

**Chapter 2 - Installing I-joists, Sill Box**

Preparation	<ol style="list-style-type: none"> <li>1. Check Manufacturer’s Layout Plan             <ol style="list-style-type: none"> <li>a. Verify all materials are present and in stated dimensions</li> <li>b. Note areas where specific dimensions required</li> </ol> </li> <li>2. Measure thickness of rim boards (should be 1½”)             <ol style="list-style-type: none"> <li>a. Mark thickness on all four corners of sill plates</li> <li>b. Snap chalk lines around outside perimeter of sill plates</li> <li>c. Check lines for straightness</li> </ol> </li> </ol>
Layout & Install I-Joists	<ol style="list-style-type: none"> <li>3. Starting at zero corner, hook tape on the exterior edge of sill plate and layout joist spacing per House Plan (typically, on 19.2” centers - diamond mark on tape) on both long wall sill plates <u>and on lam-beam</u> <ol style="list-style-type: none"> <li>a. Use joist layout jig to mark the two sides of the I-joist and mark “X” between side marks.</li> </ol> </li> <li>4. To install an I-joist             <ol style="list-style-type: none"> <li>a. Verify one end is square. If not, square up one end.</li> <li>b. Set the joist on a joist location mark with one end on the chalk line on the zero wall.</li> <li>c. Mark the opposite end at the chalk line.</li> <li>d. Cut the joist at that mark using joist-cutting jig.</li> </ol> </li> <li>5. Install I-joist, so wording on its face if right-side up, with 3¼” Paslode nails.             <ol style="list-style-type: none"> <li>a. Nail into sill plate 2” from end on each side of joist.</li> <li>b. Nail on each side into lam beam.                 <p style="margin-left: 20px;"><b>NOTE:</b> Do not hand nail with 16d nails which may split the flange.</p> </li> </ol> </li> <li>6. To allow concrete crew access to the basement             <ol style="list-style-type: none"> <li>a. Install I-joists at both ends of foundation, near each support post, and a few in the middle (especially if it supports rim board at porch locations)</li> <li>b. Cut, and stack remaining joists next to installed joists</li> </ol> </li> <li>7. Layout and frame stair opening per House plan</li> </ol>
Layout & Install End Blocking	<ol style="list-style-type: none"> <li>8. Beginning at zero corner, layout end block locations 32” o.c. on the short walls from <u>OUTSIDE</u> edge of <u>long wall</u> sill plate.</li> <li>9. At the opposite end:             <ol style="list-style-type: none"> <li>a. If the spacing places the last end block &lt;32” from the outside edge of the <u>long wall</u> sill plate.                 <ol style="list-style-type: none"> <li>i. Install the last end block half way between the next-to-last block and the outside edge of sill plate.</li> <li>ii. Repeat this process on the other short wall plate.</li> </ol> </li> </ol> </li> <li>10. Measure distance from rim board chalk line to the first I-joist at the beam and two ends of the I-joist.             <ol style="list-style-type: none"> <li>a. Cut <u>scrap</u> pieces of I-joists to this length</li> <li>b. Set block on chalk line and nail to plate with one 3¼” Paslode nails on each side, 2” from end.</li> <li>c. Square the block and nail thru rim board into flanges with 2¾” Paslode nails—one top, one bottom.</li> <li>d. Flush top of blocking with top of I-joist, square and toenail through joist into block flange with 8d nails—one top and one bottom. Use long clamp to stabilize blocking, if required.</li> </ol> </li> </ol>
Install Rim Boards	<ol style="list-style-type: none"> <li>11. Measure width of rim board and rip if greater than the height of the I-joists. Must be = or +½” max.</li> <li>12. Check rim boards for crown and set with crown up. Lay bead of caulk on sill plate and between rim boards, set rim board on the plate, nail to the I-joists’ top and bottom flanges with 2¾” Paslode nails. Do NOT join two boards at an I-joist.</li> <li>13. Toenail rim board to sill plate at 6” intervals with 2¾” Paslode nails.</li> <li>14. Mark the location of end blocking on the outside of the rim board with black marker to later aid nailing bottom wall plates to the blocking.</li> <li>15. For any rim board behind porch areas             <ol style="list-style-type: none"> <li>a. If foundation poly extends above the 2” foundation foamboard pull up and staple to rim board.</li> <li>b. Cover with house wrap extending 1-2’ beyond the edge of the porch.</li> <li>c. Cover with 1” foamboard, 10½” wide, flush with top of rim board, and extending 6-12” beyond the edge of the porch.</li> </ol> </li> </ol>

## Quality Points

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- I-joists are cut to proper length making sure they do NOT extend past the chalk line (too long). If anything, it is better to be SLIGHTLY short so as not to push out the rim board.
- All I-joists are nailed to sill plates and beam.
- Double check that each I-joist is straight (no bow) by sighting along BOTTOM flange of I-joist.
- All I-joists blocking are installed, squared to long I-joist both horizontally and vertically and secured to long I-joist and rim board (at both top and bottom flanges).
  
- Rim board:
  - is no more than  $\frac{1}{8}$ " higher than I-joists
  - is caulked at sill plate and at all joints
  - joints do not fall on an I-joist (must be in between I-joists)
  - is nailed to each I-joist at top and bottom flanges
  - is toe nailed every 6" into sill plates
  - is straight (adjust/shim as needed)
  - is covered with house wrap and foamboard behind each porch/stoop (if zero grade entrance add  $\frac{3}{4}$ " decking strip along entire rim board/porch stoop length for top of porch/stoop concrete)
  
- Stairway framing is in proper location and parallel to closest foundation wall rim board.