING
 (BOTH FRAME AND PERIMETER BLOCKING REQUIRED)**

Section Width (Feet)	Roof Live Load 20 lbs. per square ft.	Pier Location	Minimum Pier Capacity (pounds)			
			Maximum Pier Spacing (feet)			
			4	6	8	10
8	20 lbs.	Frame	900	1300	1800	2200
		Perimeter	600	800	1100	1400
10	20 lbs.	Frame	1100	1700	2200	2800
		Perimeter	700	1100	1400	1800
12	20 lbs.	Frame	1300	1900	2600	3200
		Perimeter	800	1200	1600	2000
14	20 lbs.	Frame	1500	2200	3000	3700
		Perimeter	900	1400	1900	2400
16	20 lbs.	Frame	1700	2600	3400	4300
		Perimeter	1100	1600	2200	2700
18	20 lbs.	Frame	1900	2900	3900	4800
		Perimeter	1200	1800	2500	3100

**TABLE 4-2 – MINIMUM PIER CAPACITY
 MULTISECTION CENTER-BEAM BLOCKING
 BASED ON THE AMERICAN NATIONAL STANDARD (ANSI)
 FERNDAL ROOF LIVE LOAD OF 20LBS PSF**

Section Width (Feet)	Roof Live Load 20 lbs. per square ft.	Pier Load & Minimum Capacity (pounds)						
		Mating Wall Opening (feet)						
		5	10	15	20	25	30	35
8	20 lbs.	600	1200	1800	2400	3000	3600	4200
10	20 lbs.	800	1500	2300	3000	3800	4500	5300
12	20 lbs.	900	1800	2600	3500	4400	5300	6100
14	20 lbs.	1000	2000	3000	4100	5100	6100	7100
16	20 lbs.	1200	2300	3500	4700	5800	7000	8100

OPTION #3 ONLY

**TABLE 4-3 – FOOTING SIZE ^{1,2}
BASED ON THE AMERICAN NATIONAL STANDARD (ANSI)**

Pier Capacity	Minimum Footing Size or Equal Area (inches)			
	Soil Capacity			
Pounds per Square Foot	1000 psf	1500 psf	2000 psf	4000 psf
600	9 x 9	8 x 8	7 x 7	5 x 5
800	11 x 11	9 x 9	8 x 8	5 x 5
1000	12 x 12	10 x 10	8 x 8	6 x 6
1500	15 x 15	12 x 12	10 x 10	7 x 7
2000	17 x 17	14 x 14	12 x 12	8 x 8
2500	19 x 19	15 x 15	13 x 13	10 x 10
3000	21 x 21	17 x 17	15 x 15	11 x 11
3500	22 x 22	18 x 18	16 x 16	12 x 12
4000	24 x 24	20 x 20	17 x 17	13 x 13
4500	25 x 25	21 x 21	18 x 18	13 x 13
5000	27 x 27	22 x 22	19 x 19	14 x 14
5500	28 x 28	23 x 23	20 x 20	15 x 15
6000	29 x 29	24 x 24	21 x 21	15 x 15
6500	31 x 31	25 x 25	22 x 22	16 x 16
7000	32 x 32	26 x 26	22 x 22	16 x 16
7500	33 x 33	27 x 27	23 x 23	17 x 17
8000	34 x 34	28 x 28	24 x 24	17 x 17
8500	35 x 35	29 x 29	25 x 25	18 x 18
9000	36 x 36	29 x 29	25 x 25	19 x 19
10000	38 x 38	31 x 31	27 x 27	20 x 20
11000	40 x 40	32 x 32	28 x 28	21 x 21
12000	42 x 42	34 x 34	29 x 29	22 x 22
13000	43 x 43	35 x 35	31 x 31	22 x 22
14000	45 x 45	37 x 37	32 x 32	23 x 23
15000	46 x 46	38 x 38	33 x 33	24 x 24
16000	48 x 48	39 x 39	34 x 34	25 x 25
17000	49 x 49	40 x 40	35 x 35	25 x 25
18000	51 x 51	42 x 42	36 x 36	26 x 26
19000	52 x 52	43 x 43	37 x 37	

NOTE –

1. The footing sizes shown are for square pads and are based on the area (square inches) required for the load. Other footing configurations, such as a rectangular configuration, may be used provided the area (square inches) is equal to or greater than the area of the square footing shown in the table. For example, a 12-inch x 22-inch (264-square-inch) footing may be used in place of a 16-inch x 16-inch (256-square-inch) footing. Also two 12-inch x 24-inch pads may be used in place of one 24-inch x 24-inch pad.
2. Ferndale regulations may require design verification by an engineer.