

## **CHAPTER 23.85**

### **Local Amendments to the International Residential Code, 2000 Edition**

#### **SECTIONS:**

23.85.R100	Local Amendments To The 2000 International Residential Code
23.85.R100.1	Administrative
23.85.R202	Definitions
23.85.R301.2(1)	Climatic and Geographic Design Criteria
23.85.R301.2(4)	Basic Wind Speeds For 50-Year Mean Recurrence Interval
23.85.R301.2.2.1.1	Alternate Determination of Seismic Design Category
23.85.R309.1	Opening Protection For Fire Ratings For Attached Garages
23.85.R309.2	Separation Required
23.85.R310.1	Exits And Emergency Escapes
23.85.R314.8	Under Stair Protection
23.85.R318.1.2	Thermal Barrier
23.85.R321.1	Two Family Dwellings
23.85.R322	Moisture Vapor Retarders
23.85.R323.1	Location Required
23.85.R323.3	Fasteners
23.85.R401.1	Application
23.85.R401.4	Site And Soil Investigations
23.85.R402.1.3	Restraint for Wood Foundations
23.85.R402.1.4	Dampproofing for Wood Foundation
23.85.R403	Footings
Figure 23.85.403-16	Reinforced Concrete
Figure 23.85.403-25	Typical Foundation And Footing Details
Figure 23.85.403-29	Typical Step Footing
Figure 23.85.403-31	Typical Pony Wall for Split Level
Figure 23.85.403-34	All Weather Wood Foundation
Figure 23.85.403-37	Typical Basement Foundation Wall
TABLE 23.85.R403	
23.85.R403.2	Footings For Wood Foundations
23.85.R403.3	Frost Protected Shallow Foundations
23.85.R404.1.1	Masonry Foundation Walls
23.85.R404.3	Wood Sill Plates
23.85.R406.1	Concrete and Masonry Foundation Dampproofing
23.85.R406.2	Concrete Masonry Foundation Waterproofing

23.85. R406.3.2	Below Grade Moisture Barrier
23.85.R407.2	Steel Column Protection
23.85.R408.5	Finished Grade
23.85.R602.3.2	Top Plate
23.85.R602.6	Drilling And Notching – Studs
23.85.602.11.1	Wall Anchorage
23.85.R702.3.1	Materials
23.85.R702.3.6	Fastening
23.85.R702.4.2	Gypsum Backer
23.85.R703.3	Wood, Plywood And Wood Structural Panel Siding
23.85.R703.8	Flashing
23.85.R802.10	Wood Trusses
23.85.R802.10.1	Truss Design Drawings
23.85.R803.1	Lumber Sheathing
23.85.R806.1	Ventilation Required
23.85.R806.2	Minimum Area
23.85.R807.1	Attic Access
23.85R905.2.2	Slope
23.85.R905.2.4	Asphalt Shingles
23.85.R905.2.7	Underlayment Application
23.85.R905.2.7.1	Ice Protection
23.85.R905.2.8	Flashing
23.85.R905.3.3	Underlayment
23.85.R905.3.3.1	Low Slope Roofs
23.85.R905.3.3.2	High Sloped Roofs
23.85R905.4	Metal Roof Shingles
23.85.R905.5	Mineral-Surfaced Roll Roofing
23.85.R905.6	Slate and Slate-Type Shingles
23.85.R905.6.3	Underlayment (SLATE)
23.85R905.7	Wood Shingles
23.85R905.8	Wood Shakes
23.85.R905.8.6	Application (wood shakes)
23.85.R905.9.1	Slope
23.85.R905.10.2	Slope
23.85 Chapter 11	Energy Efficiency
23.85 Chapters 12-38	

## 23.85 Chapters 39-46

23.85.AE100	Mobile and Manufactured Homes
23.85.AE101	Scope
23.85.AE102.7	Mobile Homes, Campers, And Travel Trailers
23.85.AE102.7.1	Mobile Homes
23.85.AE102.7.2	Campers And Travel Trailers
23.85.AE201	Definitions
23.85.AE301.1	Initial Installation
23.85.AE301.5	Gas And Plumbing Service
23.85.AE302.4	Who May Apply
23.85.AE307	Utility Service
23.85.AE502.3	Footings And Foundations
23.85.AE502.6	Under-Floor Clearances-Ventilation And Access
23.85.AE503.1	Skirting And Permanent Perimeter Enclosures
23.85.AE604.1	Ground Anchors

## 23.85 Appendix

### **23.85.R100 Local Amendments To The 2000 International Residential Code**

The amendments to the 2000 International Residential Code are listed hereafter by section. The last digits of the number (after the title and chapter digits) are the section of the 2000 International Residential Code to which the amendments refers, i.e., 23.85.210 refers to amendments to Section 210 of the 2000 International Residential Code.

#### **23.85.R100.1 Administrative**

Delete Sections 104 through 113 and 116 through 118. See Anchorage Administrative Code Chapter 23.10 for Administrative Provisions and Fees. Section 306, Special Inspections, and 307, Structural Observation, do not apply to one and two family structures unless specifically required by the Engineer of Record.

#### **23.85.R202 Definitions**

Delete the definition of "Grade (adjacent ground elevation)" and substitute the following:

Grade. (adjacent ground elevation) is the lowest point of the finished ground elevation at a distance of five (5) feet from the exterior wall of a building. In case walls are parallel to and within five (5) feet of a public sidewalk, alley or other public way, the finished ground elevation at any point shall be considered to be the elevation of the sidewalk, alley, or public way.

#### **23.85.R301.2(1) Climatic and Geographic Design Criteria**

TABLE NO. R301.2(1)

CLIMATIC AND GEOGRAPHIC DESIGN CRITERIA

Add the following information in the table:

Roof snow load	40 PSF
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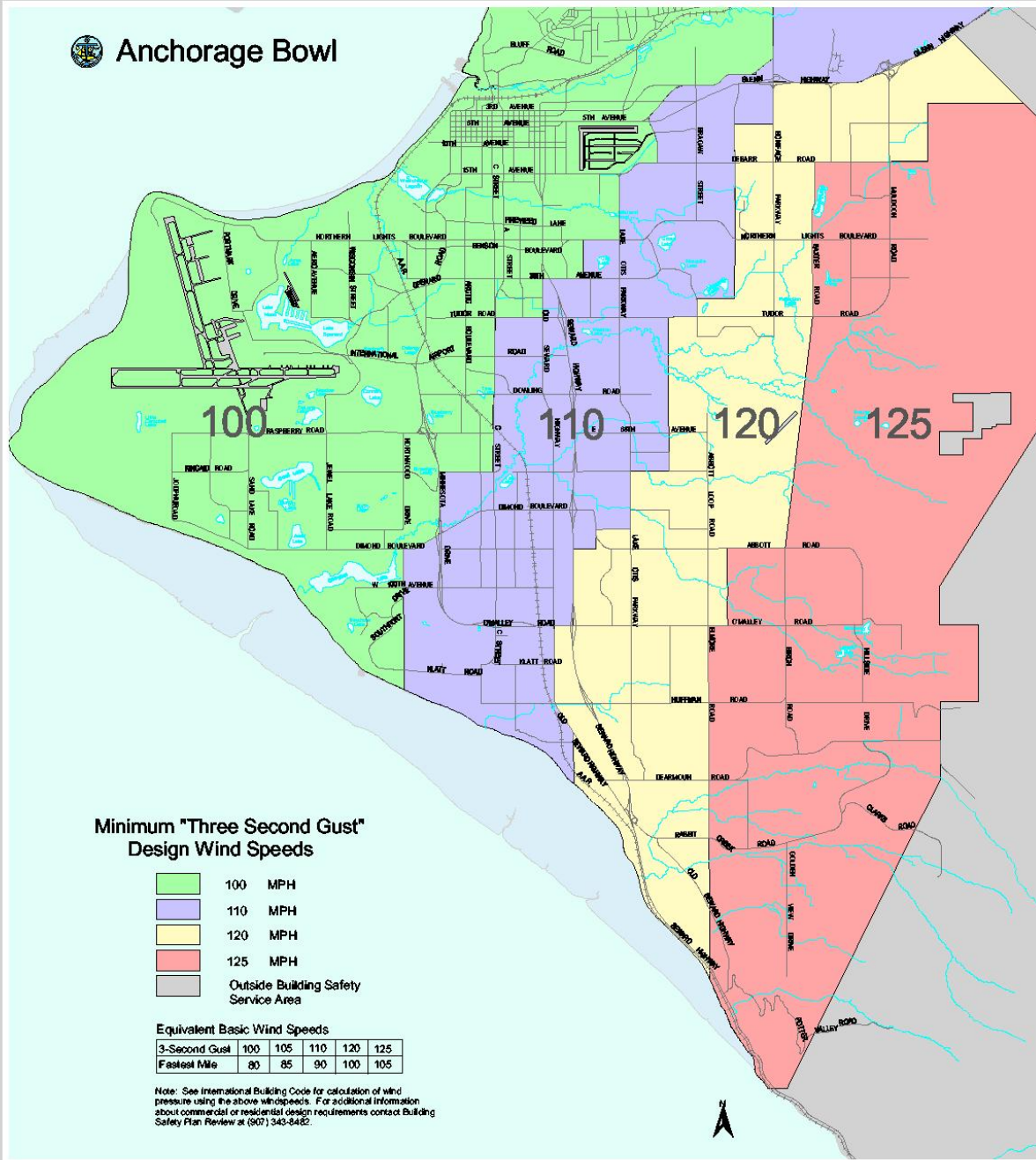
Wind Speed	Figure 23.85.R301.2(4)
Seismic Design Category	D <sub>2</sub>
Subject to damage from:	
Weathering	Yes, severe
Frost Line Depth	42" for warm foundation, 60" for cold foundation
Termite	No
Decay	Yes
Winter Design Temperature	-25 deg F
Flood Hazards	Yes, see flood hazard maps

**23.85.R301.2(4) Basic Wind Speeds For 50-Year Mean Recurrence Interval**

Amend by deleting Figure R301.2(4) and replace with the following:

Replace Figure R301.2(4) with attached Anchorage Bowl three second gust Wind Zone map:

# Anchorage Bowl



## "Three Second Gust" Wind Zone Map


 Map Prepared By:  
 Technical Services  
 Department of Planning, Development  
 and Public Works  
 Municipality of Anchorage  
 (907) 343-8220  
 December 1, 2004

This map is derived from Geographic Information Systems data developed and maintained by the Municipality of Anchorage ("MOA"). This map is not a certified representation of any of the information included and is made available to the public solely for informational purposes. This map may be outdated, inaccurate and may contain imprecise information. Do not rely on this information. The Municipality will not be liable for losses, injury, harm, damages or consequences on the map.

#### **23.85.R301.2.2.1.1 Alternate Determination of Seismic Design Category**

Delete paragraphs R301.2.2.1.1, R301.2.2.1.2, R301.2.2.2, and table 301.2.2.1.1 and replace with the following:

The seismic design category for Anchorage shall be D<sub>2</sub>.

#### **23.85.R309.1 Opening Protection For Fire Ratings For Attached Garages**

Amend by adding a third sentence to read as follows:

Doors shall be self-closing and have smoke gaskets at top and sides of doors and adjustable threshold or sweep.

#### **23.85.R309.2 Separation Required**

Amend by deleting paragraph in its entirety and replacing with the following:

A garage shall be separated from the residence and its attic area with a one-hour occupancy separation. The occupancy separation may be limited to the installation of approved materials approved for one-hour fire resistance construction on the garage side only. 5/8 Type X gypsum wall board will be considered adequate protection for one-hour construction on the garage side at rated walls and ceilings. All plastic pipe such as condensate lines, vacuum lines, drain lines, waste lines, and vent lines require an approved tested fire collar or equivalent at rated wall and ceiling penetrations on garage side only. All ferrous metal pipe penetrations are required to be filled with gypsum wall board compound or other approved materials. Fire dampers need not be installed in air ducts passing through the wall, floor, or ceiling separating garage from the dwelling, provided such ducts within the garage are constructed of steel having thickness not less than 0.019 inch [0.48 mm] [No. 26 galvanized sheet gauge] and have no opening into the garage.

Access to a crawlspace from a garage shall meet minimum requirements of self-closing, tight fitting, solid wood door measuring 1-3/8 inches or greater in thickness, or equivalent laminated plywood or combination plywood and properly secured 5/8 inch Type X gypsum wallboard or 20 minute approved door assembly.

#### **23.85.R310.1 Exits And Emergency Escapes**

Add the following to Section 310.2 Emergency Egress Openings to read as follows:

**Exception::** Where windows are provided as a means of escape or rescue in a basement, they shall have a finished sill height of not more than 48 inches above the finished floor.

#### **23.85.R314.8 Under Stair Protection**

Add the following:

Half inch gypsum board shall be fire rated.

#### **23.85.R317.3 Carbon Monoxide Detectors**

Add a new subsection, R317.3, Carbon Monoxide Detectors, to read as follows:

Single-and multiple-station carbon monoxide detectors shall be installed on each floor. Where there are sleeping rooms on a floor, the detector shall be placed outside of the sleeping rooms.

When more than one detector is required to be installed within an individual dwelling unit the alarm devices shall be interconnected in such a manner that the actuation of one alarm

will activate all of the alarms in the individual unit. The alarm shall be clearly audible in all bedrooms over background noise levels with all intervening doors closed.

All carbon monoxide detectors shall be listed and installed in accordance with the provisions of this code.

### **23.85.R317.3.1 Alterations, Repairs and Additions**

Add a new subsection, R317.3.1, Alterations, Repairs and Additions, to read as follows:

When interior alterations, repairs or additions requiring a permit occur, or when one or more sleeping rooms are added or created in existing dwellings, the individual dwelling unit shall be provided with carbon monoxide detectors as required for new dwellings; the carbon monoxide detectors shall be interconnected and hard wired.

#### **Exceptions:**

1. Carbon monoxide detectors in existing areas shall not be required to be interconnected and hard wired where alterations or repairs do not result in the removal of the interior wall or ceiling finishes exposing the structure, unless there is an attic, crawl space, or basement available which could provide access for hard wiring and interconnection without the removal of the interior finishes.
2. Repairs to the exterior surfaces of dwellings are exempt from the requirements of this section.

### **23.85.R317.4 Power Source**

Add a new subsection, R317.4, Power source, to read as follows:

In new construction, the required carbon monoxide detectors shall receive their primary power from the building wiring when such wiring is served from a commercial source, and when primary power is interrupted, shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for over current protection. Carbon monoxide detectors shall be permitted to be electrical outlet type with battery back up when installed in existing buildings or in buildings that undergo alterations, repairs or additions regulated by section 23.85.R317.3.1.

### **23.85.R318.1.2 Thermal Barrier**

**Exception:** Foam plastics used in crawl space rim joist do not require thermal barrier.

### **23.85.R321.1 Two Family Dwellings**

Add the following exception to read as follows:

2. Wall assembly in crawl spaces of two family dwellings or occupancies for unit separation shall be of 1-hour construction from footing or foundation to underside of floor above in accordance with ASTM E 119.

### **23.85.R322 Moisture Vapor Retarders**

Delete paragraph and exceptions and add the following:

Vapor retarders. All exterior wall, ceiling, roof and floor assemblies which enclose heated spaces and which are exposed to outdoor ambient temperatures shall be protected against

water vapor transmission. Assemblies not otherwise of impermeable construction shall have installed, on the heated side of the insulation or air spaces, vapor retarders having a perm rating of 0.06 minimum (equivalent to 6 mils polyethylene sheeting) or other material approved by the Building Official.

#### **23.85.R323.1 Location Required**

Amend first sentence by deleting the words “or decay-resistant heartwood of redwood, black locust, or cedars.”

#### **23.85.R323.3 Fasteners**

Delete exceptions.

#### **23.85.R401.1 Application**

Add the following exception:

3. Wood foundations shall have a 16-inch x 10-inch reinforced concrete footing minimum.

#### **23.85.R401.4 Site And Soil Investigations**

Add the following:

Special site investigations shall be performed in potentially hazardous areas as follows:

1. Special site investigations are required in delineated seismic hazard zones after consideration of the proposed location, use, and building type. The required level of documentation is specified in the following paragraphs according to designations in Table 23.85.01.4.
  - A. For site investigation requirement "A", submit geotechnical information sufficient for the Building Official to verify that the assumed hazard zonation is consistent with known site conditions.
  - B. For site investigation requirement "B", provide all information described above; plus submit geotechnical investigation and structural analysis, both prepared by a professional engineer registered in the State of Alaska, to determine structural suitability to the site in terms of proposed occupancy and use. It may be necessary to extend the investigation beyond the immediate site boundaries in order to evaluate applicable hazards.
  - C. For site investigation requirement "C", provide all information required above; plus submit geotechnical data sufficient to evaluate seismically induced ground failure including liquefaction potential. Slope stability evaluations shall be performed in accordance with Section 401.4.2.
2. Slope stability evaluations shall be performed by a geotechnical engineer for sites where a "moderate to high" mass wasting potential is delineated in the Geotechnical Hazard Assessment Study, or otherwise known, or where required by Table 401.4.1. Stability evaluations shall show through investigation, subsurface exploration, analysis, and geotechnical report that the building site and permanent cut, fill, or stabilized slopes have a minimum factor of safety of 1.5 of under statically applied load conditions, and a minimum factor of safety of 1.1 for seismic load conditions. For purposes of this section pseudostatic analyses may be used. A minimum pseudostatic horizontal inertial force equal to 20 percent of the total weight of the



potential sliding mass shall then be used. The analysis shall consider the potential loss of soil strength due to liquefaction or remolding of highly sensitive soils.

3. Where Section 23.10.302.6 of the amendments to the Anchorage Administrative Code requires a geotechnical investigation to be performed, the potential for isolated permafrost shall be addressed in the geotechnical report.

TABLE 401.4

OCCUPANCY	SITE INVESTIGATION REQUIREMENT HAZARD ZONE (SEE NOTES)				
	5 B	4 B	3 A	2 A	1 A
Residential					

NOTES: For details and descriptions of site investigation requirements, see IBC Chapter 18. Hazard Zones\*

1. Lowest Ground Failures Susceptibility
2. Moderately Low Ground Failure Susceptibility
3. Moderate Ground Failure Susceptibility
4. High Ground Failure Susceptibility
5. Very High Ground Failure Susceptibility

\*Reference: Municipality of Anchorage, Geotechnical Hazard Assessment Study, date 1979.

### **23.85.R402.1.3 Restraint for Wood Foundations**

Add a new subsection, R402.1.3, Restraint for Wood Foundations, to read as follows:

1. Basement  
A 4 inch thick concrete slab poured against the studs. If a wooden screed is used it shall be Douglas fir or hem fir pressure treated in accordance with AWPA C22 with a .6 retention.
2. Crawlspace  
A minimum 5 inch wide by 4 inch deep concrete curb poured against the inside face of the studs. The kicker shall be reinforced with a continuous horizontal #3 reinforcing bar. If the kicker is not poured with the continuous concrete footing, it may be poured later provided vertical #3 reinforcing bars .x10 inches long shall be cast into the footing at 2 feet on center. They shall extend 2 inches above the top of the footing. The continuous #3 bar shall be secured to the vertical #3 bars.

**Exception:** The above need not apply if a suitable alternate design is prepared by an engineer registered in the State of Alaska and is approved by the Building Official.

### **23.85.R402.1.4 Dampproofing for Wood Foundation Walls**

Add a new subsection, 402.1.4, Dampproofing for Wood Foundation Walls, to read as follows:

Approved dampproofing shall be applied over the below-grade portion of exterior basement and crawlspace walls prior to backfilling. A treated lumber or plywood strip shall be attached to the wall to cover the top edge of the approved dampproofing. The wood strip shall extend at least two (2) inches above and five (5) inches below finish grade level to protect the approved dampproofing from exposure to light and from mechanical damage at or near grade. The joint between the strip and the wall shall be caulked full length prior to fastening the strip to the wall. Alternatively, brick, stucco, or other covering appropriate to the architectural treatment may be used in place of the wood strip. The approved dampproofing shall extend down to the bottom of the concrete footing.

### **23.85.R403**   **Footings**

Delete the last sentence of subsection 403.1 and add the following:

1.      **Definitions**

Warm foundations: Any foundation where the temperature of the bearing soil is normally maintained above freezing.

Cold foundation: Any foundation where temperatures of the bearing soils are normally subject to freezing.

2.      Delete Figures R403.1(1), R403.1(2), R403.1(3), and Tables R403.1 and replace with the following:

Foundations shall be constructed as shown in figures 23.85.403 -16, -25, -29, -31, -34, and -37, on foundations. Footings and foundations shall be constructed of masonry, concrete, or treated wood. Footings of concrete and masonry shall be of solid material. Foundations supporting wood shall extend at least six (6) inches above the adjacent grade. Unless other recommendations are provided by a foundation investigation report, footings shall meet the following requirements:

Minimum footing depths shall be as indicated in Table 23.85.403.

Footings shall bear on undisturbed natural inorganic soil, or suitably compacted fill. A foundation investigation, which includes surface and subsurface drainage recommendations, prepared by a civil engineer licensed in the State of Alaska shall be required when ground water is known or suspected to exist within six (6) feet of final grade.

Cast-in-place concrete piers shall be founded at a depth suitable for structural support or as indicated in Table 23.85.403 whichever is greater. Connecting grade beams between piers on perimeter walls of warm buildings shall extend at least 36 inches below ground surface and shall be protected from frost heave.

The potential for frost heave below grade beams of cold structure shall be accounted for in the design of these elements.

**Figure 23.85.403-16 Reinforced Concrete**

1. The minimum reinforcement for reinforced concrete shall be as follows:

**12" Walls**

#4 @ 12" o.c. each face horizontal  
#4 @ 18" o.c. each face vertical

**10" Walls**

#4 @ 8" o.c. horizontal  
#4 @ 12" o.c. vertical

**8" Walls**

#4 @ 10" o.c. horizontal  
#4 @ 16" o.c. vertical

**6" Walls**

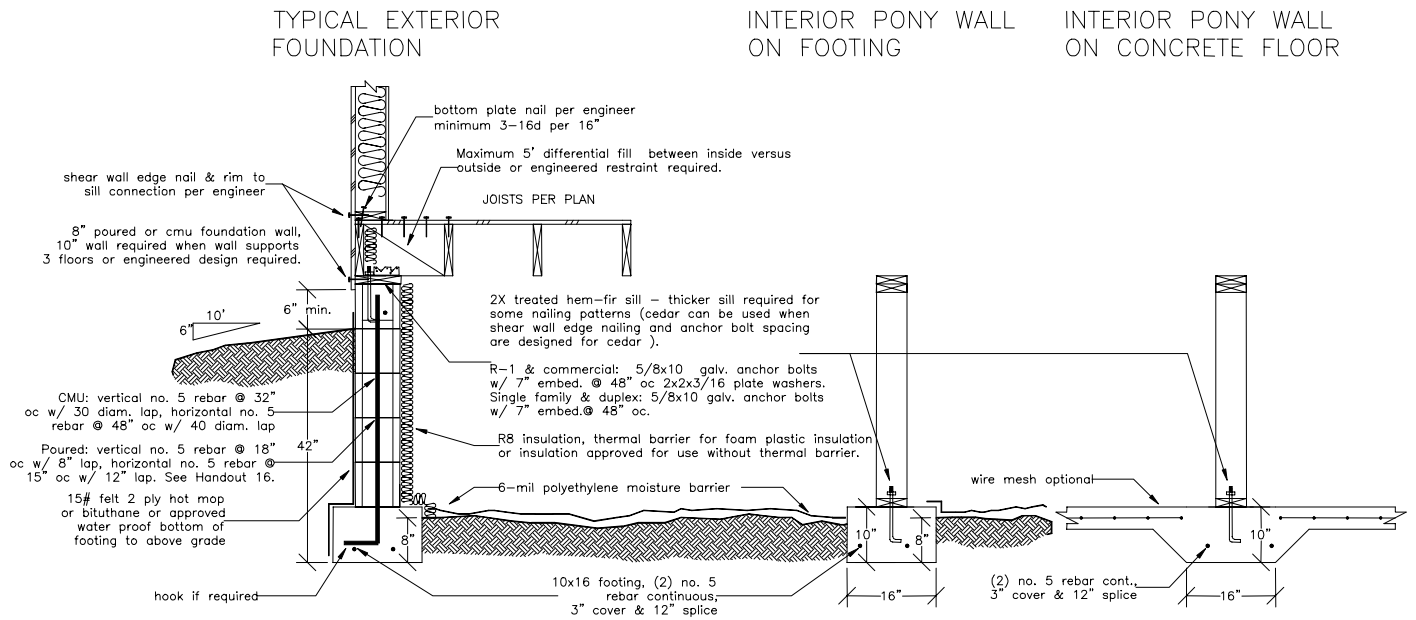
#4 @ 12" o.c. horizontal  
#4 @ 18" o.c. vertical

2. Reinforced concrete walls shall be anchored to all floors and roofs in accordance with Chapter 16 and 19 of the International Building Code.
3. All intersecting reinforced concrete walls shall be tied together.
4. All interior and exterior concrete walls shall be reinforced.
5. All structural members framing into or supported on concrete walls or columns shall be anchored.

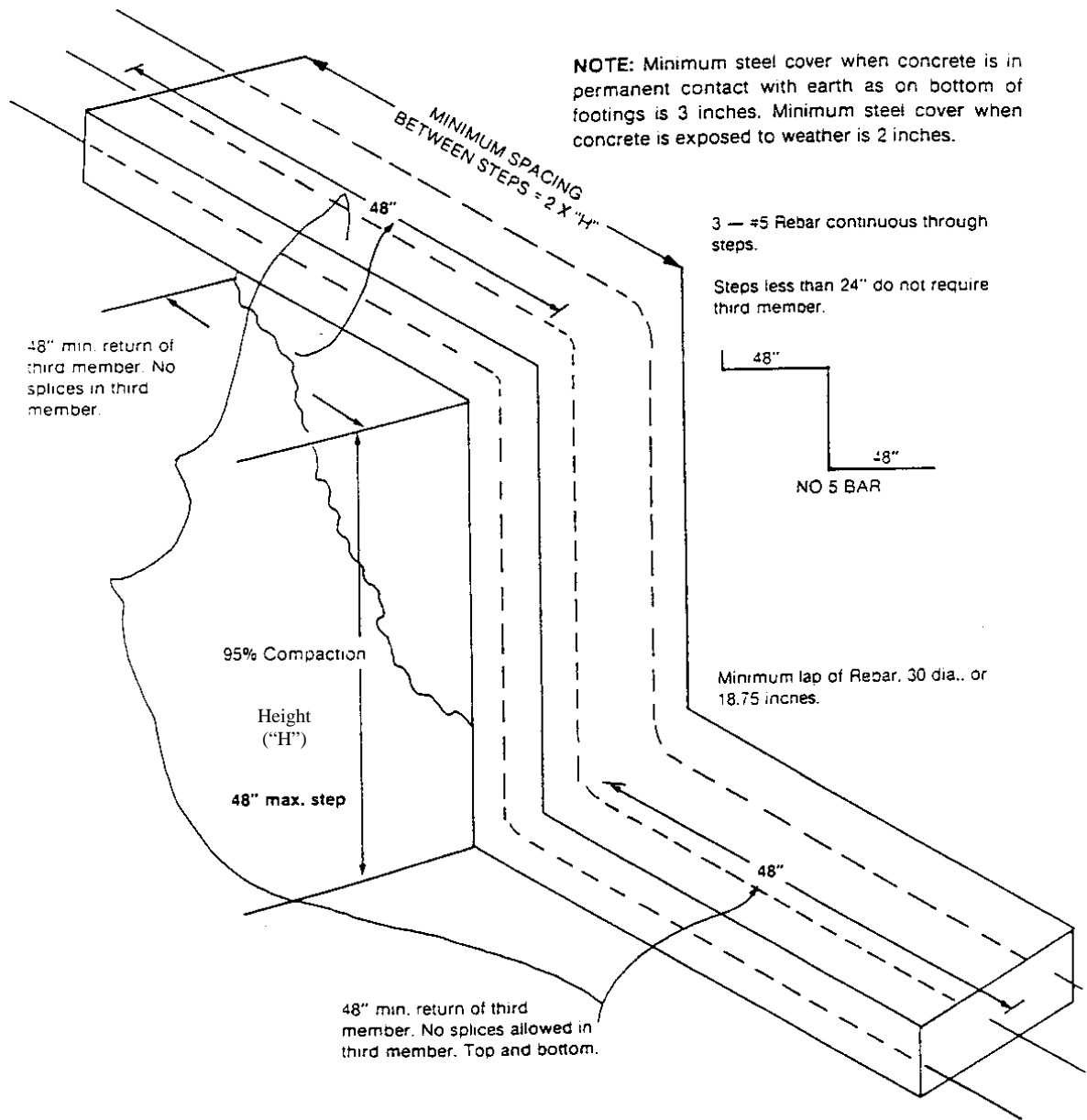
**ALTERNATE REINFORCEMENT FOR CONCRETE WALLS**

6" Walls	) #4 @ 12" hor.	#3 @ 8" hor.	#5 @ 13" hor.
	) #4 @ 18" vert.	#3 @ 12" vert.	#5 @ 18" vert.
8" Walls	) #4 @ 10" hor.	#3 @ 5 1/2" hor	#5 @ 15" hor.
	) #4 @ 16" vert.	#3 @ 9" vert.	#5 @ 18" vert.
10" Walls	) #4 @ 8" hor.	#3 @ 9" E.F. hor.	#5 @ 12" hor.
	) #4 @ 12" vert	#3 @ 15" E.F. vert.	#5 @ 18" vert.
12" Walls	) #4 @ 12" E.F. hor.	#3 @ 7 1/2" E.F. hor.	#5 @ 18" E.F. hor.
	) #4 @ 18" E.F. vert.	#3 @ 12" E.F. vert.	#5 @ 18" E.F. vert.
(E.F. -- Each Face)			

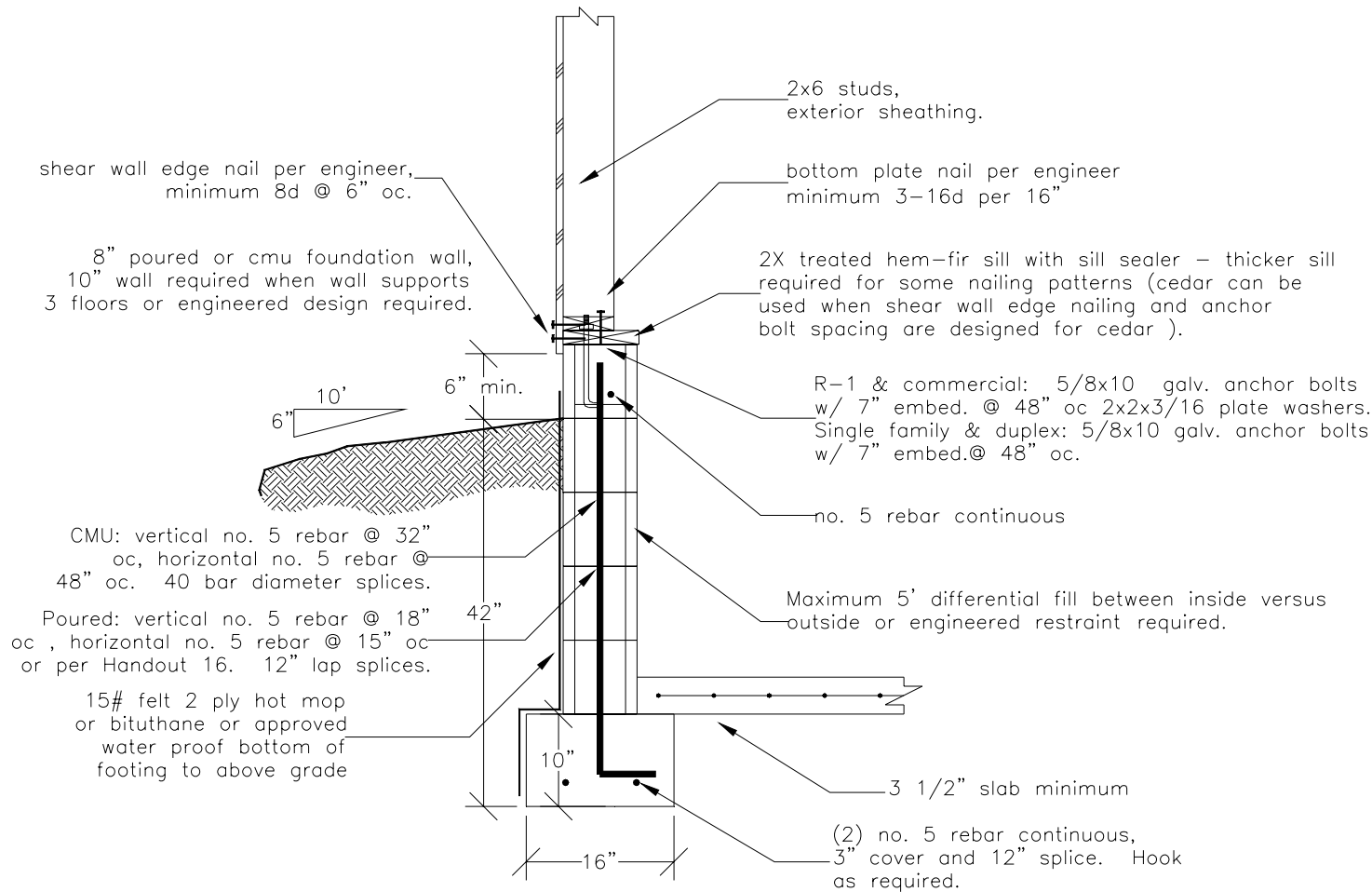
**Figure 23.85.403-25 Typical Foundation And Footing Details**



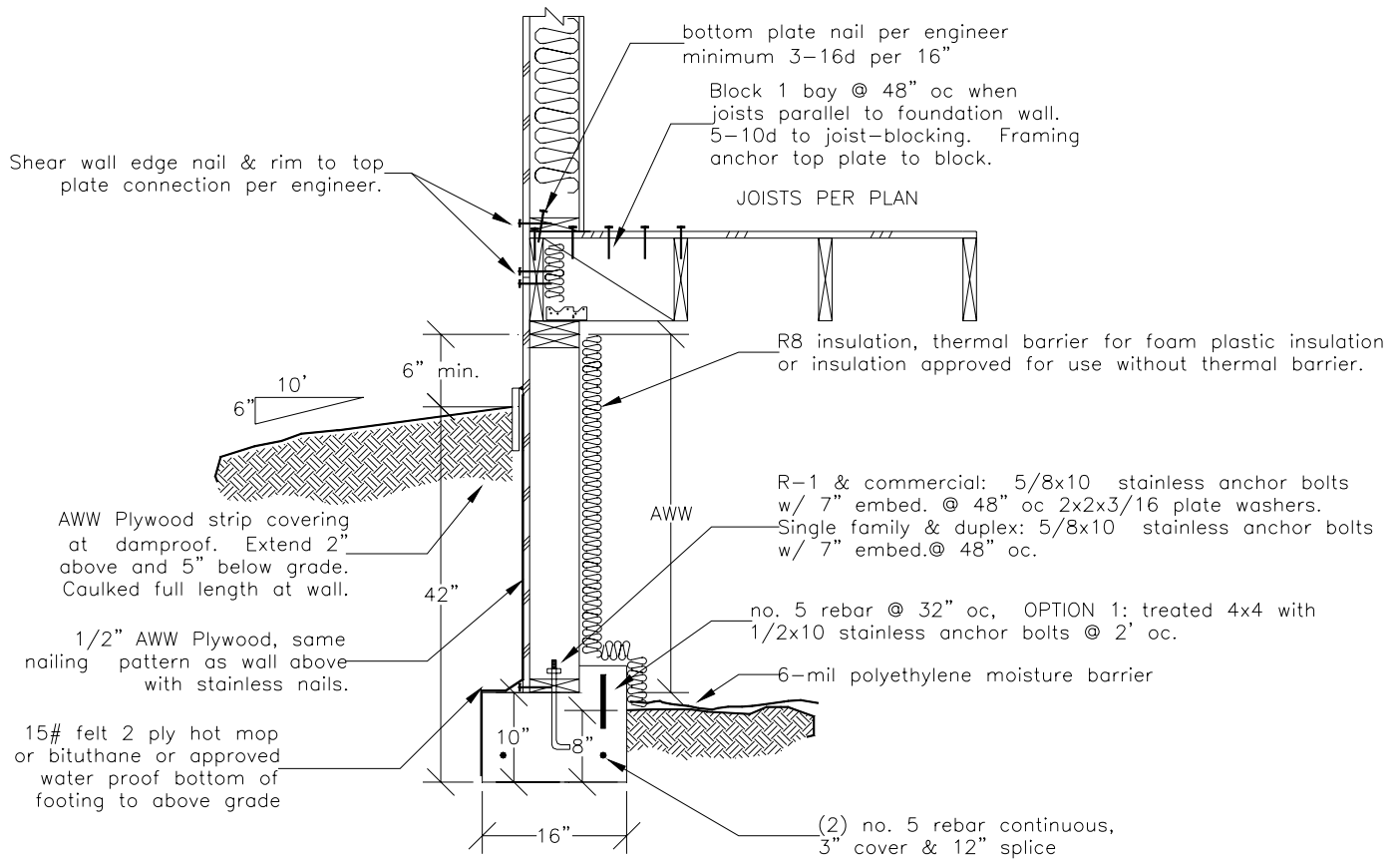
**Figure 23.85.403-29 Typical Step Footing**



**Figure 23.85.403-31 Typical Pony Wall for Split Level**



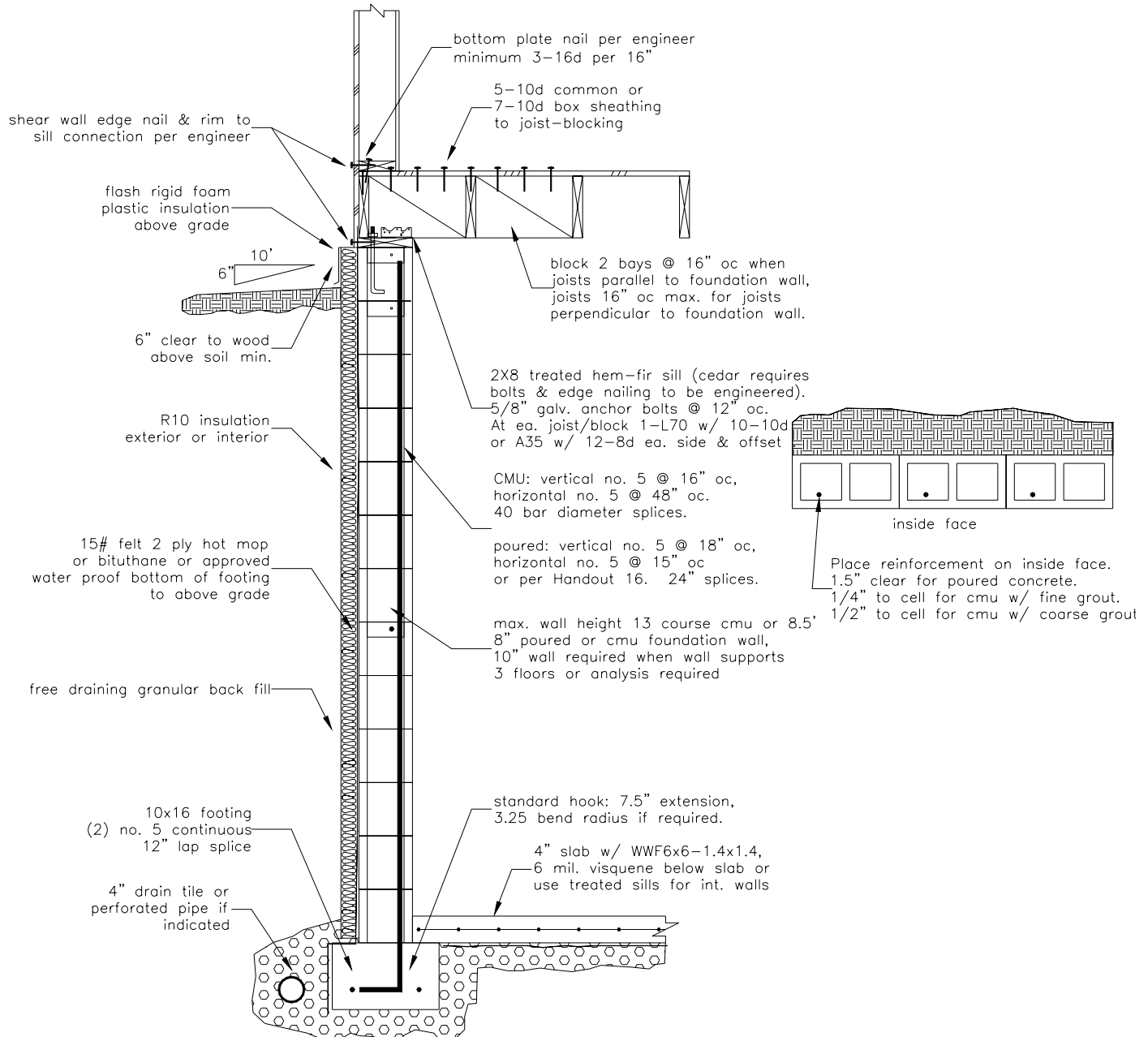
**Figure 23.85.403-34 All Weather Wood Foundation**



Maximum 3' differential fill between inside versus outside or engineered design required.

**Figure 23.85.403-37 Typical Basement Foundation Wall**

DO NOT BACKFILL ABOVE 4' UNTIL  
BLOCKING, FRAMING ANCHORS &  
PLYWOOD NAILS ARE INSTALLED.





**TABLE 23.85.R403**

Foundation Type	Minimum Footing Depth (Inches)		
	Warm Foundation		Cold Foundation (3)(4)
Perimeter Footing (1)	42	all measurements	60
Interior or Interior Isolated Spread Footings (2)	8	are from top of finished	60
Cast-in-Place Concrete Pier	42	grade	120 (5)

**NOTES TO TABLE:**

- (1) Dimension indicated is from bottom of footing to adjacent exterior grade. Required depth to bottom of footing within a crawl space shall not be less than eight inches. Basements or crawlspace walls supporting more than five feet differential fill on opposite faces shall be restrained as necessary against lateral movement.
- (2) Dimension indicated is from bottom of footing to nearest adjacent grade.
- (3) Exterior decks, landings, and platforms not rigidly attached to the building and not greater than 30 inches above grade may bear directly on the ground. Bearing materials must meet other portions of this code.
- (4) The minimum footing depths may not be adequate for frost susceptible soils. Cold footings shall be founded below the frost line, or be protected from freezing with insulation or other appropriate means. In addition, provisions shall be made to resist uplift forces due to frost jacking on the side of cold foundations.
- (5) Cast-in-place concrete piers installed in non-frost-susceptible material may be 60 inches (five feet).

**23.85.R403.2 Footings For Wood Foundations**

Delete entire paragraph and replace with the following:

Wood foundations shall have a 16-inch x 10-inch concrete footing minimum.

**23.85.R403.3 Frost Protected Shallow Foundations**

Delete reference to Table R403.3

### **23.85.R404.1.1**      **Masonry Foundation Walls**

Delete Sections R404.1.1 through R404.1.8.

Delete Tables R404.1.1(1), R404.1.1(2), R404.1.1(3), R404.1.1(4), and R404.1.5(1)

### **23.85.R404.2**      **Wood Foundation Walls**

Delete subsection in its entirety; reference Figure 23.85.403-34 All Weather Wood Foundation

### **23.85.R404.3**      **Wood Sill Plates**

Delete paragraph and substitute with the following:

Wood sill plates shall be minimum 2-inch x by 6-inch and shall be bolted to the foundation or foundation wall with not less than ten (10) inch by five-eighths (5/8) inch nominal diameter galvanized steel bolts embedded at least seven (7) inches into the concrete or in fully grouted cells of reinforced masonry and spaced not more than four (4) feet zero (0) inches apart. There shall be a minimum of two bolts per piece with one bolt located within 12 inches of each end of each piece. Wood sill plates must be treated material specified in Section R323.1.

### **23.85.R406.1**      **Concrete and Masonry Foundation Dampproofing**

Delete section and substitute with the following:

Except where required to be waterproofed by Section R406.2, foundation walls that retain earth shall be dampproofed from the top of the footing to the finished grade, and damp proofing shall cover the top of the footing, and lap over the outer edge a minimum of 1 inch. Masonry walls shall have not less than 3/8 inch (9.5 mm) portland cement parging applied to the exterior of the wall. The parging shall be dampproofed with a bituminous coating, 3 pounds per square yard (1.63 kg/m<sup>2</sup>) of acrylic modified cement, 1/8-inch (3.2 mm) coat of surface-bonding mortar complying with ASTM C 887 or any material permitted for waterproofing in Section R406.2. Concrete walls shall be dampproofed by applying any one of the above listed dampproofing materials or any one of the waterproofing materials listed in Section R406.2 to the exterior of the wall. Foundation walls that are backfilled on both sides, such as those used in conjunction with a "slab on grade" do not require dampproofing or waterproofing.

### **23.85.R406.2**      **Concrete Masonry Foundation Waterproofing**

Delete section and substitute with the following:

Exterior foundation walls that retain earth and enclose habitable or usable spaces located below grade shall be waterproofed with a membrane extending from the top of the footing to the finished grade, and waterproofing shall cover the top of the footing, and lap over the outer edge a minimum of 1 inch. The membrane shall consist of 2-ply hot-mopped felts, 55 pound (25 kg) roll roofing, or 40-mil (1 mm) polymer-modified asphalt. The joints in the membrane shall be lapped and sealed with an adhesive compatible with the waterproofing membrane. Foundation walls that are backfilled on both sides, such as those used in conjunction with a "slab on grade" do not require dampproofing or waterproofing.

**Exception:** Organic solvent based products such as hydrocarbons, chlorinated hydrocarbons, ketons and esters shall not be used for ICF walls with expanded

polystyrene form material. Plastic roofing cements, acrylic coatings, latex coatings, mortars and parings are permitted to be used to seal ICF walls. Cold setting asphalt or hot asphalt shall conform to type C of ASTM D 449. Hot asphalt shall be applied at a temperature of less than 200 degrees

**23.85.R406.3.2**      **Below Grade Moisture Barrier**

Delete and substitute the following:

Foundation walls located below grade shall be dampproofed with either 2 ply of 15 lb. hot-mopped felt or 1 ply of 30 lb. hot-mopped felt or other approved materials.

**23.85.R407.2**      **Steel Column Protection**

Delete this section in its entirety.

**23.85.R408.5**      **Finished Grade**

Delete this section in its entirety.

**23.85.R602.3.2**      **Top Plate**

Delete exception.

**23.85.R602.6**      **Drilling And Notching – Studs**

Amend subsection 602.5 by adding a paragraph as follows:

All studs in shear walls, bearing walls or exterior walls containing plumbing drains and vents shall be a minimum of 6" nominal width unless otherwise approved.

602.6, 602.6.1, 602.6.2 and referenced tables shall be deleted in their entirety.

**23.85.602.11.1**      **Wall Anchorage**

In second sentence delete reference to 1/4" and replace with 3/16".

**23.85.R702.3.1**      **Materials**

Add a sentence to last paragraph as follows:

Water resistant gypsum board shall not be used on exterior walls.

**23.85.R702.3.6**      **Fastening**

Add the following sentence at the end of the paragraph:

Gypsum board applied in ceilings shall be attached with screws. Nails are not allowed.

**23.85.R702.4.2**      **Gypsum Backer**

Add the following sentence at the end of the paragraph:

Gypsum board of any type shall not be used on exterior walls in shower and bath compartments under ceramic tile except for materials specifically designed for that purpose.

**23.85.R703.3**      **Wood, Plywood And Wood Structural Panel Siding**

Add the following:

Exterior type plywood siding with a grooved pattern shall not be installed horizontally and used as the weather resistant siding.

**23.85.R703.8**      **Flashing**

Amend section by deleting Exception 4

Amend subsection 802.3 by adding a paragraph as follows:

Minimum depth from roof sheathing to wall plate at exterior walls to be 9 inches.

### **23.85.R802.10 Wood Trusses**

Amend subsection 802.10.2 Design by adding a paragraph as follows:

Minimum depth of truss at exterior wall plate to be 9 inches.

### **23.85.R802.10.1 Truss Design Drawings**

Amend first sentence by deleting the words: "and approved prior to installation."

### **23.85.R803.1 Lumber Sheathing**

Delete this entire section.

### **23.85.R806.1 Ventilation Required**

Add the following sentence to end of paragraph:

A non-ventilated roof system may be allowed as an alternate method when its design is approved by the Building Official.

### **23.85.R806.2 Minimum Area**

Revise the first sentence of Section 23.85.806.2 by deleting the phrase, "except that total area is permitted to be reduced to 1 to 300, provided" and adding the word "and" in its place.

### **23.85.R807.1 Attic Access**

Add the following to Section 807.1:

Attic access shall not be located in a room containing bathing facilities. Access may be located in closets with minimum depth of 23 inches and minimum width of 48 inches.

### **23.85R905.2.2 Slope**

Delete Section R905.2.2 and replace with the following:

Asphalt shingles shall only be used on roof slopes of three units vertical in 12 units horizontal or greater. Underlayment shall be in accordance with Section 23.85R905.2.7 and ice protection shall be in accordance with 23.85R905.2.7.1

### **23.85.R905.2.4 Asphalt Shingles**

Add the following to the end of the paragraph:

Asphalt shingles shall have a minimum weight of 235 lbs per square.

### **23.85.R905.2.7 Underlayment Application**

Delete paragraph and replace with the following:

For roof slopes from 3 vertical units in 12 horizontal units (3:12) up to and including 4 vertical units in 12 horizontal units (4:12) underlayment shall be two layers of non-perforated Type 15 felt applied shingle fashion, underlayment shall be installed starting with a 19 inch lap over ice protection. Each subsequent sheet shall be lapped 19 inches horizontally, continuing to the ridge, fastened sufficiently to hold in place.

For slopes greater than 4 units vertical in 12 units horizontal (4:12) underlayment shall be one layer of Type 15 felt. Underlayment shall be installed starting with 4 inch lap over ice protection. Each subsequent layer shall be lapped 2 inches horizontally, and 4 inches

vertically to shed water continuing to the ridge, fastened sufficiently to hold in place. Ice protection shall be in accordance with 23.85.R905.2.7.1.

#### **23.85.R905.2.7.1 Ice Protection**

Amend section by deleting from the paragraph the words "...of at least two layers of underlayment cemented together or..."

Amend by adding to the end of the paragraph the words "...for slopes greater than 4 in 12 and 36 inches for slopes from 3 in 12 up to and including 4 in 12."

#### **23.85.R905.2.8 Flashing**

Add the following at the end of the paragraph:

Flashing shall be no less than 4 inches by 4 inches in width.

#### **23.85.R905.3.3.1 Low Slope Roofs**

Delete the words "...underlayment shall be a minimum of two layers underlayment applies as follow:" and replace with "underlayment shall be ice and water shield covering the entire roof."

Delete Items 1 and 2.

#### **23.85.R905.3.3.2 High Sloped Roofs**

Amend section by deleting the words "...parallel to and starting from the eaves and lapped 2 inches (51 mm), fastened sufficiently in place" and replacing with "...lapped 4 inches over ice protection. Lap subsequent layers 2 inches horizontally and 4 inches vertically to shed water continuing to the ridge, fastened sufficiently in place. Ice protection shall be in accordance with 23.85R905.2.7.1."

#### **23.85R905.4 Metal Roof Shingles**

Delete paragraph and replace with the following:

Installation of metal roof shingles shall be in accordance with R905.2 and all subsections and local amendments.

Delete subsections R905.4.1 through 905.4.3

#### **23.85.R905.5 Mineral-Surfaced Roll Roofing**

Delete paragraph and replace with the following:

Installation of mineral-surfaced roll roofing shall be in accordance with R905.2 and all subsections and local amendments.

Delete subsections R905.5.1 through 905.5.4.

#### **23.85.R905.6 Slate and Slate-Type Shingles**

Delete paragraph and replace with the following:

Installation of slate and slate-type shingles shall be in accordance with R905.2 and all subsections and local amendments.

Delete subsections R905.6.2 and R905.6.3.

#### **23.85.R905.6.3 Underlayment (SLATE)**

Add the following to Section **R905.6.3**:

One layer of self-adhering modified bitumen shall be applied from the eaves to a line 36 inches inside the exterior wall.

### **23.85R905.7 Wood Shingles**

Delete paragraph and replace with the following:

Installation of wood shingles shall be in accordance with R905.2 and all subsections and local amendments.

Delete subsections R905.7.1 through 905.7.3

### **23.85R905.8 Wood Shakes**

Delete paragraph and replace with the following:

Installation of wood shakes shall be in accordance with R905.2 and all subsections and local amendments.

Delete subsections R905.8.1 through 905.8.3

### **23.85.R905.8.6 Application (wood shakes)**

Wood shakes shall be installed per 23.85.Table 908.3 Revised.

### **23.85.R905.9.1 Slope**

Delete the words: “except for coal-tar built-up roofs, which shall have a design slope of a minimum one-eighth unit vertical in 12 units horizontal (1-percent slope).”

### **23.85.R905.10.2 Slope**

Add the following to the end of the paragraph:

“Install underlayment under all metal roof panels. Underlayment shall be one layer of Type 15 felt. Underlayment shall be installed, starting with 4 inch lap over ice protection. Each subsequent layer shall be lapped 2 inches horizontally, and 4 inch vertically to shed water continuing to the ridge. Fasten sufficiently to hold in place. Ice protection shall be in accordance with 23.85.R905.2.7.1.”

### **23.85 Chapter 11 Energy Efficiency**

Delete Chapter 11 in its entirety and replace with the following:

Chapter 11 Energy Efficiency. All one- and -two family dwellings and townhouses shall comply with the following insulation standards or show compliance with the 2000 International Energy Conservation Code.

Minimum Insulation R-Value [(hrft<sup>2</sup>degF)/Btu]

	Maximum Glazing U-Factor	Ceilings	Walls	Basement Walls	Crawlspace Walls	Exposed Floors Above Grade (Cantilevered Floors)
Minimum R-Value	0.35	R-38	R-19	R-19	R-19	R-30

### **23.85 Chapters 12-38**

Amend by deleting in its entirety (Mechanical and Plumbing).

### **23.85 Chapters 39-46**

Amend by deleting in its entirety (Electrical).

### **23.85.AE100 Mobile and Manufactured Homes**

This section replaces AMC 23.35 Mobile Homes Construction Standards.

#### **23.85.AE101 Scope**

Amend the first sentence to read:

These provisions shall apply to manufactured homes, mobile homes, campers, and travel trailers serving as single dwelling units placed either on private (nonrental) lots or within mobile home parks licensed by the Municipality of Anchorage, and shall apply to the following:

Add the following section:

#### **23.85.AE102.7 Mobile Homes, Campers, And Travel Trailers**

##### **23.85.AE102.7.1 Mobile Homes**

Every mobile home built prior to June 15, 1976, shall be labeled as required in Section A201, and shall conform to all of the following:

1. FIRE WARNING SYSTEM - Smoke detectors shall be provided with in accordance with R317.
2. FIRE PROTECTION – Each mobile home shall be equipped with at least one 2-A rated portable fire extinguisher installed in accordance with NFPA 10-98.
3. ELECTRICAL SYSTEM - All electrical equipment, wiring, and appliances shall be installed per Building Safety Handout No. 04 - Mobile Home Requirements, as maintained by the Building Official.
4. MECHANICAL SYSTEM - All heating facilities shall be maintained in a safe condition. Additions, alterations, repairs and replacements shall comply with manufacturer's instructions and the currently adopted edition of the International Mechanical Code. Gas piping shall conform to the currently adopted edition of the Uniform Plumbing Code.
5. PLUMBING SYSTEM - All plumbing facilities shall be maintained in a safe and sanitary condition. Additions, alterations, repairs and replacements shall comply with manufacturer's instructions and the currently adopted edition of the Uniform Plumbing Code.
6. EXIT FACILITIES - Mobile homes shall have a minimum of two external doors located remotely from each other and so arranged as to provide means of unobstructed travel to the outside of the mobile home.
7. GROUND FAULT INTERRUPTER CIRCUIT - Every mobile home shall have every electrical circuit serving bathroom, kitchen, and ground level service outlets protected by a ground fault interrupter circuit I, as required by Article 550-8(b) of the National Electrical Code.

##### **23.85.AE102.7.2 Campers And Travel Trailers**

Campers and travel trailers moved into or relocated within the Municipality of Anchorage shall comply with:

1. All of the construction requirements of NFPA 501C, 1996 edition.

2. Items 1 through 6 of AMC 23.85.A102.7.1. Any camper or travel trailer not located within a licensed Camper Park shall not be occupied as a residence more than 14 days at a time for a total of more than 30 days in any twelve month period.

### **23.85.AE201 Definitions**

Add the following:

*CAMPER PARK.* A tourist facility approved by the Municipality for use by dependent and independent recreational vehicles, including motor homes, pickup campers, travel trailers, tent campers and similar recreational vehicles as opposed to a mobile home park which is licensed to accommodate mobile homes.

*MOBILE HOME PARK.* Any parcel or adjacent parcels of land in the same ownership which is utilized for occupancy by more than two mobile homes. This term shall not be construed to mean tourist facilities for parking of travel trailers or campers.

Add the following at the end of the first paragraph in the definition of *MANUFACTURED HOME*:

Each manufactured home shall bear a certification label in accordance with the Manufactured Home Standards.

Add the following at the end of the first sentence of the second paragraph in the definition of *MANUFACTURED HOME*:

..., and the mobile home shall conform to AMC 23.85.A102.7.

Add the following to the definition of Manufactured Home Standards:

Every manufactured home installed in the Municipality of Anchorage must be certified for the “North Zone” (40 pounds per square foot) for snow load and heat loss “Comfort Zone 3” in accordance with HUD standards.

### **23.85.AE301.1 Initial Installation**

Add the following after the word “be” in the first sentence of the first paragraph:

...relocated, moved,...

Add a new section:

### **23.85.AE301.5 Gas And Plumbing Service**

Add a new section:

The owner of a manufactured home or a licensed mobile home contractor may install or retrofit gas piping, gas appliances, or plumbing only under the following conditions:

1. The owner performing such work shall be a current occupant of the manufactured home and shall personally perform all work.
2. A licensed mobile home contractor may perform work on gas and plumbing utility connections only by use of a licensed journeyman plumber or journeyman gas fitter who is an employee of the contractor. All such work shall bear a tag with the identification number of the journeyman plumber or journeyman gas fitter who performs the work.
3. Except as provided in items 1 and 2 of this section, all plumbing, gas piping, or gas appliance retrofit work shall be performed by a licensed plumbing or gas contractor.



4. No person may pipe natural gas to service gas fired equipment unless
  - a. such equipment has been certified by the manufacturer as being suitable to that use and
  - b. such equipment has first been converted for use of natural gas.

#### **23.85.AE302.4 Who May Apply**

Only the owner of a manufactured home or a licensed mobile home contractor may apply for a permit under this Section.

#### **23.85.AE307 Utility Service**

Add the following sentence:

All sewer, electricity, gas, and water services shall be installed and maintained in a safe manner in accordance with the appropriate adopted codes.

#### **23.85.AE502.3 Footings And Foundations**

Replace the last sentence of the first paragraph with the following:

Footings shall have a minimum depth of 42 inches below exterior grade on privately owned (nonrental) lots, unless a greater depth is required by the Building Official based on a foundation investigation or other information. Footings or piers in mobile home parks may be placed at surface grade, provided all other requirements are met.

#### **23.85.AE502.6 Under-Floor Clearances-Ventilation And Access**

Add to the second paragraph the following:

Where combustion air is not taken from the crawl space, and where the floor area of the home does not exceed 800 square feet, the ventilation requirement may be met by operable vents of 8 inches by 16 inches installed in skirting not less than 18 inches above exterior grade at opposite ends of the manufactured home.

#### **23.85.AE503.1 Skirting And Permanent Perimeter Enclosures**

Replace the first sentence of the first paragraph with the following:

Every manufactured home shall be skirted around its perimeter from the floorline to exterior grade with a skirting material having a insulation value of R-19 as published by the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE). A minimum of 6 mil polyethylene film vapor retarder shall entirely cover the soil surface of the crawl space.

#### **23.85.AE604.1 Ground Anchors**

Replace the first paragraph with the following:

Ground anchors shall be designed and installed to resist overturning and lateral movement of the manufactured home, and shall extend at least 60 inches below exterior grade, or deeper if required by the Building Official because of poor soils. Ground anchors shall be installed for every manufactured home, except where a permanent foundation bearing at least 42 inches below grade is demonstrated by calculation to resist the forces as determined by Chapter 16 of the International Building Code.

#### **23.85 Appendix**

Amend by deleting Appendices A-D, F-J.

**1996 Safety Code for Elevators and Escalators Local Amendments**