

Foundations

§ 3285.304 Pier configuration.

(a) **Concrete blocks.** Installation instructions for concrete block piers must be developed in accordance with the following provisions and must be consistent with Figures A and B to § 3285.306.

- (1) Load-bearing (not decorative) concrete blocks must have nominal dimensions of at least 8 inches × 8 inches × 16 inches;
- (2) The concrete blocks must be stacked with their hollow cells aligned vertically; and
- (3) When piers are constructed of blocks stacked side-by-side, each layer must be at right angles to the preceding one, as shown in Figure B to § 3285.306.

(b) **Caps.**

(1) Structural loads must be evenly distributed across capped-hollow block piers, as shown in Figures A and B to § 3285.306.

(2) Caps must be solid concrete or masonry at least 4 inches in nominal thickness, or hardboard lumber at least 2 inches nominal in thickness; or be corrosion-protected minimum one-half inch thick steel; or be of other listed materials.

(3) All caps must be of the same length and width as the piers on which they rest.

(4) When split caps are used on double-stacked blocks, the caps must be installed with the long dimension across the joint in the blocks below.

(c) **Gaps.** Any gaps that occur during installation between the bottom of the main chassis beam and foundation support system must be filled by:

- (1) Nominal 4 inch × 6 inch × 1 inch shims to level the home and fill any gaps between the base of the main chassis beam and the top of the pier cap;
- (2) Shims must be used in pairs, as shown in Figures A and B to § 3285.306, and must be driven in tightly so that they do not occupy more than one inch of vertical height; and
- (3) Hardwood plates no thicker than 2 inches nominal in thickness or 2 inch or 4 inch nominal concrete block must be used to fill in any remaining vertical gaps.

(d) **Manufactured pier heights.** Manufactured pier heights must be selected so that the adjustable risers do not extend more than 2 inches when finally positioned.

§ 3285.305 Clearance under homes.

A minimum clearance of 12 inches must be maintained between the lowest member of the main frame (I-beam or channel beam) and the grade under all areas of the home.

§ 3285.310 Pier location and spacing.

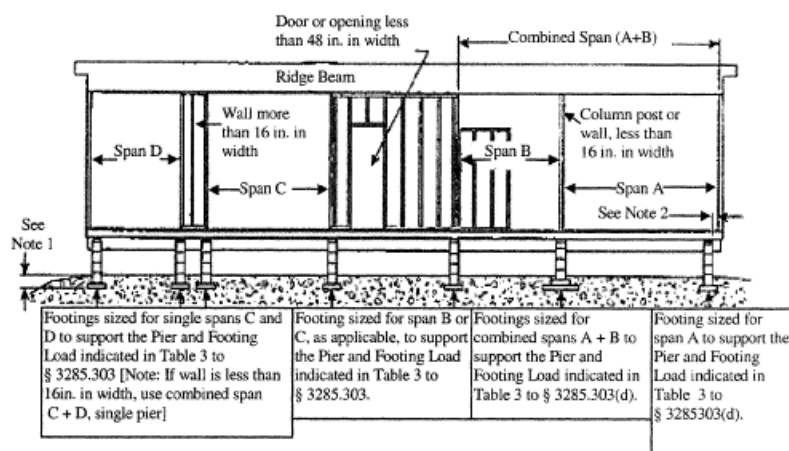
(a) The location and spacing of piers depends upon the dimensions of the home, the live and dead loads, the type of construction (single- or multi-section), I-beam size, soil bearing capacity, footing size, and such other factors as the location of doors or other openings.

(b) Mate-line and column pier supports must be in accordance with this subpart and consistent with Figures A through C to this section, unless the pier support and footing configuration is designed by a registered professional engineer or registered architect.

(c) Piers supporting the frame must be no more than 24 inches from both ends and not more than 120 inches center to center under the main rails.

(d) **Pier support locations.** Pier support locations and spacing must be presented to be consistent with Figures A and B to § 3285.312, as applicable, unless alternative designs are provided by a professional engineer or registered architect in accordance with acceptable engineering practice.

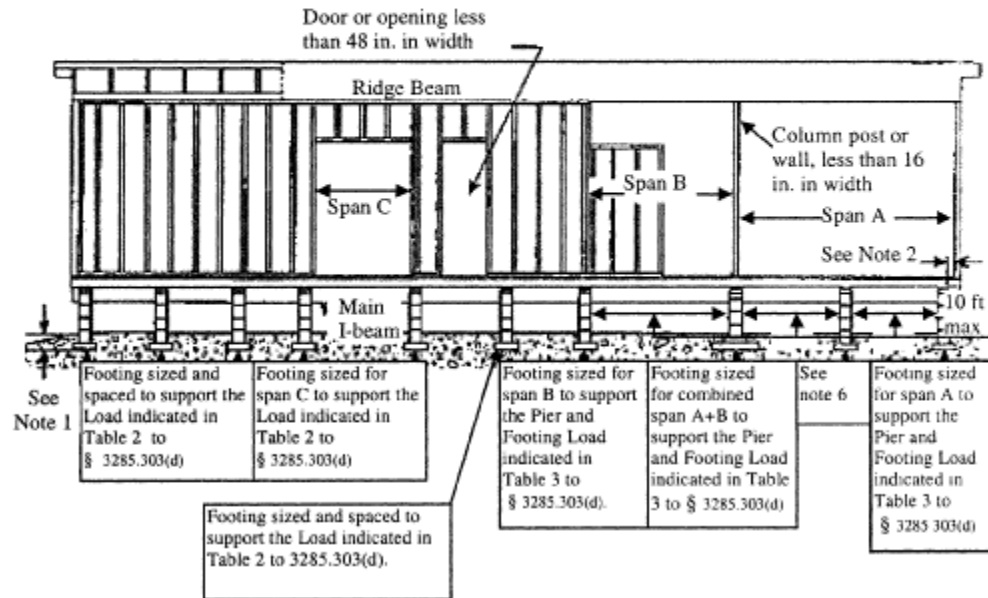
Figure A to § 3285.310 Typical Mate-Line Column Pier and Mating Wall Support when Frame Only Blocking is Required.



Notes:

1. Bottom of footings must extend below frost line depth, unless designed for placement above the frost line. (See § 3285.312(b)).
2. Piers may be offset up to 6 in. in either direction along the supported members to allow for plumbing, electrical, mechanical, equipment, crawlspaces, or other devices.
3. Single-stack concrete block pier loads must not exceed 8,000 lbs.
4. Prefabricated piers must not exceed their approved or listed maximum vertical or horizontal design loads.
5. When a full-height mating wall does not support the ridge beam, this area is considered an unsupported span - Span B.
6. Piers are not required at openings in the mating wall that are less than 48 inches in width. Place piers on both sides of mating wall openings that are 48 inches or greater in width. For roof loads of 40 psf or greater, a professional engineer or registered architect must determine the maximum mating wall opening permitted without pier or other supports.

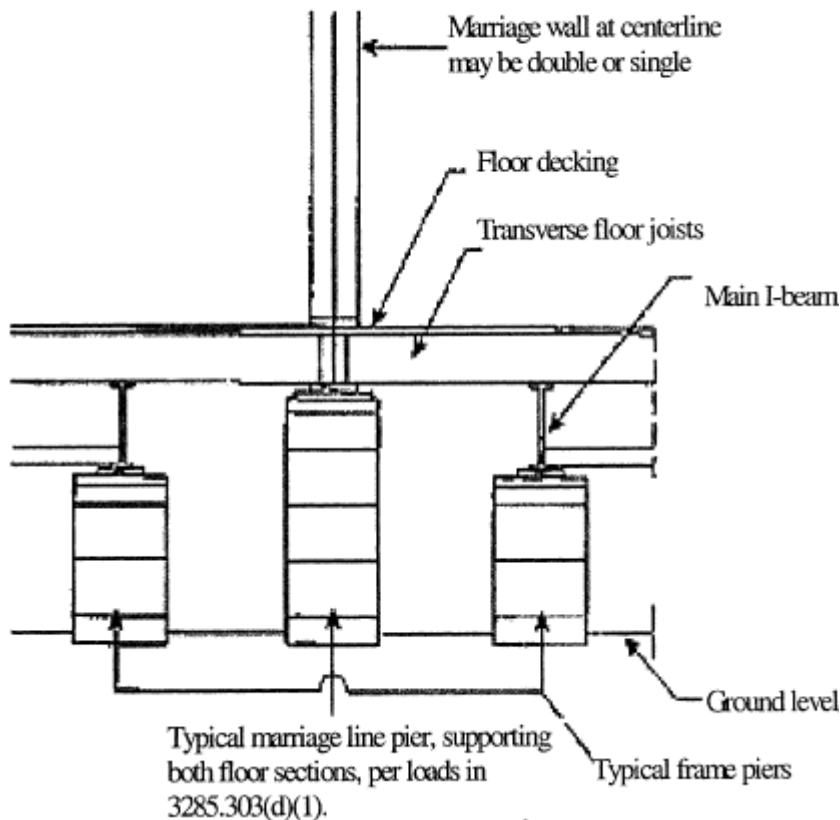
Figure B to § 3285.310(b) Typical Mate-Line Column Pier and Mating Wall Support When Perimeter Blocking is Required.



Notes:

1. Bottom of footings must be below the frost line depth, unless designed for placement above the frost line. (See § 3285.312(b)).
2. Piers may be offset 6 in. in either direction along supported members to allow for plumbing electrical, mechanical equipment, crawlspace, or other devices.
3. Single stack concrete block pier loads must not exceed 8,000 lbs.
4. Piers are not required at openings in the mating wall that are less than 48 inches in width. Place piers on both sides of mating wall openings that are 48 inches or greater in width. For roof loads of 40 psf or greater, a professional engineer or registered architect must determine the maximum mating wall opening permitted without pier or other supports.
5. When a full-height mating wall does not support the ridge beam, this area is considered an unsupported span - Span B.
6. In areas where the open span is greater than 10 ft., intermediate piers and footings must be placed at maximum 10 ft. on center.
7. Prefabricated piers must not exceed their approved or listed maximum horizontal or vertical design loads.
8. Column piers are in addition to piers required under full-height mating walls.

Figure C to § 3285.310 Typical Mate-Line Column and Piers.



§ 3285.311 Required perimeter supports.

(a) Perimeter pier or other supports must be located as follows:

(1) On both sides of side wall exterior doors (such as entry, patio, and sliding glass doors) and any other side wall openings of 48 inches or greater in width, and under load-bearing porch posts, factory installed fireplaces, and fireplace stoves).

(2) Other perimeter supports must be:

(i) Located in accordance with Table 2 to § 3285.303; or

(ii) Provided by other means such as additional outriggers or floor joists. When this alternative is used, the designs required by § 3285.301 must consider the additional loads in sizing the pier and footing supports under the main chassis beam.

(b) For roof live loads of 40 psf or greater, a professional engineer or architect must determine the maximum sidewall opening permitted without perimeter pier or other supports.

(c) The location and installation of any perimeter pier support must not take the home out of compliance with the Manufactured Home Construction and Safety Standards (part 3280 of this chapter).