

Alternate Bracing Wall Portal Design #1

City of Kingman Policy 2005-1 IRC Supplement 2004

RE: Partially Sheathed Residential Narrow Wall Portal Design
HOLD DOWN DEVICES REQUIRED-Fully Sheathed Structure NOT Required
See Construction Detail Drawings
Ref: 2004 IRC Supplement section R602.10.6.2
Ref: APA Form TT100 and www.apawood.org
Design Detail #1 and this document are available for downloading at <http://cityofkingman.gov>

R602.10.6.2 Alternate bracing wall panel adjacent to a door or window opening.

Alternate braced wall panels constructed in accordance with the following provisions are permitted to replace each 4 feet of braced wall panel as required by Section R602.10.4 for use adjacent to a window or door opening with a full-length header.

1. In one-story building, each panel shall have a length of not less than 16 inches and a height of not more than 10 feet.
2. Each panel shall be sheathed on one face with a single layer of 3/8 inch minimum thickness wood structural panel sheathing nailed with 8d common or galvanized box nails in accordance with Figure R602.10.6.2.
3. The wood structural panel sheathing shall extend up over the 2 ea 2X12's or solid sawn or glued-laminated header and shall be nailed in accordance with Figure R602.10.6.2
4. A spacer, if used, shall be placed on the side of the build-up beam opposite the wood structural panel sheathing.
5. The header shall extend between the inside faces of the first full-length outer studs of each panel.
6. The clear span of the header between the inner studs of each panel shall be not less than 6 feet and not more than 18 feet in length.
7. A strap with an uplift capacity of not less than 1000 pounds shall fasten the header to the side of the inner studs opposite the sheathing.
8. One anchor bolt not less than 5/8 inch diameter and installed in accordance with Section R403.1.6 shall be provided in the center of each sill plate.
9. The studs at each end of the panel shall have a tie-down device fastened to the foundation with an uplift capacity of not less than 4,200 pounds
10. Where a panel is only located on one side of the opening, the header shall extend between the inside face of the first full-length stud of the panel and the bearing studs at the other end of the opening. A strap with an uplift capacity of not less than 1000 pounds shall fasten the header to the bearing studs. The bearing studs shall also have a tie-down device fastened to the foundation with an uplift capacity of not less than 1000 pounds.
11. The tie-down devices shall be an embedded-strap type, installed in accordance with the manufacturer's recommendations.
12. The panels shall be supported directly on a foundation, which is continuous across the entire length of the braced wall line.
13. The foundation shall be reinforced with not less than one No. 4 bar top and bottom.
14. Where the continuous foundation is required to have a depth greater than 12 inches, a minimum 12"X12" continuous footing or turned down slab edge is permitted at door openings in the braced wall line. This continuous footing or turned down slab edge shall be reinforced with not less than one No. 4 bar top and bottom. This reinforcement shall be lapped not less than 15 inches with the reinforcement required in the continuous foundation located directly under the braced wall line.
15. In the first story of two-story buildings, each wall panel shall be braced in accordance with all above items, EXCEPT that each panel SHALL have a length of not less than 24 inches.

