

CONVENTIONAL WALL BRACING REQUIREMENTS

GENERAL SCOPE

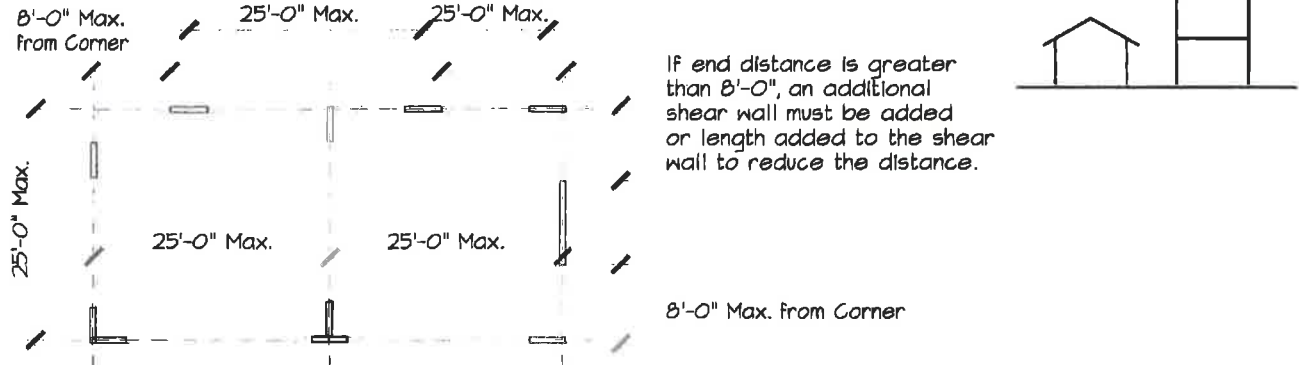
In order to assist the homeowner/designer in laying out the braced wall panels the City has provided this handout to illustrate the City's adopted standards and interpretation of the braced wall provisions of the conventional framing provisions. Projects which deviate from these requirements will require the attention of a licensed engineer or architect.

NOTE: Even some projects which meet these standards may require engineering, at the discretion of the Building Official due to complexity of shape, layout, loads, split levels, etc...

LOADS

This standard assumes use of conventional wood structures with standard finishes. Examples of nonstandard finishes which would require design by a design professional are: roofing assemblies exceeding 6 lbs/sqft., such as concrete tiles and some lightweight tiles exceeding this weight; use of lightweight concrete or heavier toppings on wood floors; extensive use of brick, or similar veneers; and other finishes which would add loads beyond typical construction as determined by the Building Official.

SINGLE STORY (Single Story and Top Floor of Two Story Structures)



- * All exterior wall and applicable interior walls shall be braced to resist wind and seismic force by use of shear wall panels.
- * Shear wall lines shall be in line or offset from each other not more than 4 feet, start not more than 8 feet from each end and spaced not more than 25 feet on center.
- * Shear walls shall be supported directly by bearing walls and/or continuous foundations below.
- * Shear wall panels shall have a minimum height to width ratio of 2 to 1 (4' Min. for a standard 8' plate height, 5' for 10' plate height) and shall extend from the sill plate to the horizontal diaphragm above (roof/floor sheathing).
- * Shear walls shall be clearly shown on the plans and shear wall construction (materials, height, nailing, similar lengths, etc.) shall not be mixed in a single line.
- * Holes for plumbing and electrical installations in shear walls shall be limited in size and location. The maximum accumulated length of openings in the shear wall shall not exceed 20% of the length. Penetrations of the top or bottom plate framing members shall comply to the limits of UBC Section 2320.11.7.
- * Shear wall panels shall be constructed using minimum 3/8" Struct I plywood, nailed with 8d commons spaced at 6" o.c. along all edges and boundaries of shear walls and 12" o.c. along intermediate supports (field nailing).

FIRST OF TWO STORIES

- * All notes above apply to the shear walls except as modified below.
- * Shear wall panels for this level shall be constructed using 15/32" Struct I plywood and nailed as noted above.
- * Shear walls shall make up not less than 40% of total structure length.
- * All shear walls shall be supported directly on continuous foundations.
- * Shear walls shall be anchored utilizing an approved standard.



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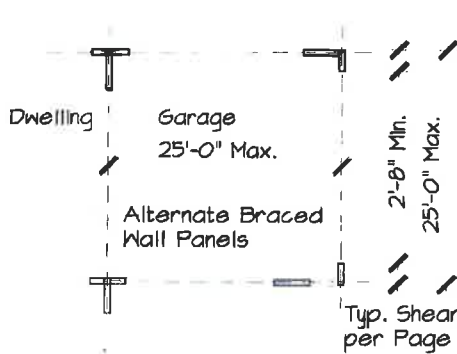
HELP FOR THE HOMEOWNER

Building Official:  Date: 6/6/16

Date: _____ Sheet 1 of 2

SINGLE STORY GARAGE EXCEPTION

(May not be used for support of floor above)

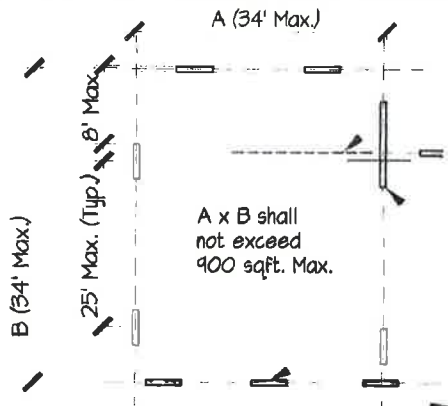


For the remainder of shear lines shear walls must comply to the spacing requirements shown on page 1.



- * As an alternate approved manufactured garage portal shear walls on either side of the garage door may be used in lieu of conventionally framed shear walls. Shear walls must have an listed capacity of not less than 2600 lbs. ea.

LARGE ROOM EXCEPTION (900 SQUARE FOOT AND 34 FOOT SPACING)



Provide drag struts consisting of blocking with steel strap or joist in line with wall line with strap to top plate of wall



Interior wall lines adjoining this room shall consist of 40% shear wall. Shear walls can be added in line or lengthened.

Remainder of building shall meet the 25' Max. shear wall spacing.

- * One room can be a maximum of 900 sqft. with 34' Maximum shear wall grid spacing provided it complies to the above requirements. Remainder of building shall meet the 25' maximum on center spacing.
- * Shear walls supporting this room shall support only roof loads above. (Single or the top of two story building only, others require engineering.)



CONVENTIONAL WALL BRACING REQUIREMENTS
HELP FOR THE HOMEOWNER

Building Official:  Date: 6/4/16

Date: _____ Sheet 2 of 2