



COMMUNITY DEVELOPMENT DEPARTMENT

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DETACHED GARAGES AND CARPORTS

This handout is a guide only and may not contain all of the requirements of the City Ordinances. All proposed work is subject to Zoning and Building Safety Code Review.

BECAUSE A CARPORT IS A TYPE OF GARAGE AS DEFINED BY THE ZONING ORDINANCE, THE TERM "GARAGE" ALSO INCLUDES "CARPORT".

ALL GARAGES REQUIRE A BUILDING PERMIT BEFORE CONSTRUCTION BEGINS.

NO GARAGE MAY BE LOCATED ON AN EASEMENT, INCLUDING DRAINAGE AND UTILITY EASEMENTS OFTEN FOUND ALONG REAR OR SIDE LOT LINES.

SOME ZONING ORDINANCE REGULATIONS APPLICABLE TO DETACHED GARAGES:

- No detached garage shall be located closer to an abutting street than the principal structure.
- Detached garages are only permitted in the rear or side yards. If in the side yard, they must comply with the standard 5 foot setback from the side lot line. If in the rear yard, they must comply with the standard 3 foot setback to the side or rear lot line. The setback is measured to any portion of the structure, including overhangs.
- If the vehicle entrance directly faces a street or alley, then the garage must be set back at least 20 feet from the lot line abutting the street or alley, unless more restrictive setback requirements apply.
- Vehicle access to new or expanded garages must be provided by a hard surfaced (bituminous or concrete) driveway constructed in accordance with standards approved by the city engineer. Alternative hard surfacing such as pavers may be approved on a case-by-case basis by the city engineer.
- The percentage of the rear yard that may be covered by buildings and structures is limited, depending on the size of the rear yard. Please see the handout, *Rear Yard Coverage Limitations for Single-Family and Two-Family Dwellings* for more information.
- No detached garage shall exceed 15 feet in height.
- No detached garage shall exceed 1 story in height, except that it may have an unfinished upper loft area provided it is used for storage only and not as habitable space.
- The cumulative area of all detached accessory buildings on a lot, including but not limited to detached garages, shall not exceed 1,000 square feet in area or the finished floor area of the residential portion of the principal building, excluding basements, whichever is less.

- The cumulative gross floor area of all garages and carports on a lot, whether attached or detached, shall not exceed the finished floor area of the residential portion of the principal building, excluding basements.
- Garages are prohibited if they are constructed of fabric, cloth, plastic sheets, tarps, exposed plywood or particle board, tubular metal or similar materials.

REQUIRED INFORMATION WHEN APPLYING FOR A PERMIT:

- City of Crystal building permit application
- Two copies of a Certificate of Survey or two copies of a site plan drawn to scale, indicating:
 - lot dimensions
 - location and dimensions of existing structure(s), including all buildings, sheds, garages, decks, patios, sidewalks, porches and driveways
 - location and dimensions of the proposed structure(s)
 - setback measurements from property lines (see site plan drawing)
- Two copies of plans, drawn to scale, showing the design of proposed structure(s) and type of materials being used for construction of the structure(s). The plans should also indicate:
- Floor Plan: Proposed size, window and door openings, header sizes over openings and size, spacing and direction of rafter material
- Cross Section: Footage and floor design and wall and roof construction and materials used
- Elevations: Front and side view, indicating height of structure
- Two copies of stamped, pre-engineered truss design from contractor, if a truss roof system is to be used

BUILDING CODE REQUIREMENTS:

Foundation (See attached slab design)

- * A “floating slab” up to a maximum of 1,000 square feet in area may be poured provided the soil has a bearing capacity of at least 1,500 pounds per square foot.
- * All sod and root structures and other fibrous materials must be removed and covered with 4” sand fill.
- * At the perimeter, form a haunch to thickened edge having a minimum vertical dimension at the exterior face of 12” with at least 6” projecting above the finished grade. The bottom of the haunch shall be at least 8” wide and then sloped upward to the bottom of the slab. Screenshot shall be placed to provide for a minimum slab thickness of 3 1/2”.
- * The minimum concrete strength shall be at least 3,500 pounds per square inch (28 day strength). In cold weather protect concrete from freezing until concrete has cured for 7 days.
- * Slabs-on-ground with turned-down footings shall have a minimum of one (1) no. 4 rebar continuous at the top and bottom of the footing.

Anchor Bolts

- * Embed ½" diameter anchor bolts, with nuts and washers, a minimum of 7" into concrete or into masonry cores filled with concrete grout (do not use mortar). Place anchor bolts at least 6'0" O.C. and not greater than 1'0" from the end of each treated sill plate section. Anchor bolt threads must be exposed to ½" above the top of sill plates. A minimum of 2 bolts in each sill plate section are required.

NOTE: Steel strap sill anchors require pre-approval by the Building Official. Provide product data, listing ICC evaluation report number, for acceptance before placement of strap anchors. ACQ treated sill plates require special fasteners and connectors.

Sill Plates

- * The bottom plate shall be a minimum of 2 x 4. When in contact with concrete or masonry, sills will be decay-resistant, treated wood.

NOTE: ACQ treated wood requires special fasteners and connectors.

Wall Framing

- * Wood studs shall be at least 2 x 4's.

Top Plate

- * The top plate shall be overlapped double 2 x 4s.

Wall Sheathing and Siding

- * Fasten approved wall sheathing according to manufacturer's specifications. (Sheathing shall be approved for 16" or 24" o.c. stud spacing.

Headers

- * For 16'0" door in gable (nonbearing) end, header shall be minimum 2 – 2 x 12s. Hip roof 2 – 2 x 14s. When door is to be located in bearing wall, header shall be a minimum 3 – 2 x 14s.

Roof Framing and Covering

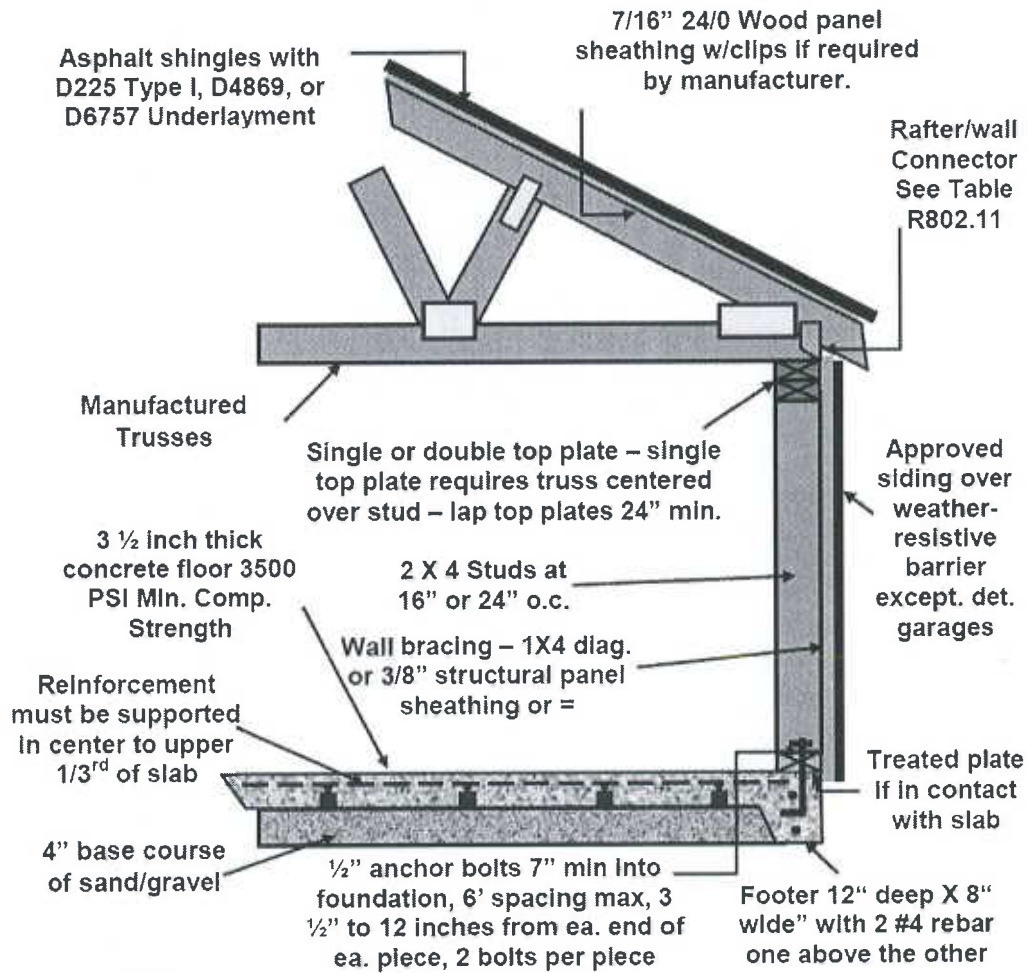
- * For hand framed rafters, see 2015 Residential Code Table R802.5.1 (4), ground snow load = 50 psf (pounds per square foot).
- * If trusses are to be used, truss design drawings shall be stamped and approved by a third party agency. Submit 2 copies of truss plans signed by a structural engineer registered in the State of Minnesota.
- * Nail approved roof sheathing according to manufacturer's specifications (sheathing shall be approved for a 16 or 24" o.c. rafter or truss spacing). Asphalt shingles shall comply with ASTM D225 or D3462 and be applied over underlayment conforming with ASTM D226, type 1, ASTM D4869, type 1 or ASTM D 6757 (IRC R905).
- * Ice protection must be provided, conforming to IRC R905.2.7.1, from the eave's edge to a point 24" inside the exterior wall line of the building. Ice protection material shall comply with ASTM D1970.
Exception: Detached accessory structures that contain no conditioned floor area
- * Kick-out flashing shall be installed where the lower portion of a sloped roof stops within the plane of an intersecting wall cladding, in such a manner as to divert or kick water away from the assembly.

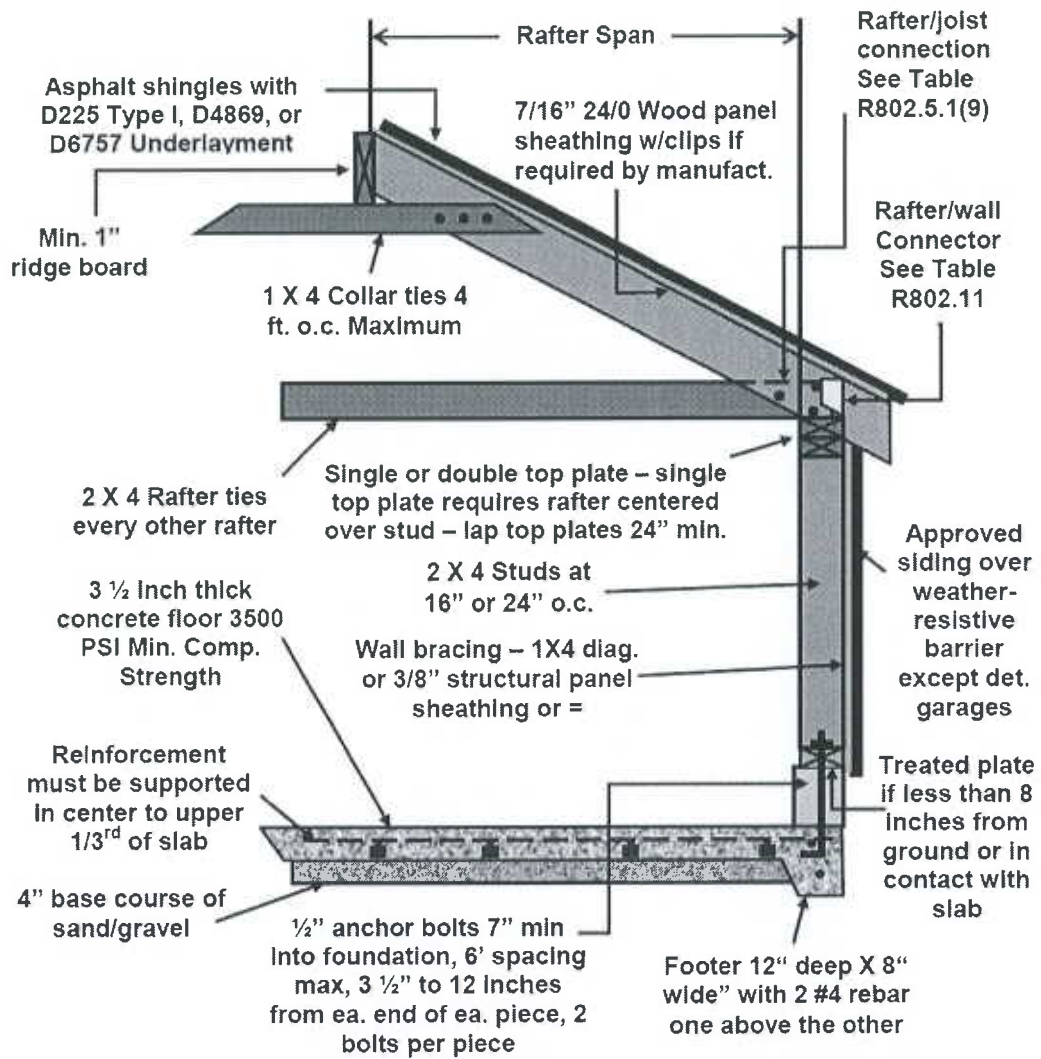
Firewall

- * Garages within 5'0" of a dwelling shall be protected with materials approved for one-hour fire resistive construction, or 3' on same lot.

HEADER SIZES SUPPORTING SPANS OF 20, 24, AND 28 FT						
Span	20 Ft		24 Ft		28 Ft	
	Header Size	# Jack Studs	Header Size	# Jack Studs	Header Size	# Jack Studs
Up to 3 ft	2-2X4	1	2-2X4	1	2-2X6	1
Up to 4 ft	2-2X6	1	2-2X6	1	2-2X6	1
Up to 6 ft	2-2X8	2	2-2X10	2	2-2X10	2
Up to 7 ft	2-2X10	2	2-2X12	2	2-2X12	2
Up to 8 ft	2-2X12	2	3-2X10	2	3-2X10	2
Up to 9 ft	3-2X10	2	3-2X12	2	3-2X12	2
Up to 10 ft	3-2X12	2	4-2X12	2	4-2X12	2
Up to 12 ft	4-2X12	2	*EWPR		*EWPR	
Over 12 ft	*EWPR		*EWPR		*EWPR	

*Engineered wood product required

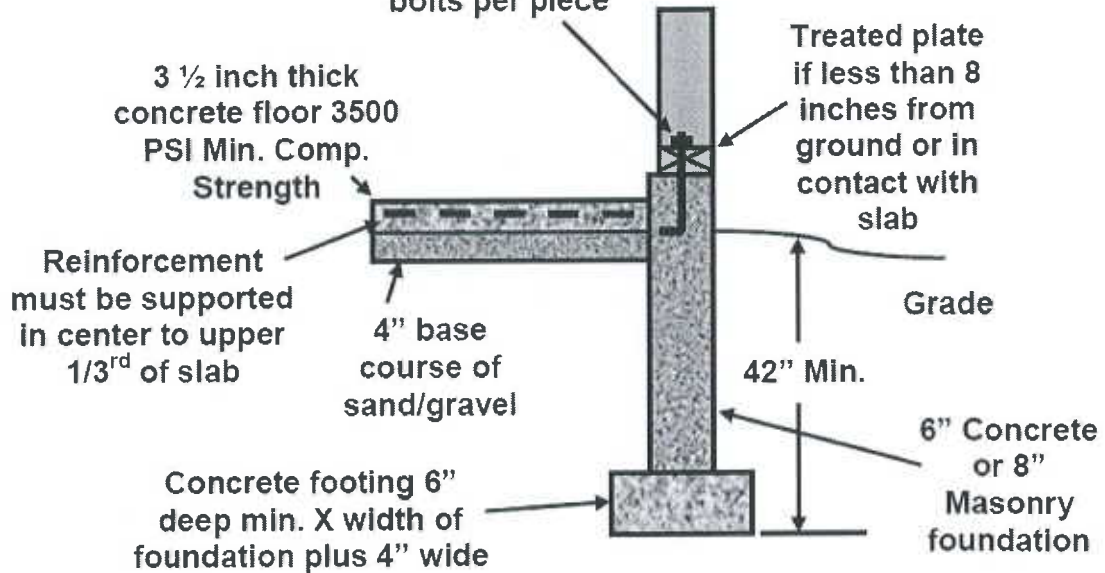




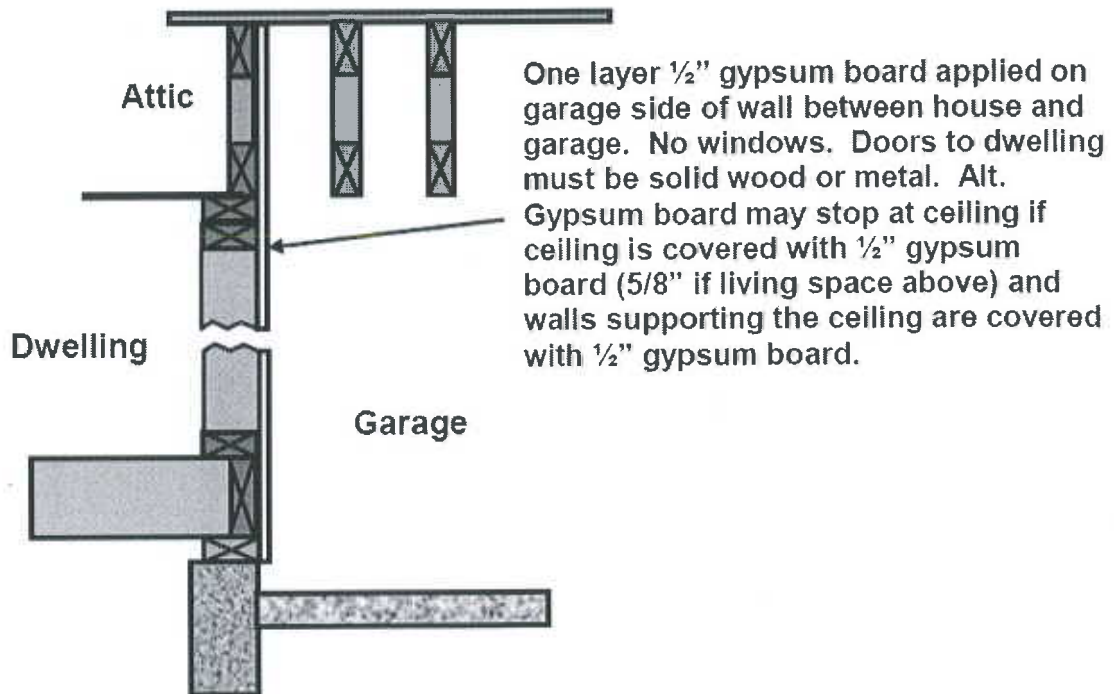
RAFTER SPANS FOR #2 HEM FIR AND SPF					
		2 x 4	2 x 6	2 x 8	2 x 10
12" o.c.	Hem Fir	7'5"	11'1"	14'0"	17'2"
	SPF	7'8"	11'3"	14'3"	17'5"
16" o.c.	Hem Fir	6'7"	9'7"	12'2"	14'10"
	SPF	6'8"	9'9"	12'4"	15'1"
24" o.c.	Hem Fir	5'4"	7'10"	9'11"	12'1"
	SPF	5'5"	7'11"	10'1"	12'4"

FOUNDATION DETAIL FOR ATTACHED GARAGE

1/2" anchor bolts 7" min
Into foundation, 6' spacing
max, 3 1/2" to 12 inches
from ea. end of ea. piece, 2
bolts per piece



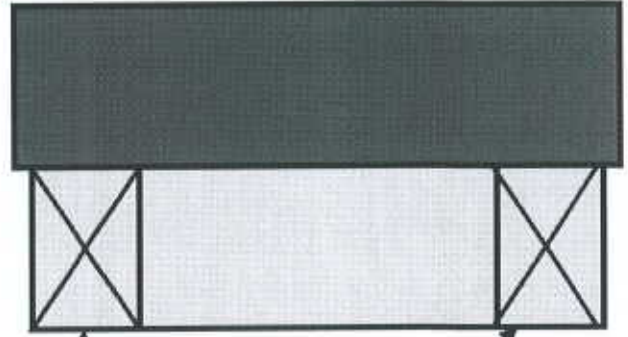
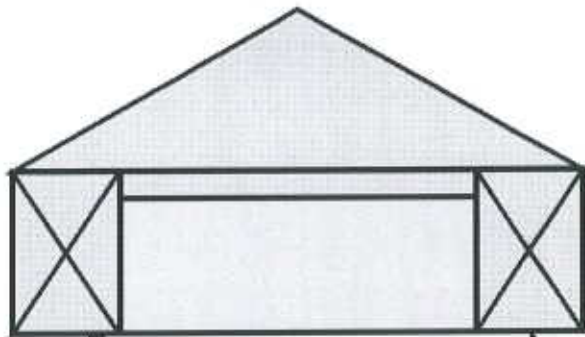
SEPARATION WALL DETAIL FOR ATTACHED GARAGE



WALL BRACING

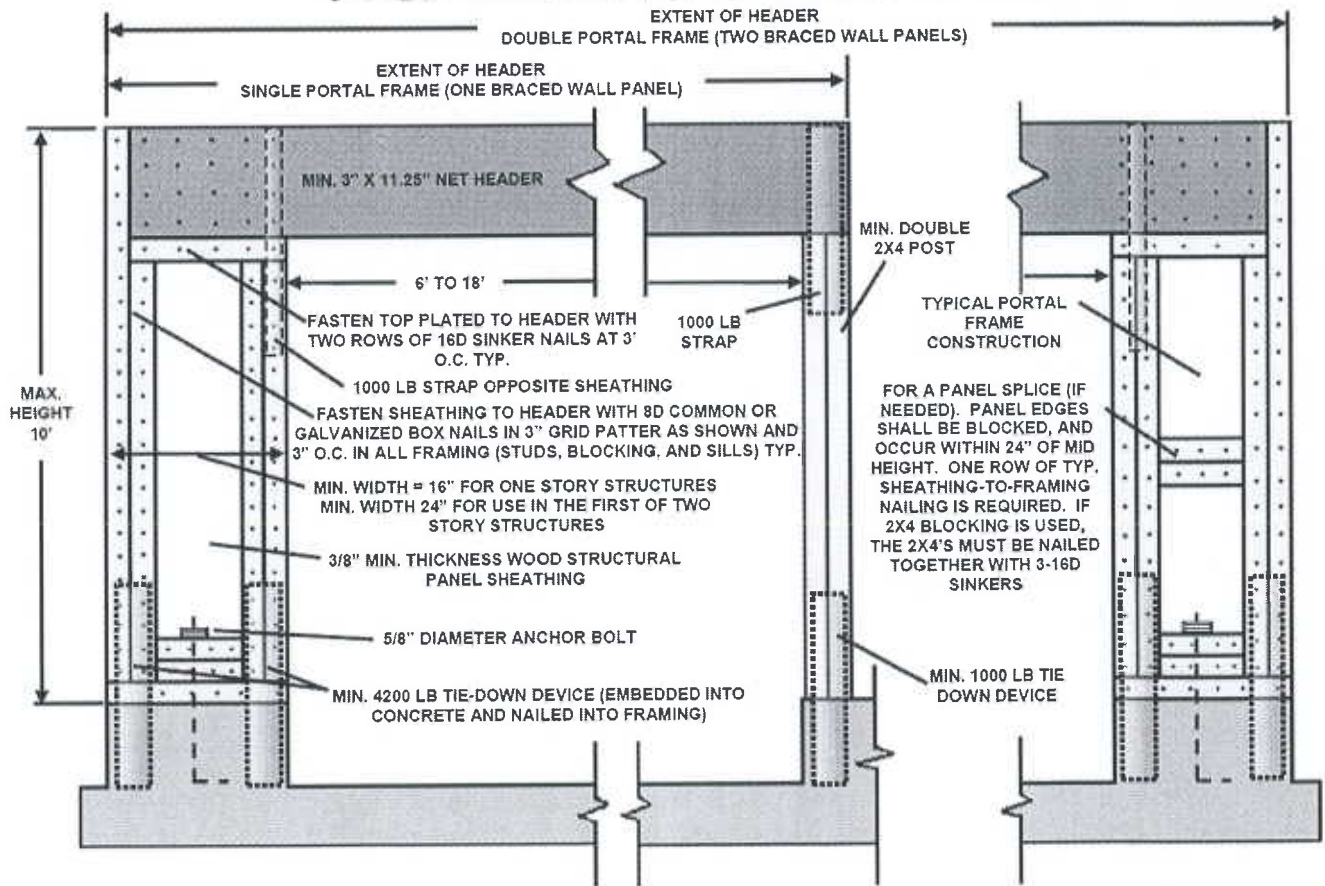
FRONT
ELEVATION

SIDE OR REAR
ELEVATION



4 Ft X 8 Ft 5/16" (16" o.c.) or 3/8" (24" o.c.)
wood structural panels or 1/2" structural
fiberboard sheathing or let-in bracing

WALL BRACING FOR NARROW WALLS



ALTERNATE BRACED WALL PANEL ADJACENT TO A DOOR OR WINDOW OPENING

