

APPENDIX O

ROWHOUSE CONSTRUCTION

SECTION AO101 SCOPE

AO101.1 Scope. This appendix, and other applicable provisions of this code, shall apply to the construction, alteration, enlargement, replacement, repair, equipment, use, occupancy, and location of rowhouses, within the height limitations of Section AO103.5.

The requirements of this appendix apply to:

1. Attached rowhouse dwelling units that are designed and constructed to allow individual dwelling units to be structurally independent from each other. See Figure AO101.1(a) and Section R202.
2. Attached rowhouse dwelling units that are designed and constructed as a single structurally dependent building except as limited. See Figure AO101.1(b) and Section R202.

AO101.2 Duties and powers of the building official. The duties and powers of the building official shall be as stated in Section R104 and this section.

AO101.2.1 Alternative materials, design and methods of construction and equipment. See Section R104.11.

AO101.2.2 Maintenance agreements. The building official shall review, approve, cosign and maintain a record of all maintenance agreements as required by Section AO103.16.

AO101.3 Permits. Permits shall be applied for and issued according to the requirements of Section R105.

AO101.4 Construction documents. Construction documents shall comply with the requirements of Sections R106 and AN101.4, and this appendix.

AO101.4.1 Lateral force analysis. A lateral force analysis shall be submitted at the time of application regardless of whether the units are designed independently or as a single building. The analysis shall consist of a summary of either the prescriptive path methodology or an engineered design. Building components providing lateral resistance shall be identified and detailed in the construction drawings.

AO101.5 Fees. Fees shall be calculated and assessed in accordance with Section R108 or the jurisdiction's adopted fee schedule.

AO101.6 Inspections. Inspections shall be performed in accordance with Section R109 and the following:

1. **Lath or gypsum board inspections.** Lath or gypsum board inspections are required for fire-resistance rated construction, braced wall panels, and shear walls after all lath and gypsum board, both interior and exterior, is in place, but before any plastering is applied and before gypsum board joints and fasteners are taped and finished.

2. **Fire-resistant penetrations inspections.** Protection of joints and penetrations in fire-resistance-rated assemblies shall not be concealed from view until inspected and approved.

3. **Energy efficiency and sound transmission inspection.** Inspections shall be made to determine compliance with Chapter 11 and shall include, but not be limited to inspections for: envelope insulation R -, and U -values, fenestration U -value, duct system R -value, and HVAC, water-heating equipment efficiency, and sound transmission.

4. **Special inspections.** For special inspections, see Section Section AO101.6.1.

5. **Other inspections.** In addition to the inspections specified in Items 1 through 4, the building official is authorized to make or require other inspections of any construction work to ascertain compliance with the provisions of this chapter and other laws that are enforced by the building official.

AO101.6.1 Special inspections and structural observations. Special inspections and structural observations shall be provided when required by Section AN101.6.1 and Chapter 17 of the *Oregon Structural Specialty Code*, and shall meet the requirements of Section AN101.4.3.1.

AO101.7 Certificate of occupancy. See Section R110.

SECTION AO102 DEFINITIONS

AO102.1 General. The following words and terms shall, for the purposes of this appendix, have the meanings shown herein. The definitions provided in Section R202 and Appendix N shall also be applicable to this appendix.

AO102.2 Definitions.

COMMON PROPERTY LINE. A property line shared by two adjacent rowhouse dwelling units.

EXTERIOR PROPERTY LINE. The property line on the perimeter of a block of rowhouse lots that separates the block of lots from a public way or an adjacent private property not subject to a maintenance agreement.

PRIVACY WALL. A wall that extends outside of dwelling unit up to or past the outermost edge of an exterior stairway, porch, porch cover, or deck.

PROPERTY LINE FIREWALL. A wall at or directly adjacent to a property line which separates individual dwelling units and is constructed in accordance with Section AN104.5 except as provided for in this appendix.

ZERO-LOT LINE DWELLING. See the definition of "Rowhouse" in Section R202.

APPENDIX O

**SECTION AO103
BUILDING PLANNING**

AO103.1 Design criteria. Buildings and structures, and all parts thereof, regulated by this appendix shall meet the design requirements of Section AO103.6 or Appendix S or the *Oregon Structural Specialty Code*.

Exception: Structurally dependent rowhouses shall be designed and constructed to safely support all loads in accordance with the *Oregon Structural Specialty Code*.

AO103.2 Occupancy. For purposes of occupancy classification individual rowhouse dwelling units shall be classified as a Group R, Division 3 occupancy irrespective of being either structurally dependent or structurally independent in design.

AO103.2.1 Mixed occupancy. Mixed occupancies are not permitted in rowhouses regulated by this appendix. A rowhouse structure containing an occupancy group or use not regulated by this appendix shall be designed and constructed in accordance with the requirements set forth in the *Oregon Structural Specialty Code*.

Exception: Private garages and carports not more than 1,000 square feet (93 m²) in area.

AO103.3 Shared elements. Individual dwelling units in both structurally dependent and structurally independent rowhouse structures may have the following shared elements that shall be permitted to run continuous across property lines except as limited by this appendix:

1. Concrete footing and stem wall or monolithic grade beam footing.
2. A "modified" common 2-hour fire-resistive-rated dwelling unit separation wall.
3. Subfloor, wall and roof sheathing, all of which shall be edge nailed at each side of the common property line.
4. Exterior wall coverings.
5. Soffit enclosures.
6. Cricket framing.
7. Roof covering.
8. Gutters and down spouts.
9. Porches and stairs.
10. Porch coverings.

AO103.4 Fire protection. The provisions of this section, applicable provisions of the *Oregon Fire Code*, and local ordinance shall regulate fire protection for rowhouses.

AO103.4.1 Fire apparatus access. Fire apparatus access shall be provided in accordance with Figure AO103.4.1 and the *Oregon Fire Code* or local ordinance.

AO103.4.2 Fire protection water supplies and hydrants. Fire protection water supplies and hydrants shall be provided in accordance with the *Oregon Fire Code* or local ordinance.

AO103.4.3 Fire suppression systems. Fire suppression systems, when provided, shall be installed in accordance

with Sections AO103.5.2 and AO103.5.3. An individual fire suppression system shall not be shared between dwelling units regardless of whether the rowhouses are structurally independent or structurally dependent.

AO103.5 Building height, number of stories, allowable area and fire suppression system requirements. The provisions of this section govern the building height and allowable area for rowhouse structures hereafter erected and additions to existing rowhouses constructed under various other Oregon rulings. Addition to rowhouse structures constructed using other codes that do not meet the requirements of this appendix must be entirely designed and constructed using the provisions of the *Oregon Structural Specialty Code*.

AO103.5.1 Building height and number of stories. Rowhouses shall be limited to a maximum of 40 feet (1219 mm) and a maximum of three stories in height.

AO103.5.1.1 Modifications to height or number of stories. For rowhouse design and construction under this code, no modifications of height or number of stories shall be allowed.

AO103.5.2 Allowable area and fire suppression system requirements for structurally independent rowhouses. Nothing in this code shall require automatic fire suppression systems to be installed in structurally independent rowhouse dwelling units. When provided, fire suppression systems shall be installed in accordance with NFPA 13D.

Exception: An automatic fire suppression system may be required by local ordinances pertaining to local land use, fire flow, fire department access, etc.

Structures containing structurally independent rowhouse dwelling units shall not be limited in area except for the requirements of Section AO103.4, Fire apparatus access and local ordinance. Individual rowhouse dwelling units that are structurally independent shall not be limited in area unless limited by local ordinance.

AO103.5.3 Allowable area and fire suppression system requirements for structurally dependent rowhouse buildings. Structurally dependent rowhouse buildings shall be equipped with an automatic fire suppression system installed in accordance with NFPA 13R and shall not exceed 36,000 square feet (3344 m²) in area.

AO103.6 Design and construction using conventional light-frame construction. The provisions of this appendix are applicable to conventional light-frame construction methods and materials only. Rowhouses designed using other construction methods shall be in accordance with the provisions of the *Oregon Structural Specialty Code*.

AO103.7 Location on lot. The provisions of this section and local land use ordinances shall control the location of rowhouse structures.

AO103.7.1 Premises identification. See Section R321.1.

AO103.7.2 Access. See AN103.4.2.

AO103.7.3 Fire-resistance rated construction due to location on property. Rowhouse exterior walls, privacy walls, common dwelling unit separation walls, exterior stairways, porches, porch coverings, decks, roofs and pro-

jections located within three feet (914 mm) of a common or exterior property line shall be fire-resistance rated and constructed in accordance with this section.

Exception: Walls oriented perpendicular to a property line need not be fire-resistance-rated construction and may have unprotected openings.

AO103.7.3.1 Firewall construction. Exterior walls, privacy walls, and common dwelling unit separation walls shall be parallel to the common property line and be of fire-resistance-rated construction. Such walls shall be of one of the following types:

1. Two 1-hour fire-resistance-rated firewalls, one on each side of the common property line as shown in Figures AO103.7.3.1(a) and AO103.7.3.1(c).
2. A common “modified” 2-hour fire-resistance-rated firewall centered over the common property line as shown in Figures AO103.7.3.1(b) and AO103.7.3.1(d).

Exception: Privacy walls may be constructed of heavy timber construction.

3. Other listed, tested assemblies that provide an equivalent fire-protection rating.

AO103.7.3.2 Fire-resistance-rated wall continuity. The continuity of fire-resistance-rated walls shall be as follows.:

1. Exterior walls and common dwelling unit separation walls shall be continuous from the foundation to the underside of the roof sheathing when the roof/ceiling assembly is constructed in accordance with Section AO103.9.3.7. The common wall shall extend to completely separate adjacent dwelling units and any attached accessory structures.
2. Privacy walls separating porches and decks without a cover shall be continuous from the foundation to the top of the guardrail and have a minimum height of 36 inches (914 mm) above the porch or deck finish floor elevation. The privacy wall shall extend out to the outermost point of the porch covering or deck.
3. Privacy walls separating porch and deck coverings shall be continuous from the foundation to the underside of the roof sheathing when the roof/ceiling assembly is constructed in accordance with Section AO103.9.3.7. The privacy wall shall extend out to the outermost point of the porch covering.

The fire rated gypsum wallboard used in exterior walls, privacy walls, and common dwelling unit separation walls shall be continuous behind building elements such as showers, bathtubs, cabinets, chases, soffits, electrical panels, and stair stringers.

Exception: Gypsum board may be omitted behind stair stringers providing the stringers are constructed of:

1. Solid sawn dimensional lumber of not less than 3 inches (76 mm) nominal thickness when used in conjunction with two 1-hour fire-resis-

tive-rated wall assemblies as shown in Figure AO103.7.3.2.

2. Solid sawn dimensional lumber of not less than 4½ inches (114 mm) nominal thickness when used in conjunction with a 2-hour fire-resistive-rated wall assembly as shown in Figure AO103.7.3.2.
3. Engineered wood systems that have been tested and listed for equivalent burning characteristics.

AO103.7.3.3 Fire-resistive-rated protection for cantilevered living areas. Cantilevered living areas shall be protected by one of the following methods:

1. In the case where one cantilever is adjacent to another cantilever, and both are within 3 feet (914 mm) of the common property line, a single 1-hour fire-resistive-rated dwelling unit separation wall shall be provided for each cantilever. The dwelling unit separation walls shall extend out at least to the furthest point where the cantilevers are adjacent.
2. In the case where one cantilever abuts another adjacent cantilever at a common property line, either two 1-hour fire-resistive-rated walls or a “modified” 2-hour fire-resistive rated common dwelling unit separation wall shall be provided. The dwelling unit separation wall shall extend out to the furthest point where both cantilevers are adjacent.
3. In the case where there is no adjacent cantilever, a 1-hour fire-resistive-rated exterior wall shall be provided. The exterior wall shall extend out to the furthest point of the cantilever.

The fire-resistive-rated walls required in Items 1 through 3 shall be continuous from the foundation to the roof sheathing when the roof/ceiling assembly is constructed in accordance with Section AO103.9.3.7. When the roof/ceiling assembly is not constructed in accordance with Section AO103.9.3.7, the wall shall terminate in a parapet constructed in accordance with Section R317.2.2.

Exceptions:

1. Cantilevers may be unprotected when every dwelling unit within the rowhouse structure is provided with a fire suppression system in accordance with NFPA 13D for structurally independent rowhouses and NFPA 13R for structurally dependent rowhouses.
2. The fire-resistance-rated walls beneath the cantilever may be omitted, providing the exterior wall perpendicular to the property line is 1-hour fire-resistive-rated construction for a distance of 4 feet (1219 mm) each side of the property line from foundation to the bottom of the cantilever. Foundation vents shall not be located within 4 feet (1219 mm) of the property line. The soffited area under the cantilever shall have not less than one-hour fire-resistive rated protection for a distance of at least 4 feet (1219

APPENDIX O

mm) each side of property line. Where the cantilever projects less than 4 feet (1219 mm) from the face of the building, the prohibition of openings and the fire-resistance-rated wall and soffit construction perpendicular to property line need only extend for a distance equal to the projection of the cantilever.

AO103.7.3.4 Openings. Openings in fire-resistive exterior walls, privacy walls, and dwelling unit separation walls are not permitted.

AO103.7.3.5 Through penetrations. Through penetrations in fire-resistive exterior walls, privacy walls, and dwelling unit separation walls are not permitted.

AO103.7.3.6 Membrane penetrations. Membrane penetrations in fire-resistive exterior walls, privacy walls, and dwelling unit separation walls are allowed for electrical wiring, plumbing, approved mechanical installations, and stair stringers. Membrane penetrations shall comply with Sections R317.3 and AN101.4.1.

Exceptions: Membrane penetrations in fire-resistive-rated walls:

1. Shall be protected with a listed penetration fire-stop system rated for a minimum of 2-hours when the penetration is in a common "modified" 2-hour fire-resistance-rated wall.
2. May have the minimum separation distance of 24 inches (610 mm) between electrical boxes reduced when installed in accordance with Figure AO103.7.3-C1 and C2. See Section R317.3.2.
3. For large boxes such as washer connections, electrical panels, and wall heaters may be installed where the fire protection extends behind the box in accordance with Figures AO103.7.3-B and C2. Membrane penetrations for duct and air transfer openings shall be protected with fire dampers in accordance with Section AN104.6.
4. For stair stringers shall be in accordance with Section AO103.7.3.2.

AO103.7.3.7 Fire-resistance-rated roof/ceiling construction. Roof/ceiling assemblies intersecting fire-resistance rated exterior walls may be of nonrated construction. Roof/ceiling assemblies intersecting common fire-resistance-rated common dwelling unit separation walls and privacy walls associated with porch covers and decks shall be constructed in accordance with this section.

1. A roof/ceiling assembly with framing oriented perpendicular to a 1-hour common wall shall be constructed in accordance with Figure AO103.7.3.1(a). The roof sheathing shall be either fire-retardant-treated plywood or have a minimum of $\frac{5}{8}$ -inch (16 mm) Type X gypsum board installed under the standard plywood sheathing for a mini-

um horizontal distance of 4 feet (1219 mm) from the common property line.

2. A roof/ceiling assembly with framing oriented parallel to a 1-hour common wall shall be constructed in accordance with Figure AO103.7.3.1(a).
3. A roof/ceiling assembly with framing oriented perpendicular to a "modified" 2-hour common wall shall be constructed in accordance with Figure AO103.7.3.1(b). The roof sheathing shall be either fire-retardant-treated plywood or have a minimum of $\frac{5}{8}$ inch Type X gypsum board installed under the standard plywood roof sheathing for a minimum horizontal distance of 4 feet (1219 mm) from the common property line.
4. A roof/ceiling assembly with framing oriented parallel to a "modified" 2-hour common wall shall be constructed in accordance with Figure AO103.7.3.1(d).
5. As an alternative to Items 1 through 4, the entire ceiling of the upper story shall be protected throughout with two layers of $\frac{5}{8}$ -inch Type X gypsum board as required for a one-hour fire-resistive roof/ceiling assembly. Where roof framing is parallel to common dwelling unit separation wall, a one-hour attic enclosure, "mushroom" may be constructed according to Figure AO103.7.3.7 and the two layers of $\frac{5}{8}$ inch (16 mm) Type X gypsum board on the ceiling may terminate at the outside vertical edge of the "mushroom."

Exception: The fire-resistance-rated roof/ceiling construction required by this section by Items 1 through 5 may be omitted when a parapet is provided in accordance with Section R317.2.2.

AO103.7.3.8 Roof/ceiling penetrations. Membrane penetrations of the fire-resistance rated ceiling required by AO103.7.3.7 (5) shall be protected by an approved penetration firestop system, in accordance with R317.3.1.1 and the *Oregon Structural Specialty Code* Sections 711 and 712. Through penetrating items shall be enclosed within a shaft constructed in accordance with *Oregon Structural Specialty Code* Section 707.

Skylights, mechanical and plumbing vents, attic vents, solar collectors and similar penetrations of the roof are not permitted within 4 feet (1219 mm) of the common property line.

Exceptions:

1. Chimneys may penetrate roofs within 4 feet (1219 mm) of a common property line when a spark arrestor is installed at the terminus. Where factory-built chimneys are located within 4 feet (1219 mm) of a common property line, they shall be enclosed within 1-hour rated shafts constructed in accordance with Section 707 of the *Oregon Structural Specialty Code*. Such a shaft must extend from where the factory-built chimney first penetrates a wall

fire-resistance-rated wall or ceiling and must continue to the upper most termination of the chimney.

2. Unprotected factory-built chimneys and other unprotected penetrations are allowed within 4 feet (1219 mm) of common property lines when parapets are provided in accordance with Section R317.2.2.

AO103.7.3.9 Cricket construction. Where crickets are installed, one of the following methods of construction shall be used.

1. In the case where crickets are 30 inches (762 mm) or less in height, the common fire-resistive dwelling unit separation wall may terminate at the underlying roof sheathing. The underlying roof sheathing shall be protected with either fire-retardant-treated plywood or have a minimum of 5/8-inch (16 mm) Type X gypsum board installed under the standard plywood roof sheathing for the full extent of the cricket, but not less than 4 feet (1219 mm) measured horizontally from the common property line. There shall be no openings in the roof sheathing under the cricket. See Figures AO103.7.3.9(a) and (b).
2. In the case where crickets greater than 30 inches (762 mm) in height, the common fire-resistive dwelling unit separation wall shall extend to the cricket roof sheathing, and the cricket roof sheathing shall be protected with either fire-retardant treated plywood or have a minimum of 5/8 inch Type X gypsum board installed under the standard plywood roof sheathing for a minimum horizontal distance of 4 feet (1219 mm) on each side of common property line. There shall be no openings in the cricket sheathing. See Figure AO103.7.3.9(c).

AO103.7.3.10 Eaves, cornices and similar projections. Projections located less than 3 feet (914 mm) from a property line shall be in accordance with this section. Structural projections such as enclosed eaves and cornices located within 3 feet (914 mm) of a common property line shall be constructed in accordance with the Table AN103.7.3.10. In the case where projections extend beyond the common property line onto an adjacent property, appropriate easements and maintenance agreements shall be implemented as described in Section AN103.16. Projections within 3 feet (914 mm) of an exterior property line shall be in accordance with Section R302.1.

AO103.7.3.11 Fire-resistive rated protection for porches and decks without a cover. Fire-resistive rated protection shall be provided for porches and decks without a cover in accordance with this section. Porches and decks shall be protected by one of the following methods:

1. In the case where one porch or deck is adjacent to another porch or deck, and both are within 3 feet (914 mm) of the common property line, a single 1-hour fire-resistance-rated privacy wall shall be provided for each porch or deck. The privacy walls shall extend out at least to the furthest point where the porches or decks are adjacent.
2. In the case where one porch or deck abuts another adjacent porch or deck at a common property line, either two 1-hour fire-resistive-rated walls or a "modified" 2-hour fire-resistive-rated common dwelling unit separation wall shall be provided. The dwelling unit separation wall shall extend out to the furthest point where either porches or decks are adjacent.
3. In the case where a porch or deck is within 3 feet (914 mm) of a property line and there is no adjacent porch or deck, the porch or deck shall be either noncombustible or heavy timber construction.

**TABLE 103.7.3.10
STRUCTURAL PROJECTIONS WITHIN 3 FEET OF ANY PROPERTY LINE**

EAVES, RAKES, CORNICES & SIMILAR PROJECTIONS*	RELATIONSHIP OF FASCIA/BARGE TO PROPERTY LINE	EAVE VENTILATION PERMITTED	MAXIMUM LENGTH OF PROJECTION	PARAPET OR ROOF PROTECTION REQUIRED	MAXIMUM PROJECTION LENGTH BEYOND PROPERTY LINE	ONE-HOUR RATED PROTECTION REQUIRED
Enclosed with Roof Framing Perpendicular to Property Line	Parallel	No	12" maximum	Yes	12" maximum	Yes
Unenclosed with Roof Framing Perpendicular to Property Line	Parallel	No	12" maximum	Yes	12" maximum	No
Enclosed with Roof Framing Parallel to Property Line	Perpendicular	No	24" maximum	No	12" maximum	Yes
Unenclosed with Roof Framing Parallel to Property Line	Perpendicular	Yes	24" maximum	No	12" maximum	No

For SI: 1 inch = 25.4 mm.

*Does not apply to exterior balconies

APPENDIX O

See Figure AO103.7.3.11. Heavy timber porch components supporting only the dead load of the porch or deck and the live load listed in Table R301.5 shall be constructed using the following:

- 3.1. Supporting posts for porches and decks shall be a minimum of 6 inch (152 mm) nominal thickness.
- 3.2. Joists or beams supporting porches and decks shall be a minimum of 4 inch (102 mm) nominal thickness.
- 3.3. Decking on porches and decks shall be a minimum of 2 inch (51 mm) nominal thickness.

The fire-resistive-rated walls required in Items 1 and 2 shall be continuous from the foundation to top of the guardrail and have a minimum height of 36 inches above the porch or deck finish floor elevation. Porches and decks that extend beyond the privacy wall on one side only need not be protected past the privacy wall unless they are within three feet of a property line.

Exception: Porches and decks without a cover and located within 3 feet (914 mm) of a property line need not be fire-resistance rated when the finish floor of the deck or porch is less than 30 inches (762 mm) above grade.

AO103.7.3.12 Fire-resistive-rated separation for porch covers. Fire-resistive-rated protection shall be provided for porch covers in accordance with this section. Abutting porch covers attached to structurally independent rowhouses shall remain structurally independent and they may share nonstructural elements per AO103.3. Abutting porch covers attached to a structurally dependant rowhouse building may also be structurally dependant.

1. In the case where one porch cover is adjacent to another porch cover, and both are within 3 feet (914 mm) of the common property line, a single 1-hour fire-resistive privacy wall shall be provided for each porch cover. The privacy walls shall extend out to the furthest point where the porch covers are adjacent.
2. In the case where one porch cover abuts another adjacent porch cover at a common property line, either two 1-hour fire-resistive-rated walls or a "modified" 2-hour fire-resistive-rated common dwelling unit separation wall shall be provided. The dwelling unit separation wall shall extend out to the furthest point where both porch covers are adjacent.
3. In the case where there is no adjacent porch cover, a 1-hour fire-resistive-rated exterior wall shall be provided. The exterior wall shall extend out to the furthest point of the porch cover.

The fire-resistive-rated walls required in Items 1 through 3 shall be continuous from the foundation to the roof sheathing when the roof/ceiling assembly is constructed in accordance with Section AO103.7.3.7. When the roof/ceiling assembly is not constructed in accordance with Section AO103.7.3.7, the wall shall terminate

in a parapet constructed in accordance with Section R317.2.2. Porch covers separated by a fire-resistive-rated privacy or dwelling unit separation wall need not be fire resistance-rated.

Exceptions:

1. A privacy wall need not protect porch covers and the porch covering need not be fire-resistance rated when every dwelling unit within the rowhouse structure is provided with a fire suppression system in accordance with NFPA 13D for structurally independent rowhouses and Section AN109 for structurally dependent rowhouses. The porch covering may be open construction or it may be fully enclosed when the ceiling is of not less than 1-hour fire resistive construction.
2. A privacy wall need not protect a porch cover when the cover is constructed entirely of heavy timber construction. Heavy timber porch cover components shall be provided according to the following:
 - 2.1. Supporting post for porch coverings shall be a minimum of 6 inch (152 mm) nominal thickness.
 - 2.2. Joists or beams supporting porch coverings shall be a minimum of 4 inch (102mm) nominal thickness.
 - 2.3. Roof sheathing shall be a minimum of 2 inch (51 mm) nominal thickness. The heavy timber porch cover shall be open construction unless enclosed at the ceiling by not less than 1-hour fire-resistive construction.
3. A privacy wall need not protect porch covers and they may be of nonfire-resistance-rated construction when they project no further than 2 feet (610 mm) from the face of the building.
4. A privacy wall need not protect porch covers and they may be of nonfire-resistance-rated construction when:
 - 4.1. The exterior wall of the building perpendicular to the property line is 1-hour fire-resistive construction for a distance of four feet each side of property line and there are no openings from the foundation to underside of the porch roof sheathing. When dwelling units are stepped no openings shall be allowed in the foundation within 4 feet (1219 mm) of the property line.
 - 4.2. Where the porch cover projects less than 4 feet (1219 mm) from the face of the building, the adjacent building walls and porch roof may be protected for a distance equal to the distance the porch cover projects.

- 4.3. The porch cover may be open-frame construction. When fully enclosed the ceiling shall be of not less than 1-hour fire-resistive construction. See Figure AO103.7.3.12.
- 4.4. Enclosed attic space shall be separated at the property line with either two 1-hour or one common "modified" 2-hour dwelling unit separation walls.
- 4.5. The parapet may be omitted on both open-framed and enclosed porch covers when the roof is sheathed with fire-retardant-treated plywood or $\frac{5}{8}$ -inch (16 mm) Type X gypsum sheathing for a horizontal distance of 4 feet (1219 mm) measured perpendicular to the property line.

AO103.7.3.13 Fire-resistive-rated construction for exterior stairways. Exterior stairs located within 3 feet (914 mm) of a property line shall be of fire-resistance-rated construction in accordance with this section. See Figure AO103.7.3.13.

1. Structurally independent stairs may be connected at the property line with common treads a minimum of 6 feet (1829 mm) wide of noncombustible or heavy timber construction.
2. Stairs serving an uncovered porch that serves not more than two dwelling units may cross the common property line. Such stairs shall be a minimum of 44 inches (1118 mm) in width and be of noncombustible or heavy timber construction.
3. Stairs constructed using heavy timbers shall comply with this section and Figure AO103.7.3.2. Heavy timber stair components supporting only the stair or landing dead load and the live load listed in Table R301.5 shall be constructed using the following minimum material thicknesses:
 - 3.1. Supporting posts for stairs shall be a minimum of 6 inch (152 mm) nominal thickness.
 - 3.2. Stair stringers shall be a minimum of 4 inch (102 mm) nominal thickness.
 - 3.3. Joists or beams supporting landings shall be a minimum of 4 inch (102 mm) nominal thickness.
 - 3.4. Stair treads and landing decking shall be a minimum of 2 inch (51 mm) nominal thickness.

Exceptions:

1. Stairs located within 3 feet (914 mm) of a property line need not be fire-resistance rated when they are not under cover and not over 30 inches (762 mm) above grade.
2. Stairs may be located within 3 feet (914 mm) of a property line when constructed of noncombustible materials.

AO103.8 Dwelling unit and garage separations. Rowhouse dwelling units shall be separated from attached garages in accordance with Section R309 and this section. Separation shall be provided by a minimum of $\frac{1}{2}$ -inch (12.7 mm) gypsum wallboard applied on the garage side of the wall or floor/ceiling assembly. Walls supporting protected floor/ceiling assemblies shall also be protected by a minimum of $\frac{1}{2}$ -inch (12.7 mm) gypsum wallboard or equivalent. Duct work penetrating the separation shall be 26 gauge metal. Plastic penetrations shall comply with Interpretive Ruling 92-5B, "Firewall" Separation Dwelling/Dwelling Under the One- and Two-Family Dwelling Code "as revised 7/01/1999."

Doors separating dwelling units and garages shall be solid wood with a minimum thickness of $1\frac{3}{8}$ inch (35 mm) or be a listed, labeled 20-minute fire door, or be a metal with insulation. If the garage is not heated, the door shall have a minimum insulation value of U0.20 or energy calculations shall be provided.

AO103.9 Interior duct and vent chase penetrations of floor/ceiling assemblies. Gas vents, ducts, piping and factory-built chimneys that extend through not more than two floors need not be enclosed provided the openings around the penetrations are firestopped at each floor.

Exception: BW gas vents installed in accordance with their listing.

AO103.10 Foundation and footing construction. A single footing and foundation wall may be designed and constructed for common property line walls in accordance with this section, Figure AO103.10 and Chapter 4 of this code. Through penetrations of the foundation across a common property line are not permitted. If required by local conditions, footing drains, rain drains and low point underfloor drainage shall be provided and drained to an approved location in accordance with the building and plumbing codes and local ordinances.

AO103.10.1 Foundation waterproofing and damp proofing. Foundation waterproofing and damp proofing shall be in accordance with Sections R405 and R406, respectively.

AO103.10.2 Crawl space ventilation and access. Crawl space ventilation and access shall be in accordance with Section R408.

Exception: Mechanical ventilation may be provided at a rate of 1.0 cfm for each 50 square feet (1.02 L/s for each 10 m²) of crawl space floor area and ground surface is covered with an approved vapor barrier material. Supply air shall be provided from outdoors or from the conditioned space. An exhaust opening equal in size to the supply opening shall be provided. Vertical ducts extending to the outdoors shall be turned down or fitted with a rain cap. All vent openings shall be covered with corrosion-resistant wire mesh with the least dimension being $\frac{1}{8}$ inch (3.2 mm). Mechanical ventilation shall be actuated by means of a humidistat located in the crawl space.

AO103.11 Insulation. Rowhouse insulation shall be in accordance with Chapter 11 of this code.

APPENDIX O

AO103.11.1 Sound transmission. At a minimum, walls between rowhouse dwelling units shall provide airborne sound insulation equivalent to a sound transmission class (STC) 45.

AO103.12 Roof coverings. Structurally independent rowhouses shall be provided with a minimum Class C roof covering and structurally dependent rowhouses shall be provided with a minimum Class B roof covering.

Exceptions:

1. Structurally dependent rowhouse buildings may use Class C roof coverings when all of the following conditions are met:
 - 1.1. The building is not more than two stories in height; and
 - 1.2. The building does not have more than 6,000 square feet (557 m²) of projected roof area; and
 - 1.3. There is a minimum of 3 feet (914 mm) from the extremity of the roof to the exterior property line or an assumed property line on all sides except for street fronts.
2. As specified elsewhere in this code, rowhouses located in areas determined by the jurisdiction to be "Wildfire Zones," the separation distances between vegetation and building shall be per local ordinance. Regardless of whether the dwelling units are designed independently or as a single building, the minimum roof covering classification shall be not less than Class B or as required by the ORS 215.730.

AO103.13 Dwelling unit egress. Each dwelling unit shall have an exit door that provides a continuous unobstructed means of egress from the dwelling unit to a public way. Individual dwelling unit shall be provided with separate, structurally independent exit way, having a minimum clear width of 3 feet (914 mm).

AO103.14 Accessibility. Where the project includes four or more contiguous dwelling units, one or more of which is single story, the Fair Housing Act and *Oregon Structural Specialty Code* Chapter 11 requirements for accessibility apply. Ground-level, single-story units shall be made accessible or adaptable. Any common use facilities such as a pool, club house or management office shall be accessible in accordance with Chapter 11 of the *Oregon Structural Specialty Code*.

AO103.15 Site utilities, service equipment and easements. The portions of underground electrical, plumbing or gas utilities that are shared or in common use shall lie within a recorded easement and be recorded in a maintenance agreement as required by Section AO103.18. Shared or common use utilities shall not run beneath a rowhouse structure. Separate utility services shall be supplied to each individual dwelling unit. Utilities serving a single dwelling unit shall not run beneath another dwelling unit. Service equipment and meters may be grouped in one or more locations as approved by the local or-

dinance and the utility provider. The locations of all site utilities, service equipment, and easements shall be clearly shown on the plans.

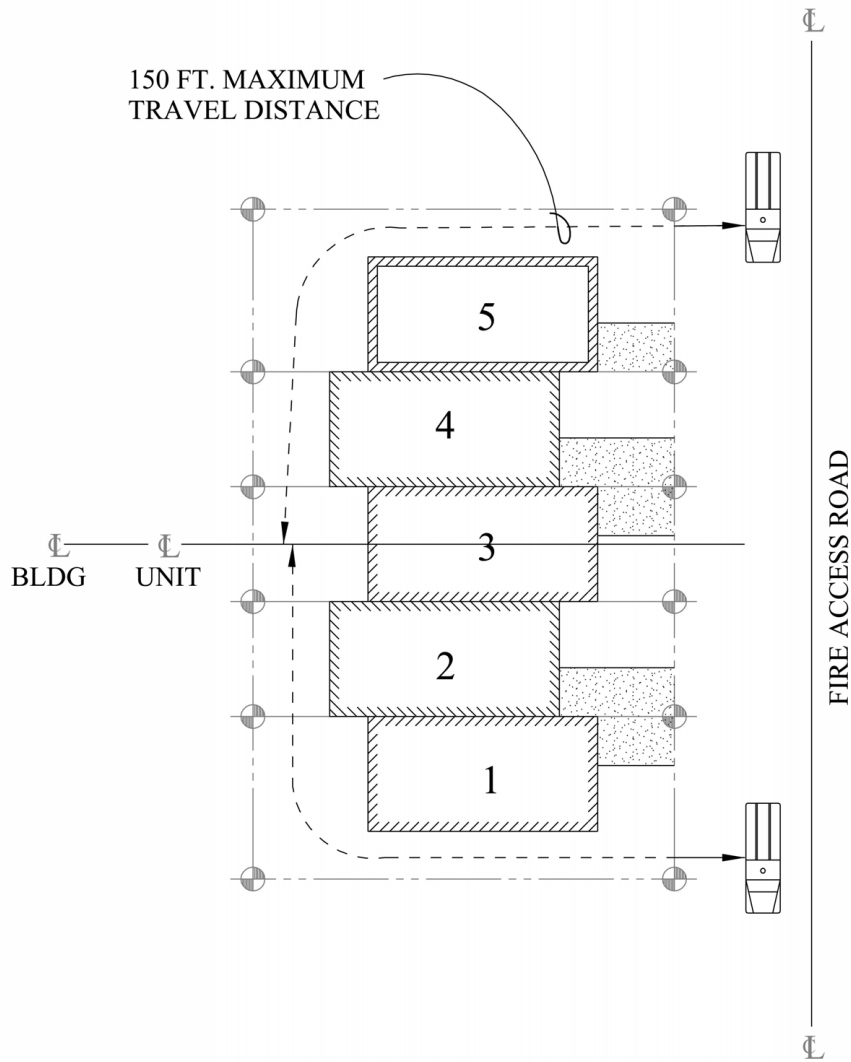
AO103.16 Maintenance agreements and easements. Building elements and utilities that cross property lines require the creation of legally documented easements. Maintenance agreements shall be created and signed by the affected property owners. The maintenance agreements must address the repair, upkeep and replacement and access to shared or common use building elements and utilities. Easements may be general in nature or they may describe specific locations. When available, a copy of the plan showing the locations of such easements shall be attached to the maintenance agreement.

Prior to recording at the county recorder's office, the maintenance agreement shall be reviewed and approved by the building official. In cases where the rowhouses are structurally dependent, the building official shall cosign the maintenance agreements and require that the recorded easements and maintenance agreements not be modified or suspended without building official approval. Unless otherwise approved by the building official, the applicant shall provide a copy of the recorded easements and maintenance agreements to the building official prior to issuance of the building permit. Maintenance agreements and easements shall be recorded for each dwelling unit and the book and page number provided to the jurisdiction having authority.

Maintenance agreements shall include, but not be limited to, the following information:

1. Names and contact information of the property owners included in the maintenance agreement.
2. Physical address and map and tax lot number of the affected properties.
3. A detailed listing of common or shared structural elements such as common foundations, common or shared fire walls, porches and porch coverings, and projections crossing property lines, roofing or exterior finish materials, lateral-force-resisting systems in the case of structurally dependant rowhouses, and common or shared utilities and service equipment;
4. A statement of responsibility, including duties and sharing of cost for the maintenance and repair of common or shared firewalls separating dwelling units; attached garages, porches and decks, and porch coverings;
5. A description of easements, common areas, surface drainage provisions and on-site improvements.
6. Possible enforcement actions by the building official or affected parties to facilitate the maintenance, repair or replacement of common property line firewalls may be included as a condition of the cosigned maintenance agreements. Such maintenance, repair or replacement may also be facilitated through application of a local housing or nuisance abatement ordinance, or an existing building or property maintenance code.

APPENDIX O



**Figure AO103.4.1
FIRE APPARATUS ACCESS**

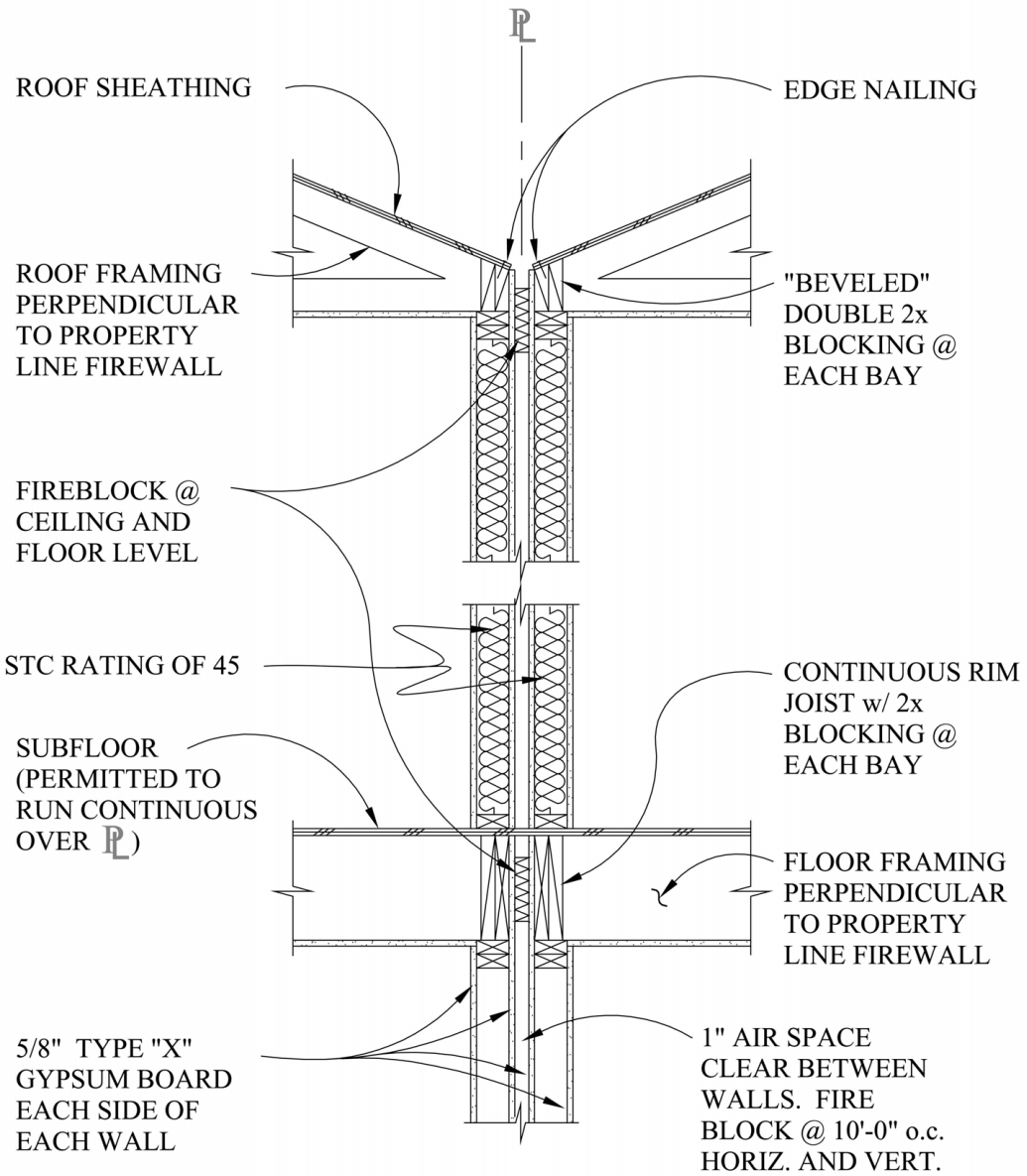


Figure AO103.7.3.1(a)
TWO 1-HOUR FIREWALL PERPENDICULAR TO PROPERTY LINE

APPENDIX O

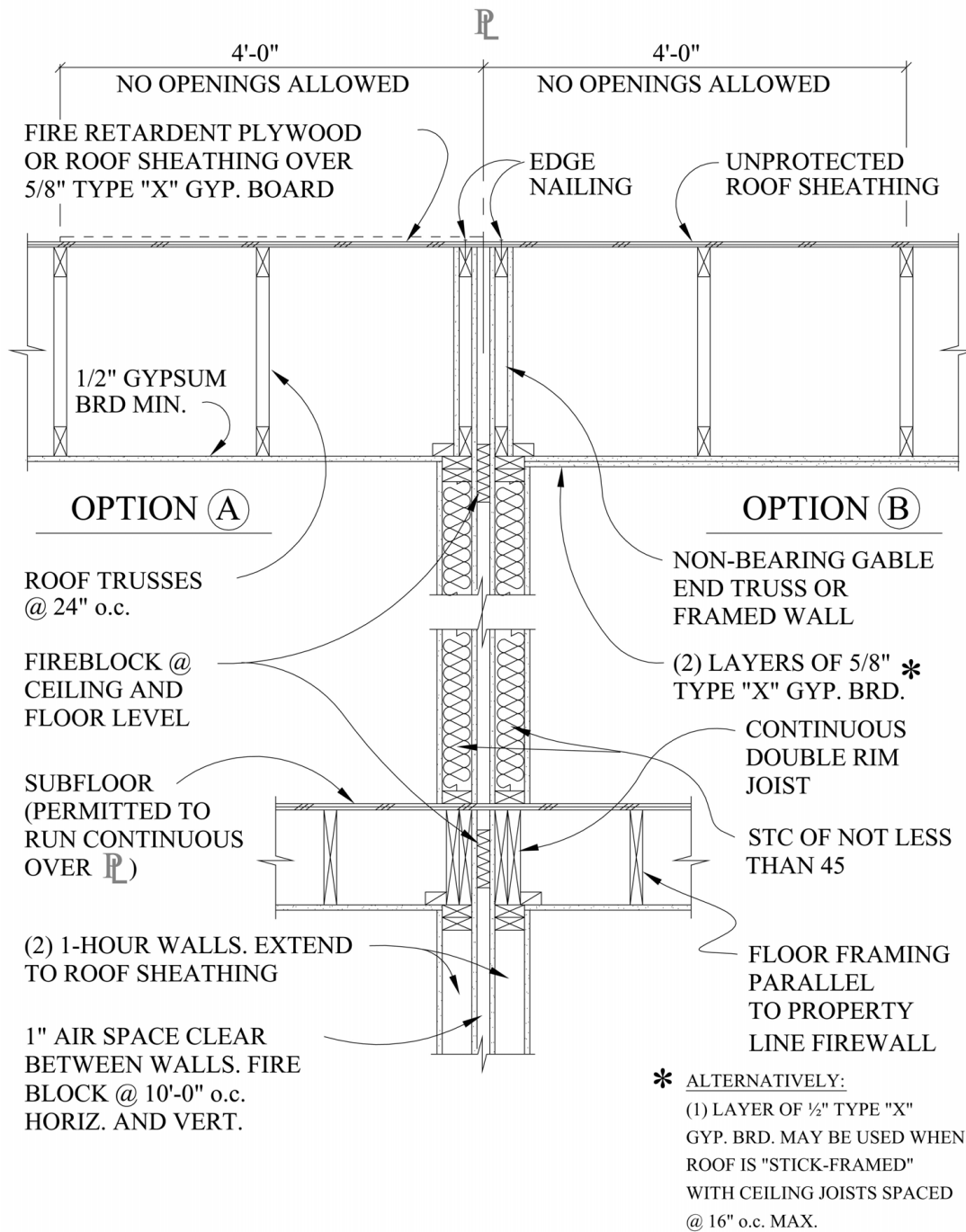


Figure AO103.7.3.1(b)
TWO 1-HOUR FIREWALL PARRALLEL TO PROPERTY LINE

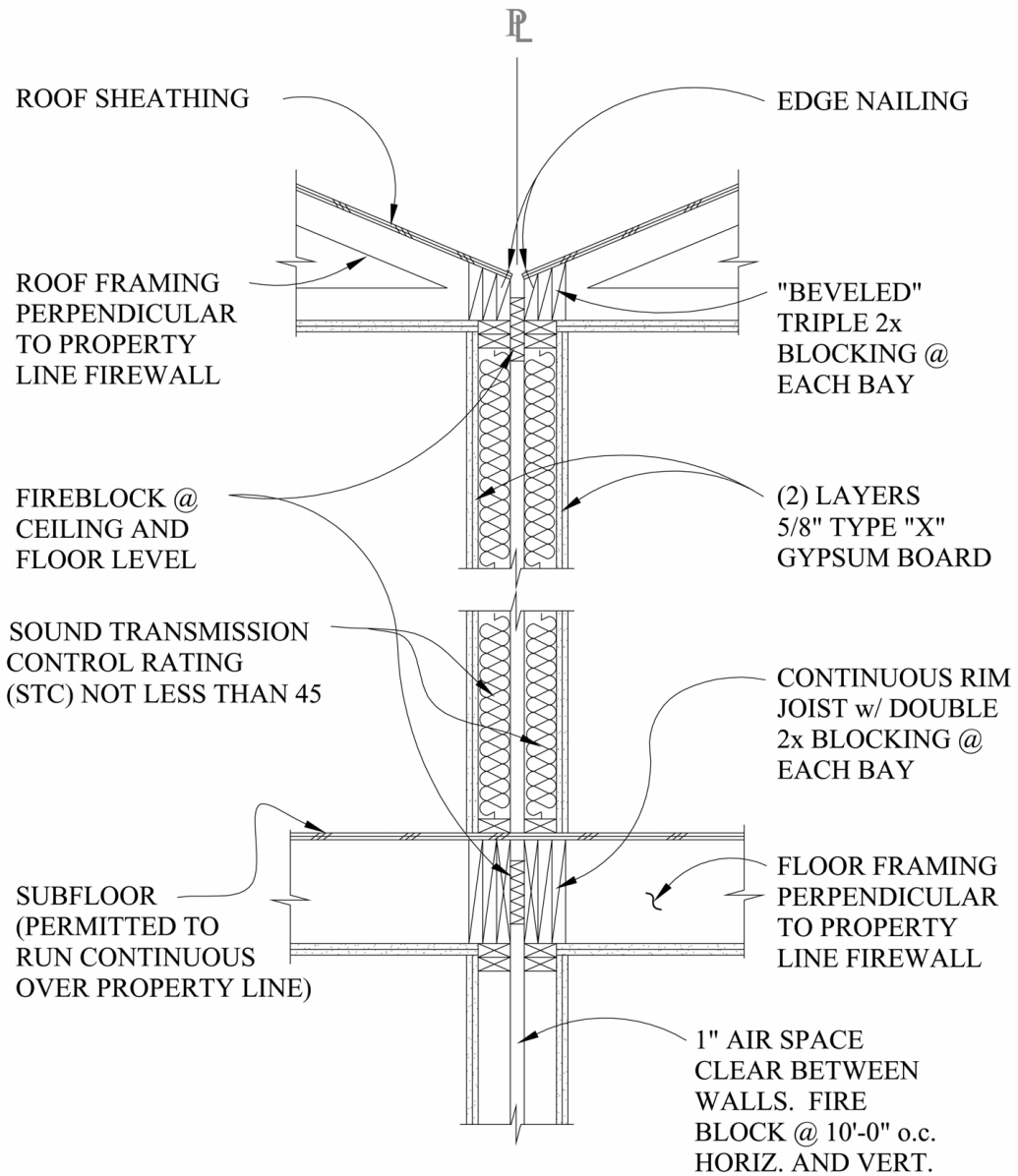


Figure AO103.7.3.1(c)
"MODIFIED 2-HOUR FIREWALL PERPENDICULAR TO PROPERTY LINE"

APPENDIX O

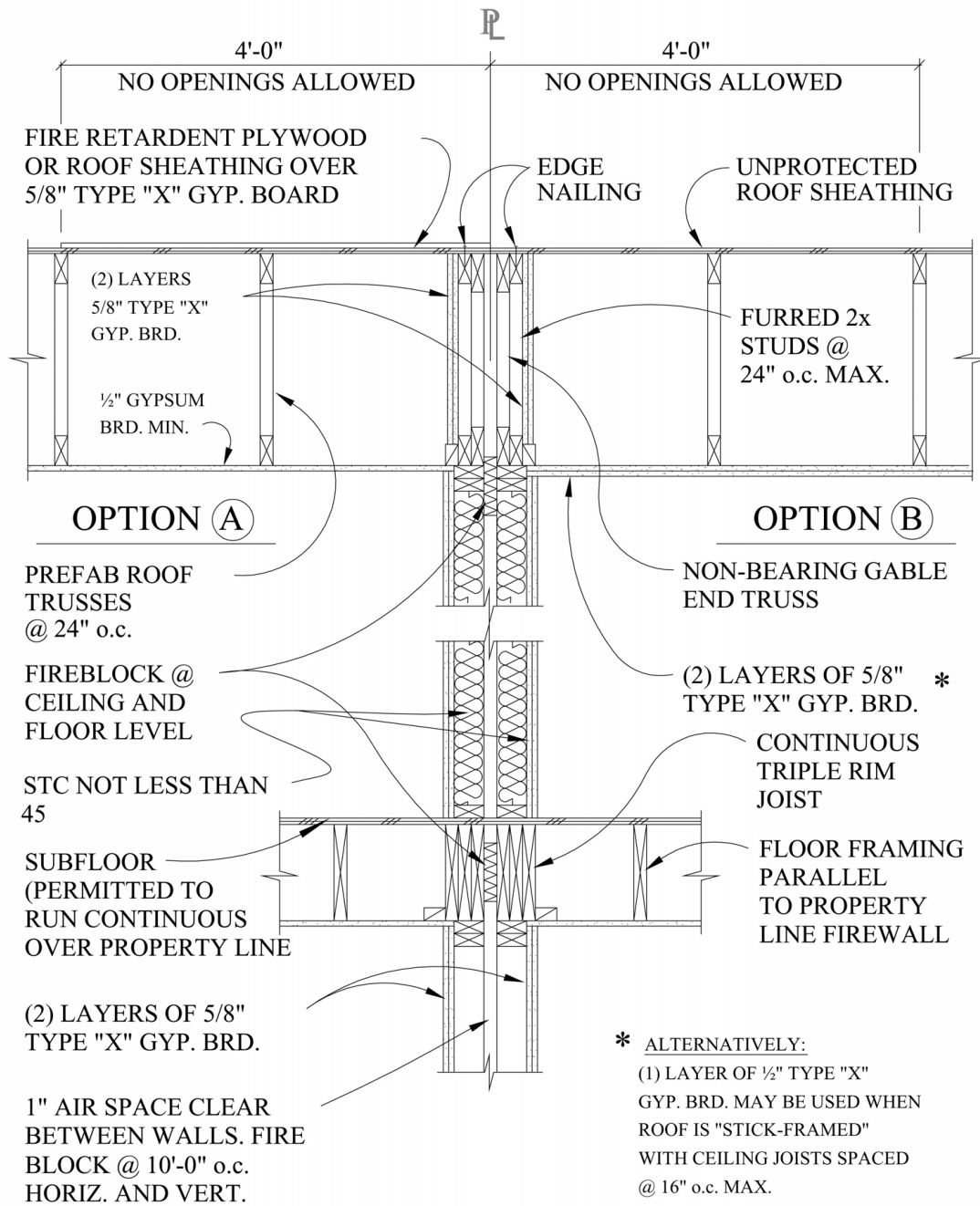
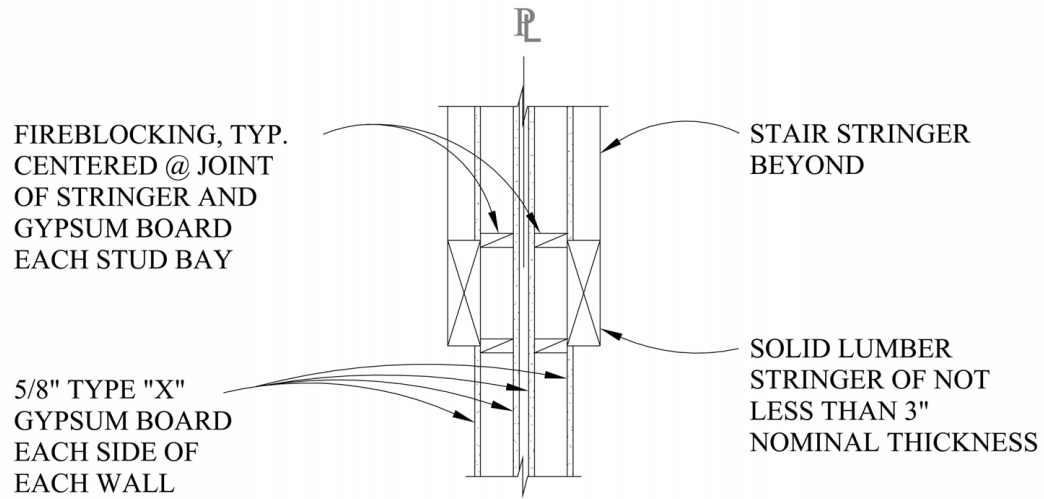
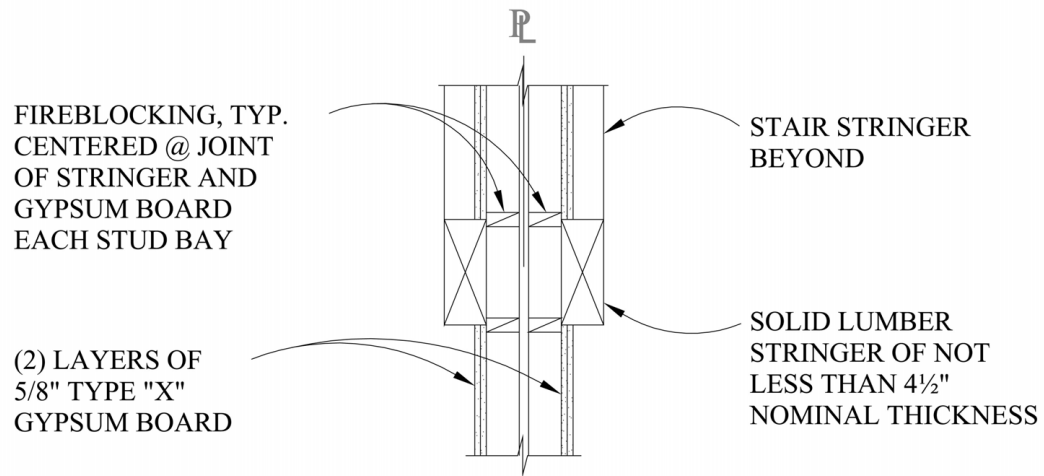


Figure AO103.7.3.1(d)
"MODIFIED" 2-HOUR FIREWALL PARALLEL TO PROPERTY LINE



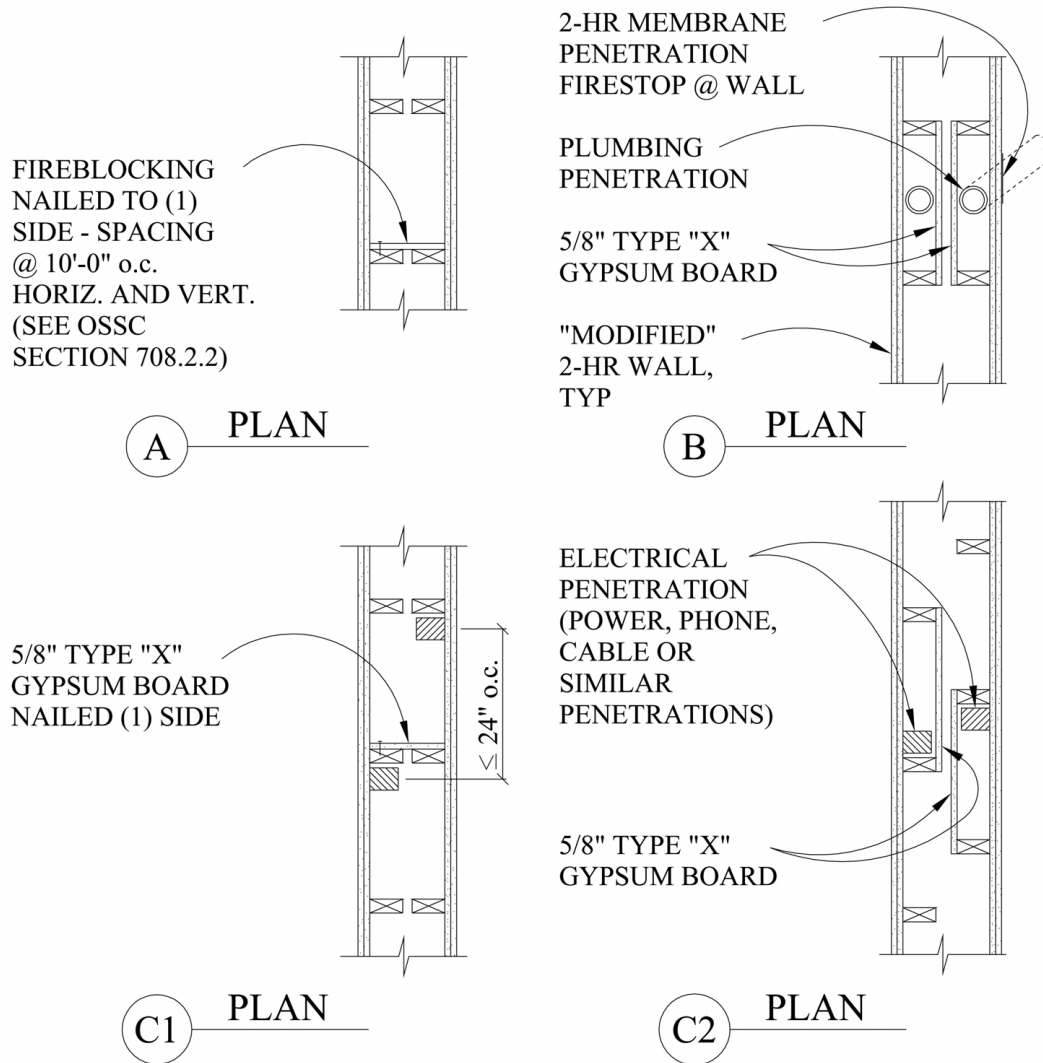
A TWO 1-HOUR WALLS



B "MODIFIED" 2-HOUR WALL

Figure AO103.7.3.2
STRINGER PENETRATIONS OF FIREWALL AT
PROPERTY LINE

APPENDIX O



NOTE: (C1) AND (C2) REFER TO ELECTRICAL PENETRATIONS ON OPPOSITE SIDES OF THE WALL SPACED LESS THAN OR EQUAL TO 24" o.c.

Figure AO103.7.3.6
MEMBRANE PENETRATIONS FOR MODIFIED 2-HOUR WALLS

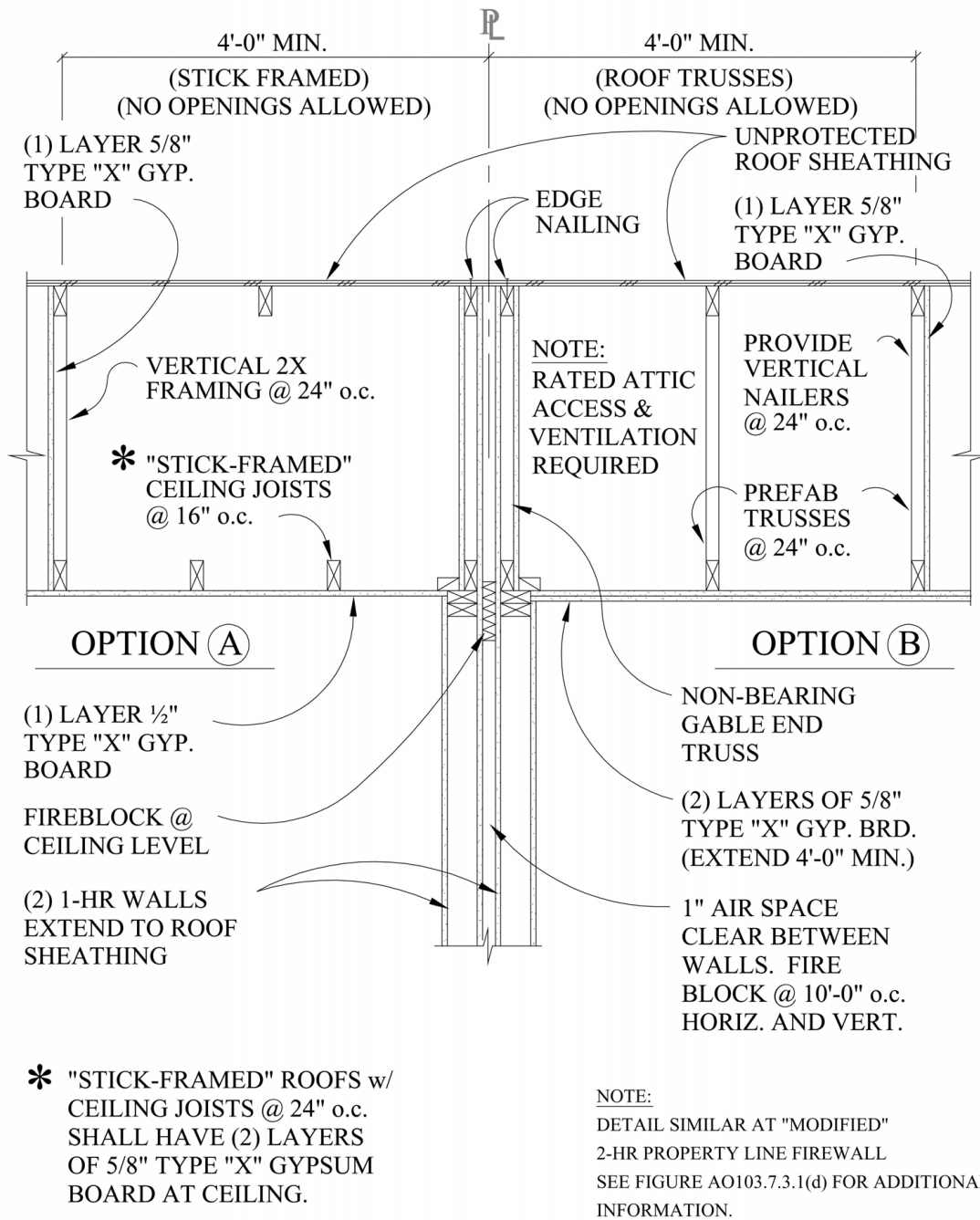


Figure AO103.7.3.7
FIRE-RESISTANCE RATED ROOF/CEILING CONSTRUCTION-
"MUSHROOM" ATTIC ENCLOSURE FRAMING PARALLEL TO PROPERTY LINE

APPENDIX O

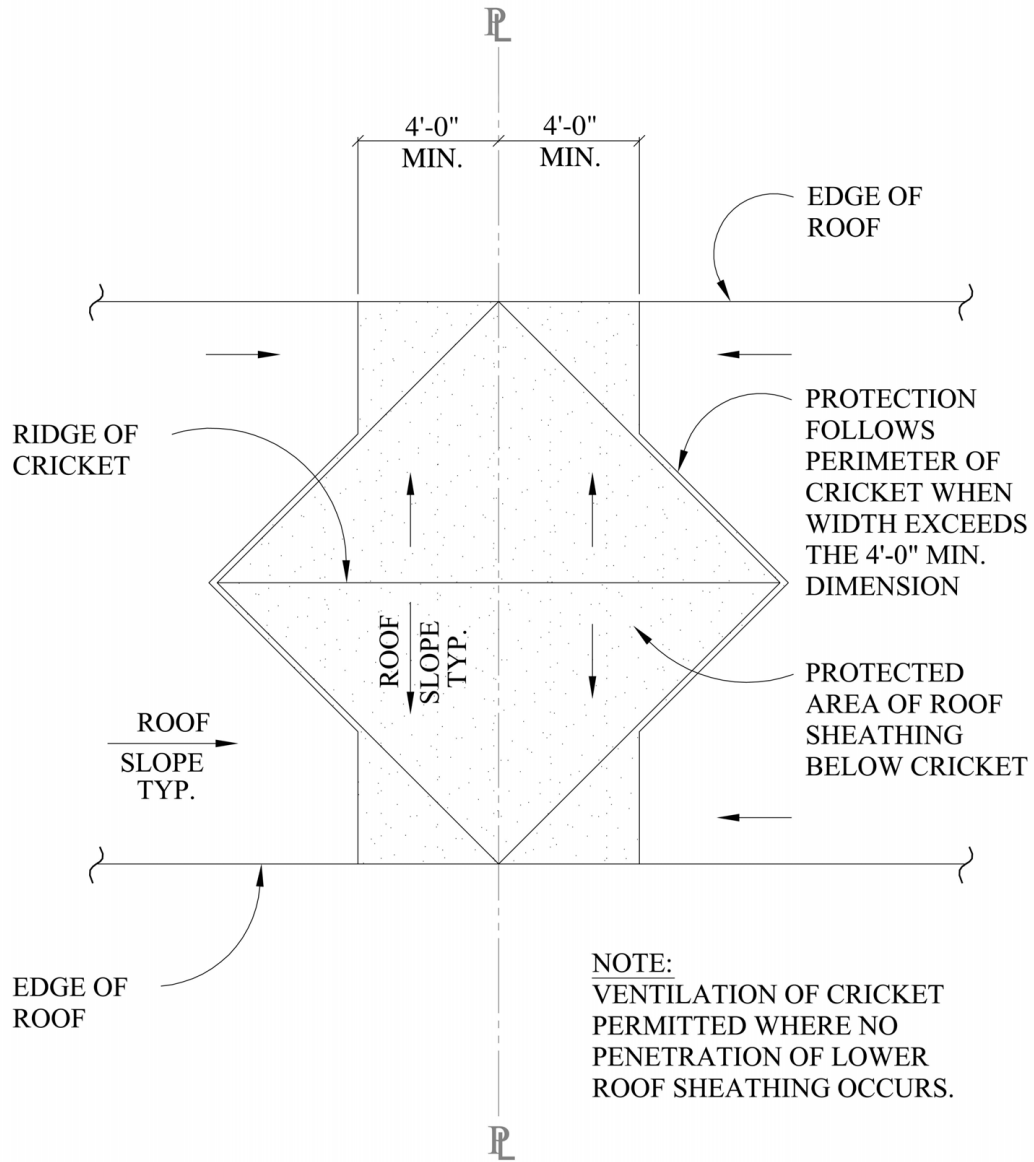
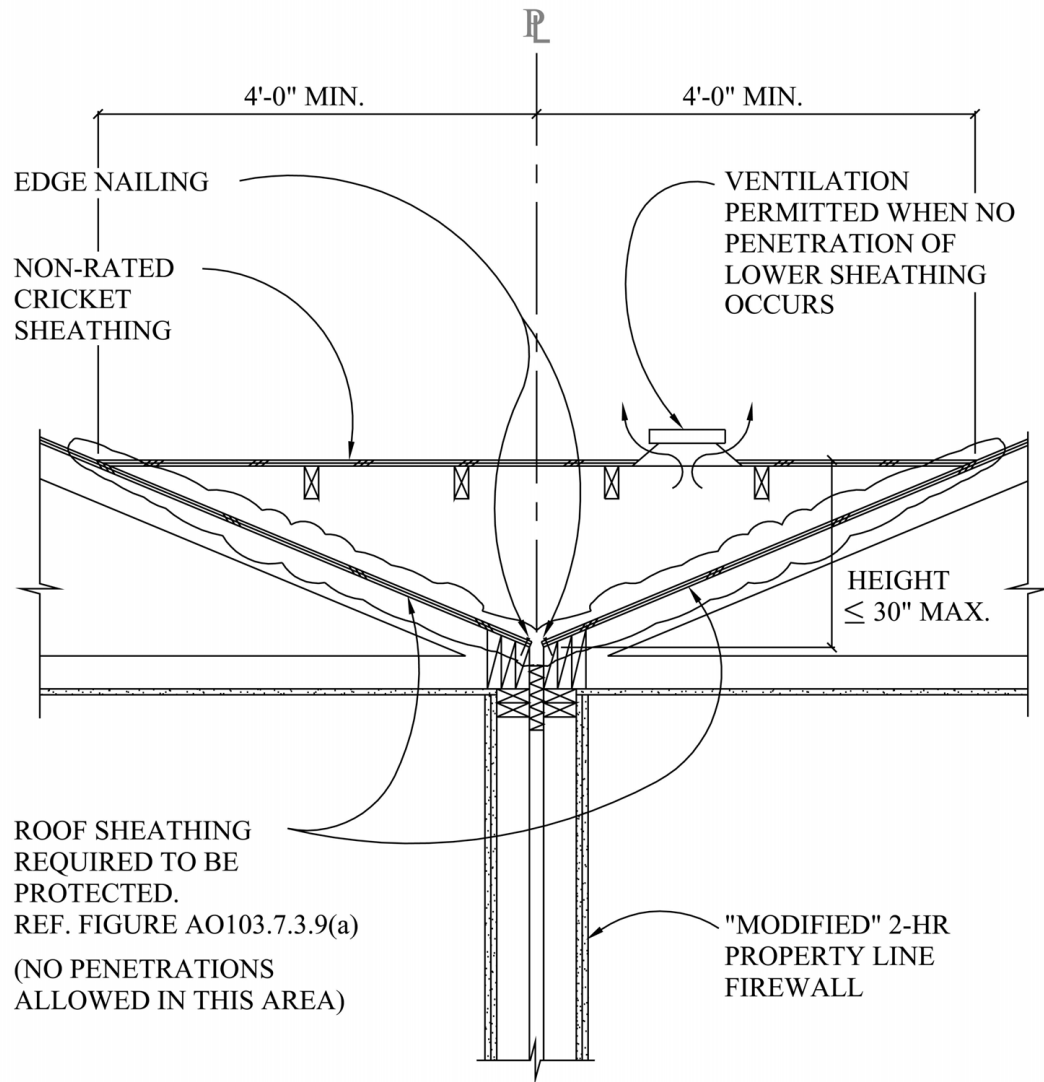


Figure AO103.7.3.9(a)
UNRATED CRICKET LESS THAN OR EQUAL TO 30 INCHES

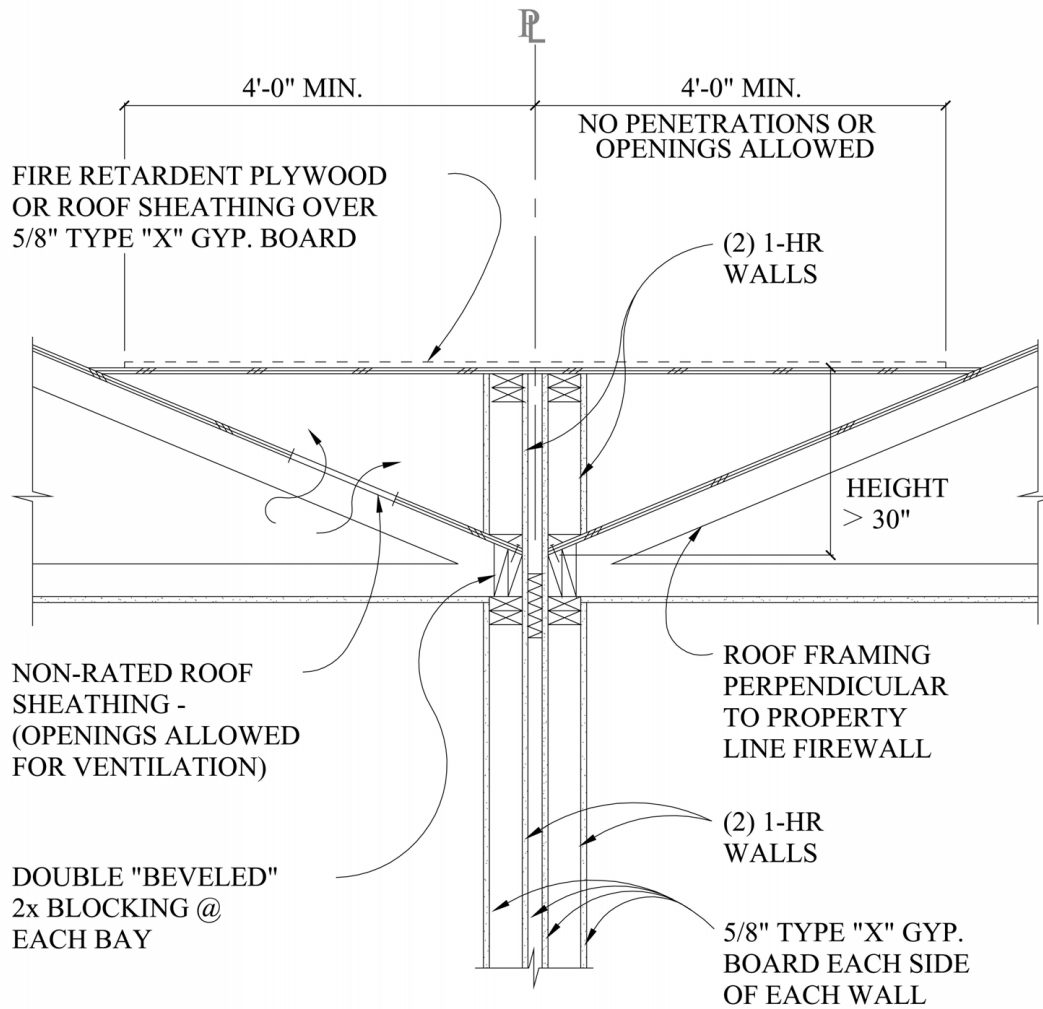


NOTES:

1. DETAIL IS SIMILAR WHEN A (2) 1-HR PROPERTY LINE FIREWALL IS USED.
2. SEE FIGURE AO103.7.3.1(c) FOR ADDITIONAL INFORMATION.

Figure AO103.7.3.9(b)
UNRATED CRICKET LESS THAN OR EQUAL TO 30 INCHES

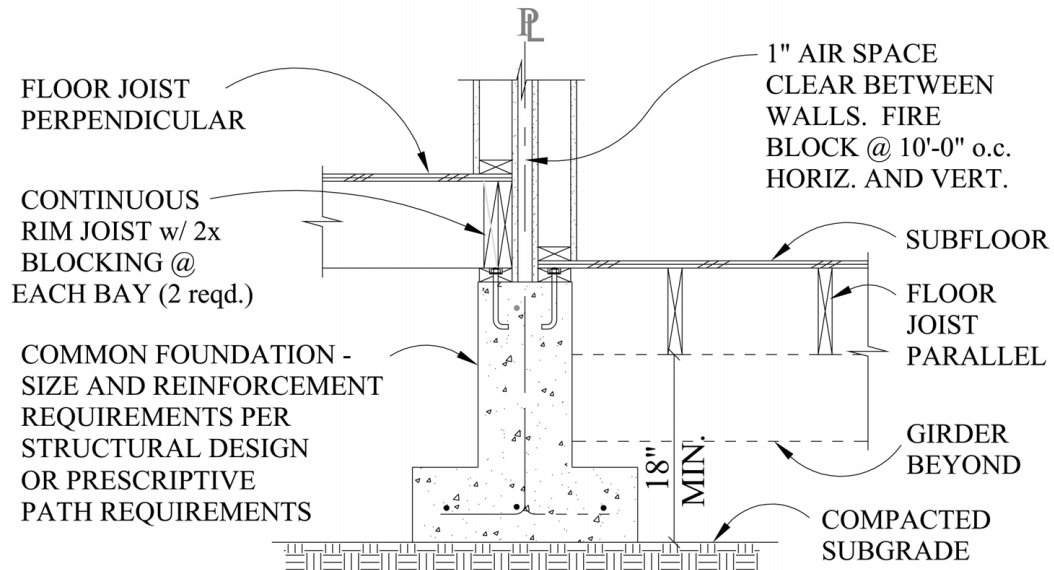
APPENDIX O



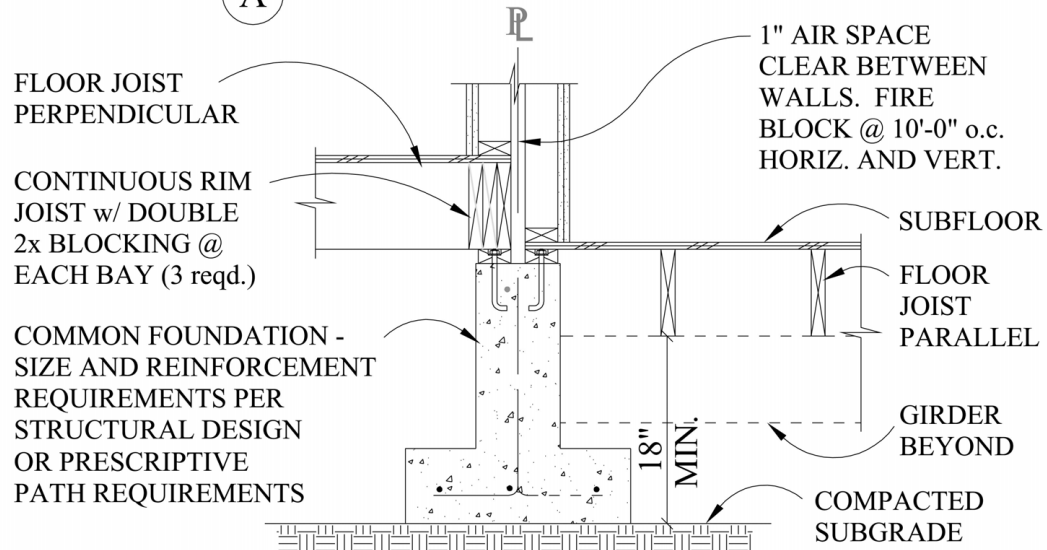
NOTES:

1. DETAIL IS SIMILAR WHEN A "MODIFIED" 2-HOUR PROPERTY LINE FIREWALL IS USED.
2. SEE FIGURE AO103.7.3.1(a) FOR ADDITIONAL INFORMATION.

Figure AO103.7.3.9(c)
RATED CRICKET GREATER THAN 30 INCHES



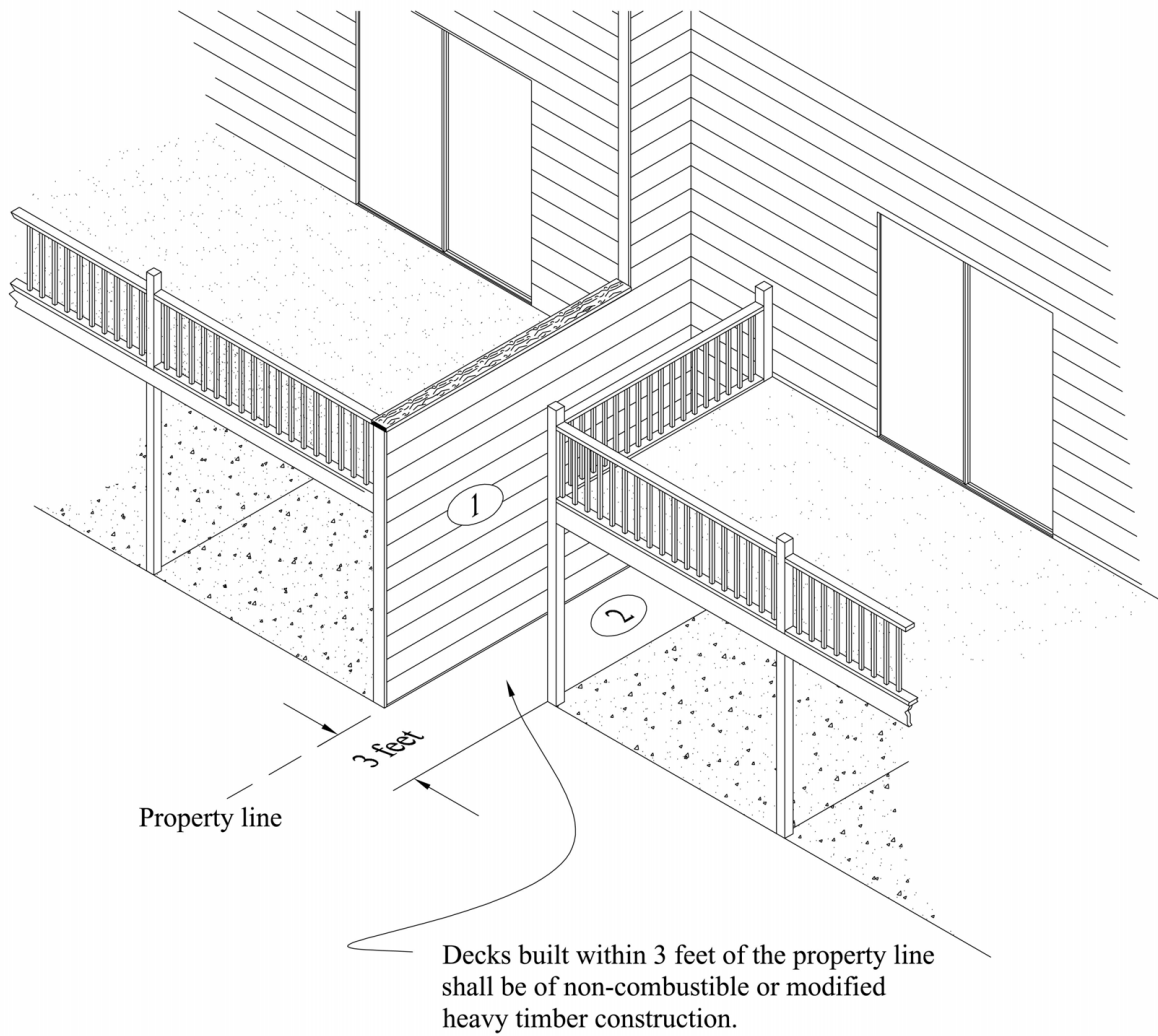
A TWO 1-HOUR WALLS



B "MODIFIED" 2-HOUR WALL

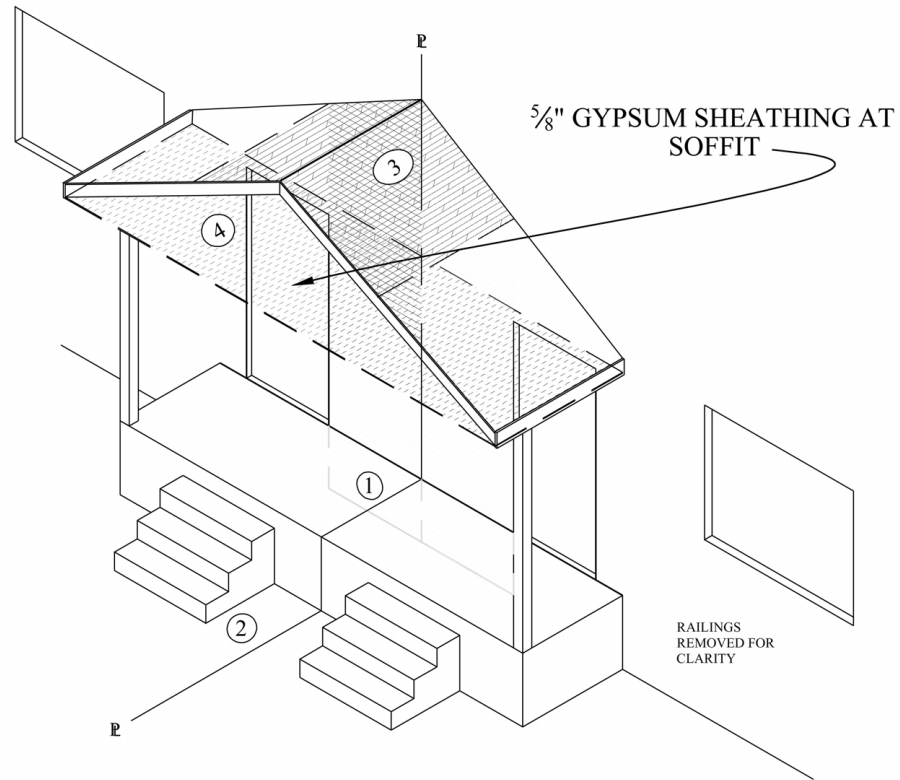
Figure AO103.10
FOUNDATION AND FOOTING CONSTRUCTION

APPENDIX O



- ① Decks built within 3 feet of a property line are to be protected at the property line with one-hour walls that extend from grade level to a minimum height of 36 inches above the deck, or the height of the guardrail, whichever is greater.
- ② Decks built at least 3 feet away from the property line may be non-rated construction.

Figure AO103.7.3.11
DECK CONSTRUCTION WITHIN THREE FEET OF PROPERTY LINE

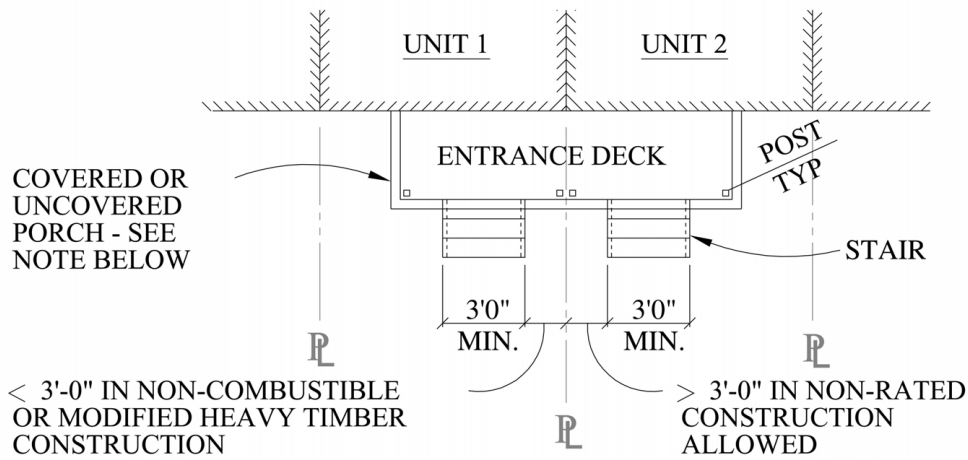


NOTES:

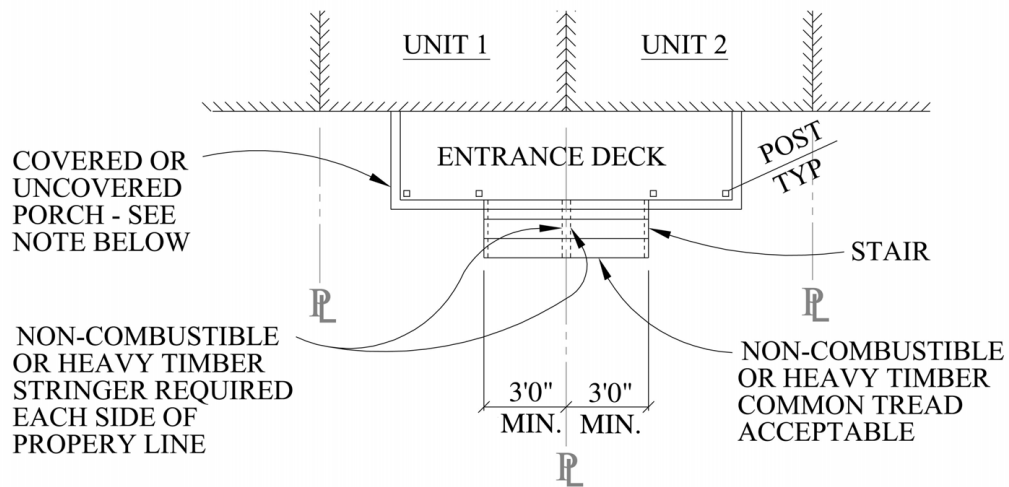
- ① ONE-HOUR WALL, WITHOUT OPENINGS, CONTINUING FROM COMMON PROPERTY LINE, EXTENDING 4 FEET PERPENDICULARLY FROM THE PROPERTY LINE, ACROSS THE FRONT OF THE DWELLING UNIT. THIS WALL IS TO EXTEND FROM THE FOUNDATION OF THE DWELLING UNIT TO THE UPPER MOST ROOF SHEATHING OF THE PORCH.
- ② STAIRWAYS WHICH ARE CLOSER THAN 3 FEET TO THE PROPERTY LINE SHALL BE OF ONE-HOUR, MODIFIED HEAVY TIMBER, OR NON-COMBUSTIBLE CONSTRUCTION. (SEE FIGURE 10)
- ③ ROOF CONSTRUCTION SHALL BE AS FOR PROPERTY LINE CONSTRUCTION.
- ④ IF A PORCH SOFFIT IS PROVIDED, THE SOFFIT SHALL BE OF $\frac{5}{8}$ " TYPE "X" GYPSUM SHEATHING, WITHOUT OPENINGS, FOR ITS FULL DEPTH AND WIDTH.

**Figure AO103.7.3.12
COVERED PORCH AT PROPERTY LINE**

APPENDIX O



OPTION (A)



OPTION (B)

NOTE:

FOR UNCOVERED PORCHES SERVING NO MORE THAN TWO UNITS, A COMMON STAIR MAY BE PROVIDED WITH A MINIMUM WIDTH OF 44 INCHES AND BE OF NON-COMBUSTIBLE OR HEAVY TIMBER CONSTRUCTION.

Figure AO103.7.3.13
EXTERIOR STAIRWAY