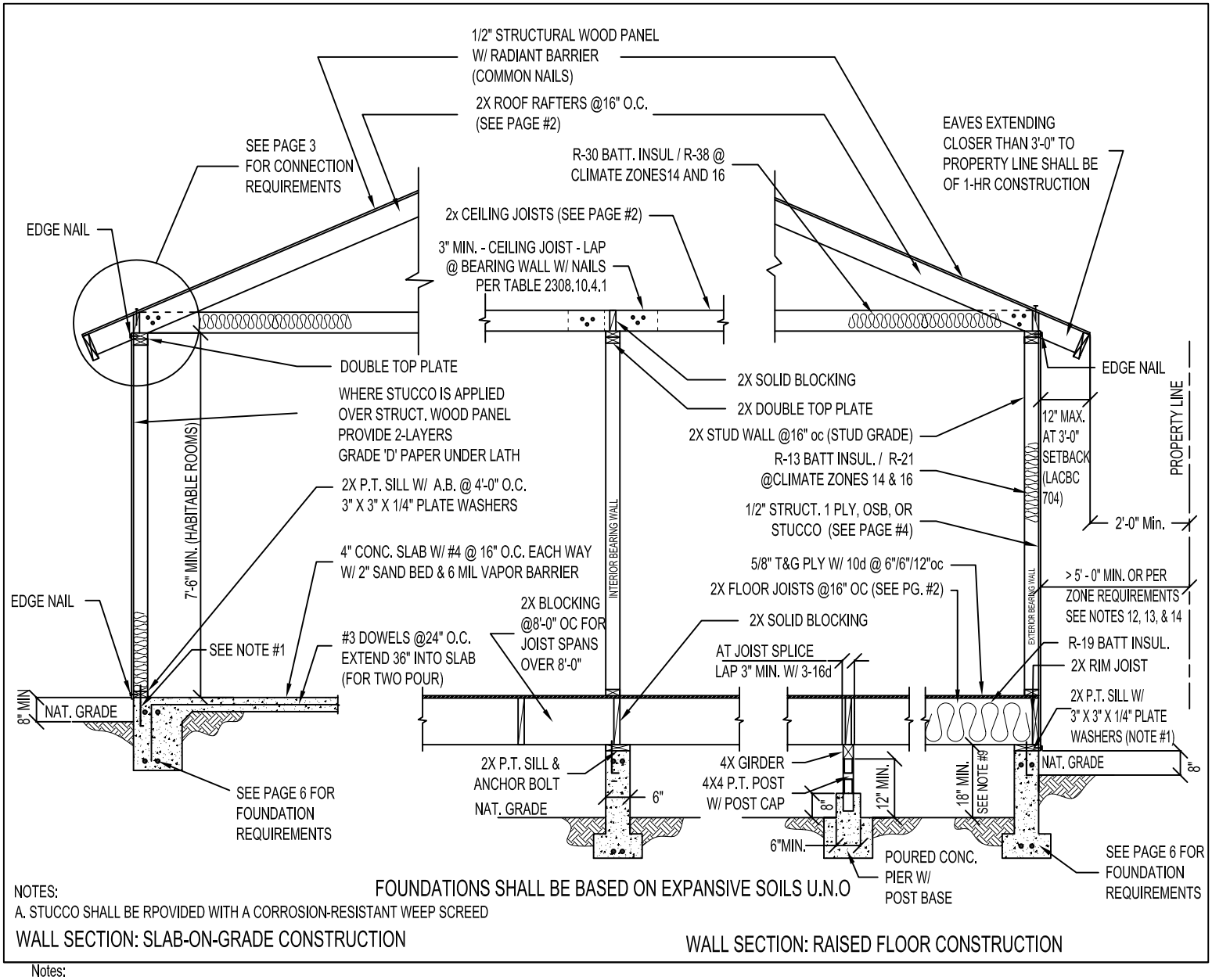
# 2008 LOS ANGELES COUNTY BUILDING CODE

TYPE V CONSTRUCTION-WOOD FRAME RESIDENTIAL BUILDINGS
DEAD LOAD SHALL NOT EXCEED 15 PSF FOR COMBINED ROOF AND CEILING, OR EXTERIOR WALLS, OR FLOORS, AND PARTITIONS.
(LACBC, CHAPTER 23, SECTION 2308)

TYPE V CONSTRUCTION OF BUILDINGS BY CONSTRUCTION MATERIALS AND METHODS. IT IS THE LEAST RESTRICTIVE PERMITTED BY LA COUNTY BUILDING CODE AND INCLUDES LIGHT, WOOD-FRAME CONSTRUCTION. THIS SHEET IS FOR INFORMAION AND REFERENCE ONLY AND IS NOT A SUBSTITUTE FOR ACCURATE DRAWINGS PREPARED FOR EACH PROPOSED CONSTRUCTION PROJECT.




NOTES:
A. STUCCO SHALL BE RPOVIDED WITH A CORROSION-RESISTANT WEEP SCREED

FOUNDATIONS SHALL BE BASED ON EXPANSIVE SOILS U.N.O

WALL SECTION: SLAB-ON-GRADE CONSTRUCTION

WALL SECTION: RAISED FLOOR CONSTRUCTION

Notes:

1. Anchor bolts: 5/8" Ø x 10"; minimum 7" embedment, with minimum 2 anchor bolts per piece, located not more than 12" or less than 4" from each end of the piece.
2. All foundation plates or sills and sleepers on a concrete or masonry slab, which is in direct contact with earth, and sills that rest on concrete or masonry foundations, shall be pressure treated wood.
3. Minimum concrete Strength: 2500psi
4. Bearing walls and braced wall panels require continuous footings.
5. Soil report is required if the proposed construction is located in a liquefaction, landslide, Alquist-Priolo, Sierra Madre or other earthquake fault zone.
6. Where interior walls are shear wall panels, wall framing and sheathing shall extend to the roof sheathing.
7. Under floor areas shall be ventilated by approved mechanical means or by openings into the under-floor area walls. Such openings shall have a net area of not less than 1 sq. ft. for each 150 sq. feet of under-floor area. Openings shall be located as close as possible to corners and provide cross ventilation, the openings shall be approximately equally distributed along the length of at least two sides. Corrosion resistant mesh w/ 1/4" openings.
8. The net free ventilating area shall not be less than 1/150 of the space ventilated, with 50% of the required ventilating area provided by ventilators located in the upper portion of the space to be ventilated at least 3 foot above eave or cornice vents with the balance of the required ventilation provided by eave or cornice vents.
9. For stem walls greater than 24" high: Refer to local jurisdiction requirements.
10. For Very High Fire Hazard Severity Zone (VHFHSZ): Additional requirements apply, see VHFHSZ correction sheet.
11. Provide a minimum of 1" airspace between insulation and the roof sheathing.
12. Exterior walls of dwellings, guesthouses, garages, carports and/or accessory structures closer than 5ft. to the property line shall be 1-hour fire-resistance-rated construction.
13. No openings shall be permitted in the exterior walls, including vents, of Group R-3 and Group U Occupancies where the exterior wall is 3-ft. or closer to the property line.
14. Where the exterior wall of Group R-3 is located > 3-ft. and ≤ 5-ft. to the property line, the area of protected and unprotected openings is limited to 25% of the wall area, including vents.
15. Footings on or adjacent to slopes shall meet the requirements of section 1805.3

**ALLOWABLE SPANS FOR DF #2 ROOF RAFTERS (DF-LARCH)**
**Dead Load (up to 10 psf) Live Load: 20 psf**
**Max. Roofing Load: 6 psf (TABLE 2308.10.3(2))**

| RAFTER SIZE | SPACING | ALLOWABLE SPAN |
|---|---|---|
| 2X6 | 24" | 11'-9" |
| | 16" | 14'-1" |
| | 12" | 15'-6" |
| 2X8 | 24" | 14'-10" |
| | 16" | 18'-2" |
| | 12" | 20'-5" |
| 2X10 | 24" | 18'-2" |
| | 16" | 22'-3" |
| | 12" | 25'-8" |
| 2X12 | 24" | 21'-0" |
| | 16" | 25'-9" |
| | 12" | 26'-0" |

**ALLOWABLE SPANS FOR DF #2 CEILING JOISTS (DF-LARCH)**
**(TABLE 2308.10.2)**

| JOIST SIZE | SPACING | ALLOWABLE SPAN Dead Load 5 psf / Live Load 10 psf | ALLOWABLE SPAN Dead Load 10 psf / Live Load 20 psf |
|---|---|---|---|
| 2x4 | 24" | 9'-10" | 7'-2" |
| | 16" | 11'-3" | 8'-9" |
| | 12" | 12'-5" | 9'-10" |
| 2X6 | 24" | 14'-10" | 10'-6" |
| | 16" | 17'-8" | 12'-10" |
| | 12" | 19'-6" | 14'-10" |
| 2X8 | 24" | 18'-9" | 13'-3" |
| | 16" | 23'-0" | 16'-3" |
| | 12" | 25'-8" | 18'-9" |
| 2X10 | 24" | 22'-11" | 16'-3" |
| | 16" | 26'-0" | 19-10" |
| | 12" | 26'-0" | 22'-11" |

**ALLOWABLE SPANS FOR DF #2 FLOOR JOISTS (DF-LARCH)**
**(TABLE 2308.8(2))**
**Dead Load (up to 10 psf)**
**Live Load: 40 psf**

| JOIST SIZE | SPACING | ALLOWABLE SPAN |
|---|---|---|
| 2X6 | 24" | 8'-1" |
| | 16" | 9'-9" |
| | 12" | 10'-9" |
| 2X8 | 24" | 10'-3" |
| | 16" | 12'-7" |
| | 12" | 14'-2" |
| 2X10 | 24" | 12'-7" |
| | 16" | 15'-5" |
| | 12" | 17'-9" |
| 2X12 | 24" | 14'-7" |
| | 16" | 17'-10" |
| | 12" | 20'-7" |

**ALLOWABLE SPANS FOR DF#1 FLOOR GIRDERS (DF-LARCH)**
**Max. Floor Dead Load: 15 psf**
**Max. Tributary Width: 8'-0"**

| SPAN PARTITIONS | SPAN NO PARTITIONS | GIRDER SIZE |
|---|---|---|
| 5'-3" | 5'-8" | 4x6 |
| 6'-10" | 7'-4" | 4x8 |

**HEADER SPANS FOR DF EXTERIOR BEARING WALLS BASED ON 28' BUILDING WIDTH (TABLE 2308.9.5)**

| SPAN | BEAM SIZE |
|---|---|
| 4'-8" | 4x6 |
| 5'-11" | 4x8 |
| 7'-3" | 4x10 |
| 8'-5" | 4x12 |

**RAFTER TIE CONNECTIONS * (TABLE 2308.10.4.1) NO SNOW LOADS**

Required number of 16d common nails per connection, wood members shall be sufficient size to prevent splittin due to nailing. Split members shall be removed and replaced.

| RAFTER SLOPE | TIE SPACING | ROOF SPAN(FT.) 12 | 20 | 25 |
|---|---|---|---|---|
| 3:12 | 12 | 4 | 6 | 8 |
| | 16 | 5 | 7 | 10 |
| | 24 | 7 | 11 | 15 |
| | 32 | 10 | 14 | 19 |
| | 48 | 14 | 21 | 29 |
| 4:12 | 12 | 3 | 4 | 5 |
| | 16 | 3 | 5 | 7 |
| | 24 | 4 | 7 | 10 |
| | 32 | 6 | 9 | 13 |
| | 48 | 8 | 14 | 19 |
| 5:12 | 12 | 3 | 3 | 4 |
| | 16 | 3 | 4 | 5 |
| | 24 | 4 | 6 | 8 |
| | 32 | 5 | 8 | 10 |
| | 48 | 7 | 11 | 15 |

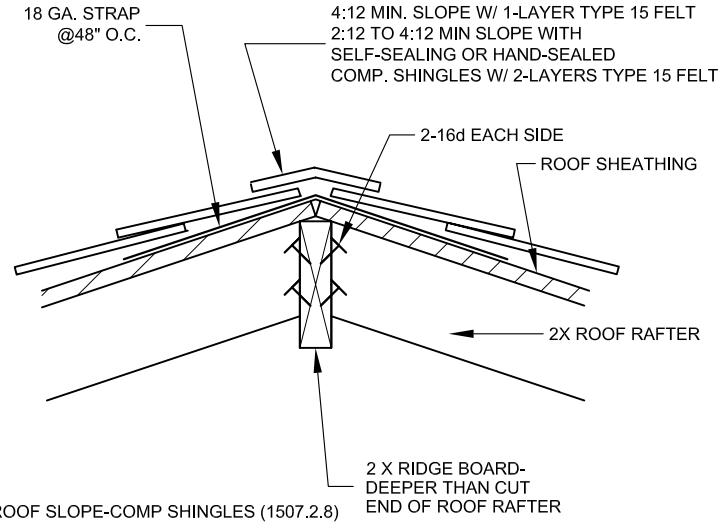
*THE NUMBER OF NAILS SPECIFIED IN THE TABLE SHALL BE PROVIDED AT EACH CONNECTION. WHEN FULL-HEIGHT INTERIOR BEARING WALLS OR PURLIN BRACING ARE PROVIDED, RAFTER TIE NAILING MAY BE REDUCED PROPORTIONAL TO THE REDUCTION IN RAFTER SPAN; NO LESS THAN 3 NAILS SHALL BE PROVIDED AT EACH CONNECTION.

**ALLOWABLE SPANS FOR PLYWOOD OR OSB AND ROOF SHEATHING**
**CONTINUOUS OVER TWO OR MORE SPANS-PERPENDICULAR TO**
**NOTE: APPLIES TO PANELS 24" OR WIDER**

| SHEATHING | | ROOF | | | | FLOOR |
|---|---|---|---|---|---|---|
| SPAN RATING | SPAN THICKNESS | MAX. SPAN (IN.) | | LOADS(PSF) | | MAX. SPAN(IN.) |
| FLOOR/ ROOF SPAN | | EDGE SUPPORT(2X BLOCKING) | NO EDGE SUPPORT FOR 1/2", MAX. SPAN 24" | TOTAL LOADS | LIVE LOADS | Panel edges with tongue and groove joints or with blocking |
| 24/0 | 7/16, 1/2 | 24 | 20 | 40 | 30 | |
| 24/16 | 7/16, 1/2 | 24 | 24 | 50 | 40 | 16 |
| 32/16 | 15/32, 1/2, 5/8 | 32 | 28 | 40 | 30 | 16 |
| 40/20 | 19/32, 5/8, 3/4, 7/8 | 40 | 32 | 40 | 30 | 20 |
| 48/24 | 23/32, 3/4, 7/8 | 48 | 36 | 45 | 35 | 24 |

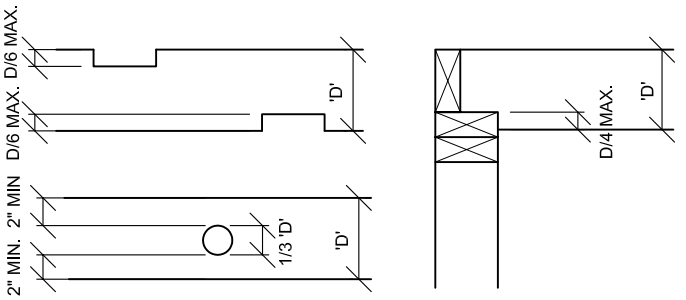
**NAILING SCHEDULE (TABLE 2304.9.1)**

| | |
|---|---|
| JOIST TO SILL OR GIRDER, TOE NAIL | 3-8d |
| BRIDGING TO JOIST, TOENAIL EACH END | 2-8d |
| SOLE PLATE TO JOIST OR BLOCKING, TYPICAL FACE NAIL | 16d @ 16" oc |
| SOLE PLATE TO JOIST OR BLOCKING, AT BRACED WALL PANELS | 3-16d per 16" |
| TOP PLATE TO STUD, END NAIL | 2-16d |
| STUD TO SOLE PLATE | 4-8d, TOENAIL, OR 2-16d, END NAIL |
| DOUBLE STUDS, FACE NAIL | 16d @ 24" oc |
| DOUBLE TOP PLATES, TYPICAL FACE NAIL | 16d @ 16" oc |
| DOUBLE TOP PLATES, LAP SLICE | 8-16d |
| BLOCKING BETWEEN JOISTS OT RAFTERS TO TOP PLATE, TOENAIL | 3-8d |
| RIM JOIST TO TOP PLATE, TOENAIL | 8d @ 6" oc |
| TOP PLATES, LAPS AND INTERSECTIONS, FACE NAIL | 2-16d |
| CEILING JOISTS TO PLATE, TOENAIL | 3-8d |
| CONTINOUS HEADER TO STUD, TOENAIL | 4-8d |
| CEILING JOISTS, LAPS OVER PARTITIONS, FACE NAIL | 3-16d MIN, SEE TABLE 2308.10.4.1 |
| CEILING JOISTS TO PARALLEL RAFTERS, FACE NAIL | 3-16d |
| RAFTER TO PLATE, FACE NAIL | 3-8d |
| BUILT-UP CORNER STUDS | 16d @ 24" oc |
| ROOF RAFTER 2x RIDGE BEAM | 2-16d TOENAIL, FACE NAIL |
| 2" PLANKS | 16d at each plank |

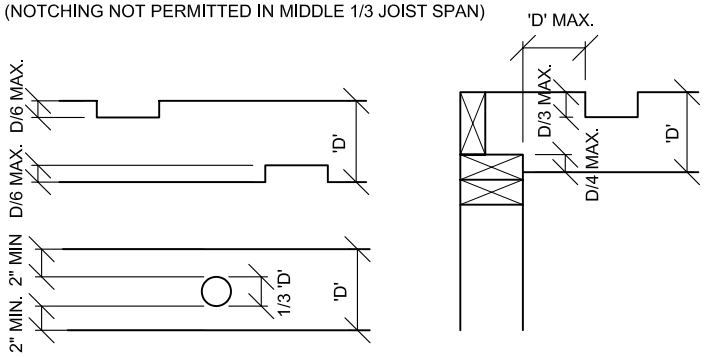



ROOF SLOPE-COMP SHINGLES (1507.2.8)

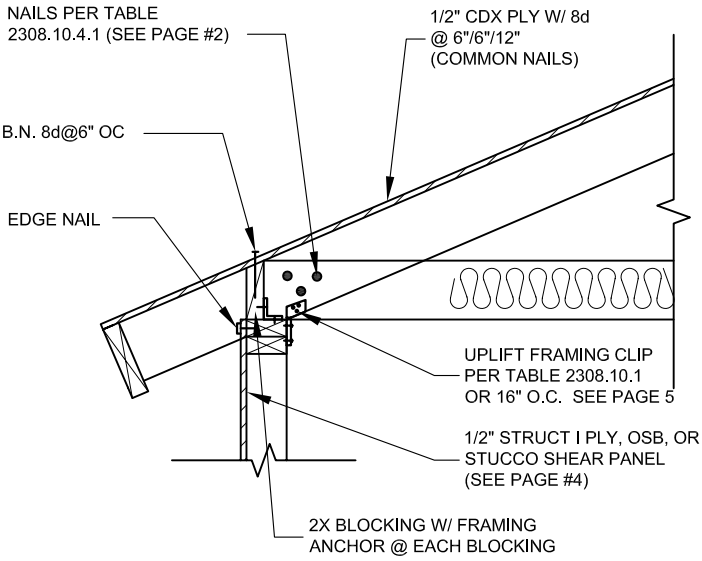
RIDGE (2308.10.4) NAILS (TABLE 2304.9.1)

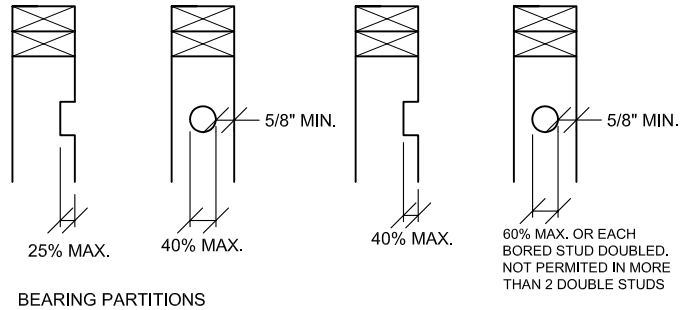



NOTCHING & BORING FLOOR JOIST
(NOTCHING NOT PERMITTED IN MIDDLE 1/3 JOIST SPAN)




NOTCHING & BORING RAFTERS AND CEILING JOIST
(NOTCHING NOT PERMITTED IN MIDDLE 1/3 JOIST SPAN)

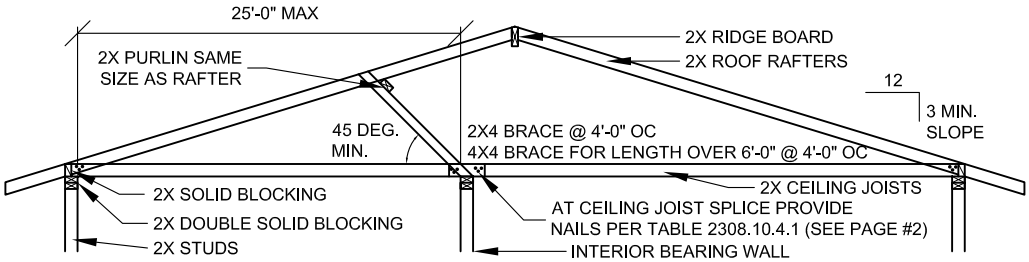



BEARING PARTITIONS

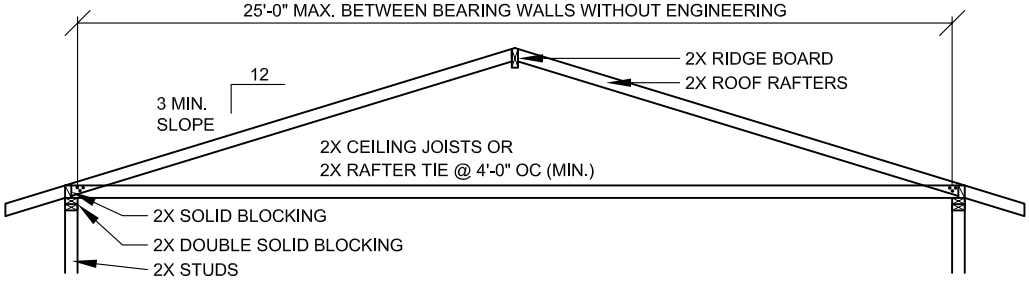
NON-BEARING PARTITIONS

NOTCHING & BORING:
WALL STUDS (2308.9.10)
RAFTERS/CEILING (2308.10.4.2)
FLOOR JOISTS (2308.8.2)

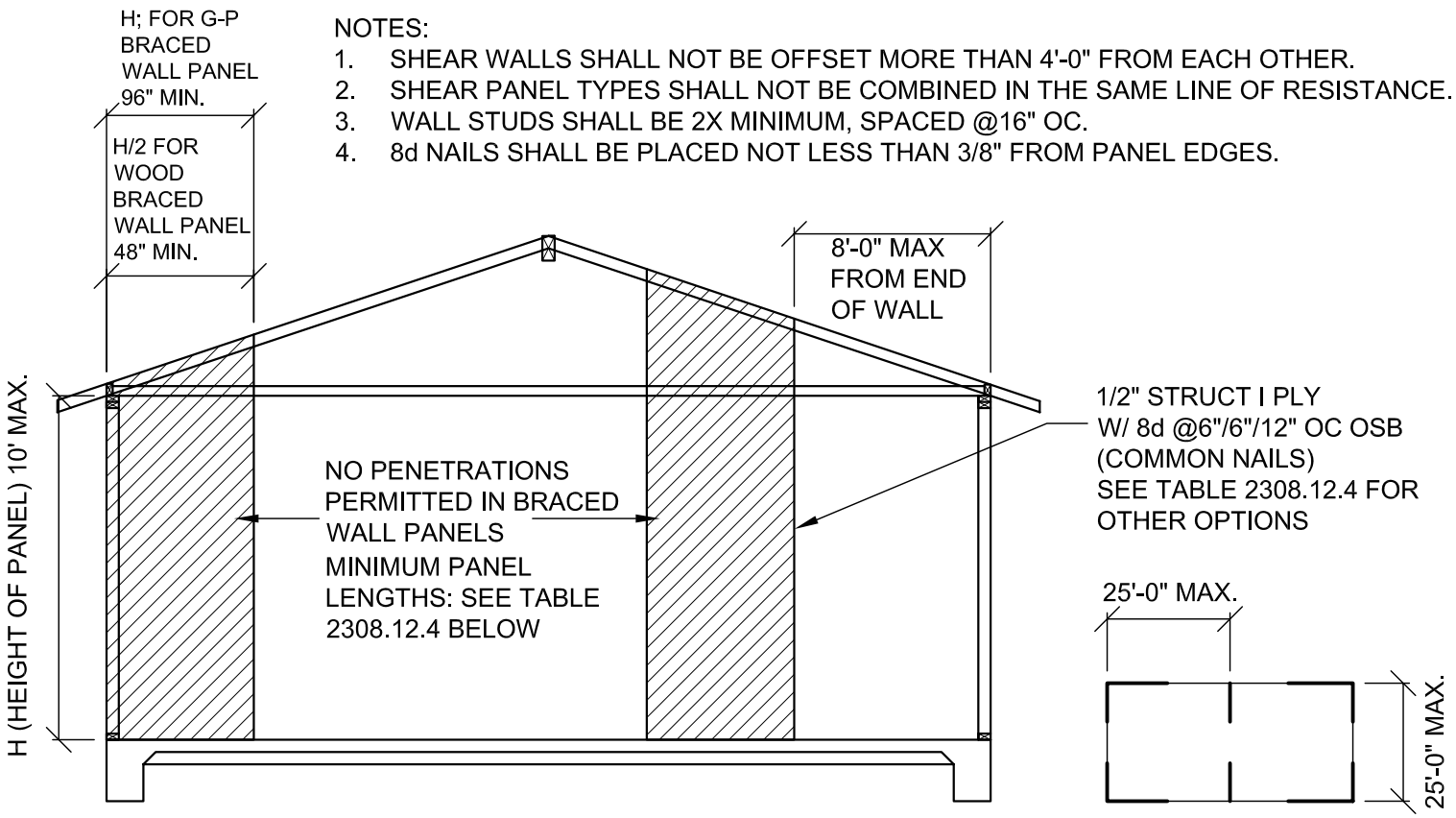



PURLINS (2308.10.5)

(FOR ROOF PITCH NOT LESS THAN 3 VERTICAL TO 12 HORIZONTAL)




RAFTER TIES (2308.10.4.1)




STANDARD BRACED WALL PANELS (CBC 2308.12)

**TABLE 2308.12.4**

**WALL BRACING IN SEISMIC DESIGN CATEGORIES D AND E**
**(Minimum Length of Wall Bracing per each 25 Linear Feet of Braced Wall Line [a, e] )**

| CONDITION | SHEATHING TYPE [b] | $S_{DS}$ < 0.50 | 0.50 < $S_{DS}$ < 0.75 | 0.75 < $S_{DS}$ < 1.00 | $S_{DS}$ > 1.00 |
|---|---|---|---|---|---|
| One Story | G-P [c] | 10 feet 8 inches | 14 feet 8 inches | 18 feet 8 inches | 25 feet 0 inches |
| | S-W [d] | 5 feet 4 inches | 8 feet 0 inches | 9 feet 4 inches | 12 feet 0 inches |

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm.

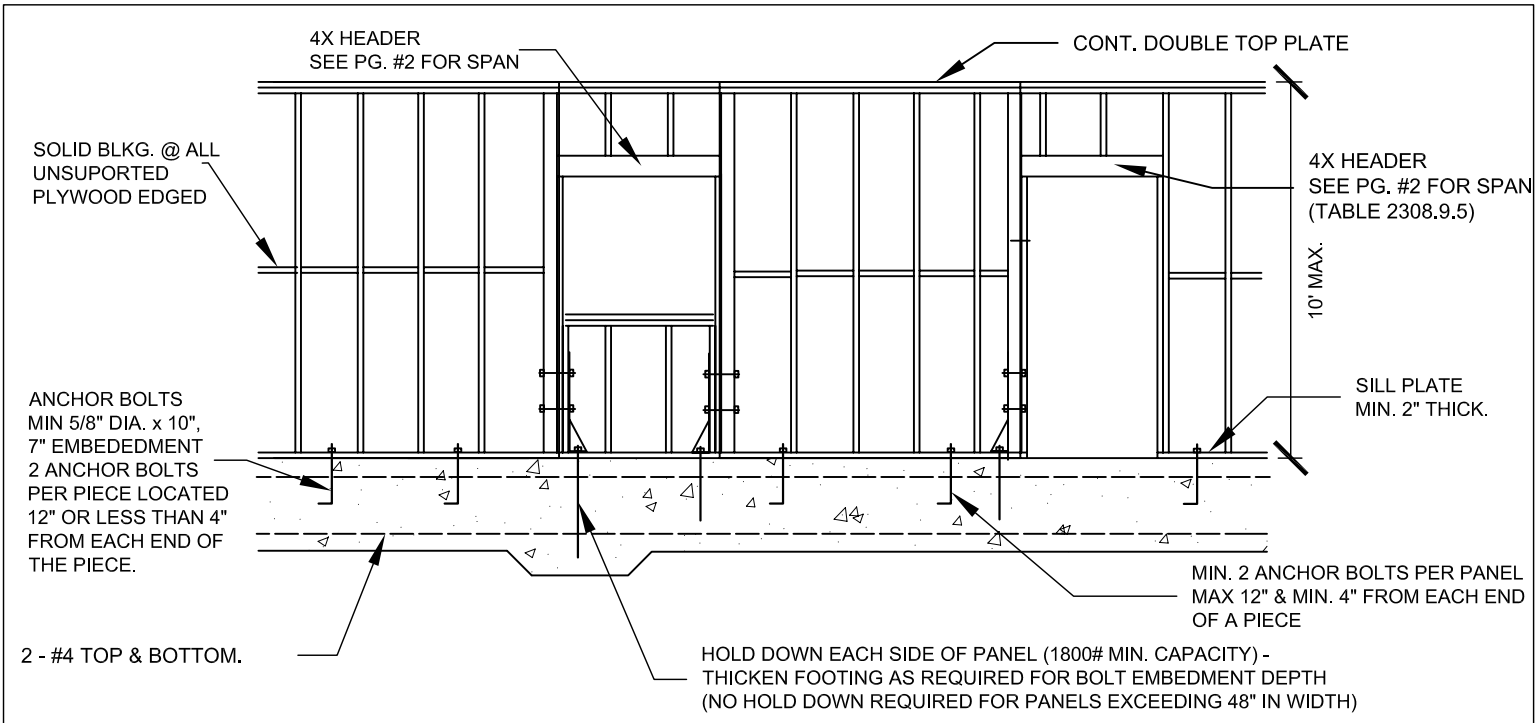
a. Minimum length of panel bracing of one face of the wall for S-W sheathing *shall be at least 4'-0" long* or both faces of the wall for G-P sheathing *shall be at least 8'-0" long;* h/w ratio shall not exceed 2:1. For S-W panel bracing of the same material on two faces of the wall, the minimum length is permitted to be one-half the tabulated value but the h/w ratio shall not exceed 2:1 and design for uplift is required.

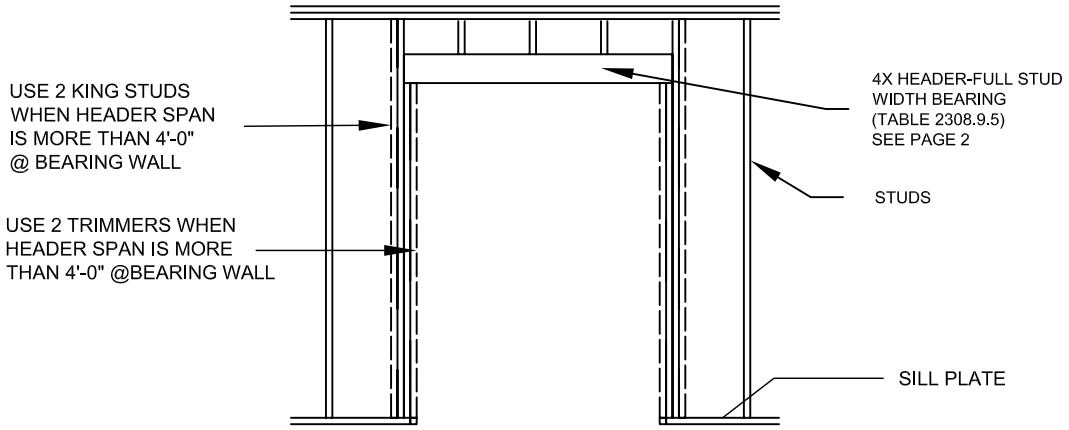
b. G-P = gypsum board, and *portland cement* plaster or gypsum sheathing boards;
S-W = wood structural panels.

c. Nailing as specified below shall occur at all panel edges at studs, at top and bottom plates and, where occurring, at blocking:
For 1/2-inch gypsum board, 5d (0.113 inch diameter) cooler nails at 7 inches on center;
For 5/8-inch gypsum board, No 11 gage (0.120 inch diameter) cooler nails at 7 inches on center;
For gypsum sheathing board, 1-3/4 inches long by 7/16-inch head, diamond point galvanized nails at 4 inches on center;
For gypsum lath, No. 13 gage (0.092 inch) by 1-1/8 inches long, 19/64-inch head, plasterboard at 5 inches on center;
For Portland cement plaster, No. 11 gage (0.120 inch) by 11/2 inches long, 7/16- inch head at 6 inches on center;

*d. S-W sheathing shall be 15/32" thick nailed with 8d nails, at 6:6:12.*

*e. $S_{DS}$ > 1.00 shall apply to all projects, unless the design spectral response acceleration, $S_{DS}$ is provided to show otherwise.*



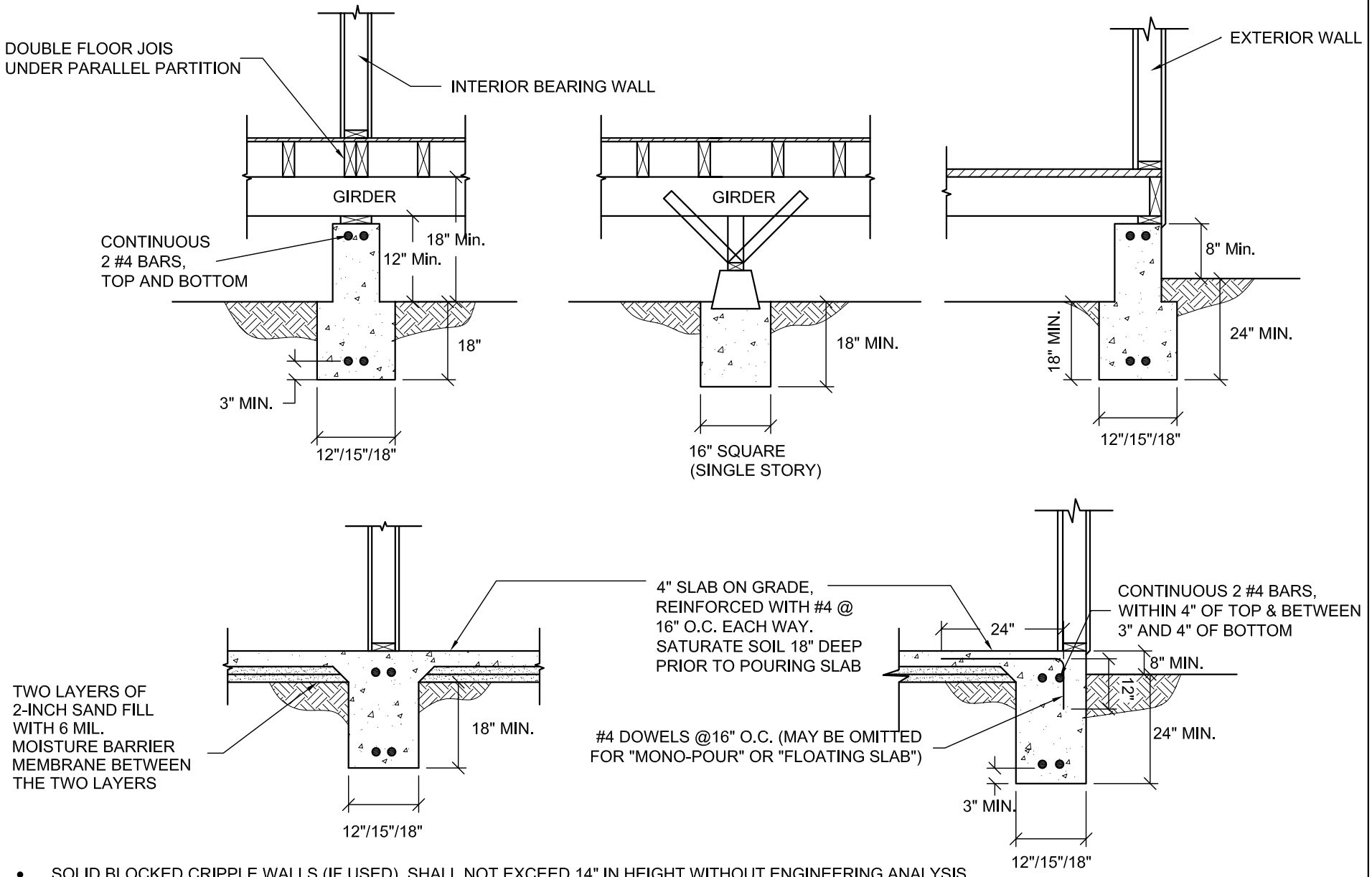

| REQUIRED RATING OF APPROVED UPLIFT CONNECTORS (pounds)[a,b,c,e,f,g,h] (TABLE 2308.10.1) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| BASIC WIND SPEED | ROOF SPAN (feet) | | | | | | | OVERHANGS |
| (3 second gust) | 12 | 20 | 24 | 28 | 32 | 36 | 40 | (pounds/feet)[d] |
| 85 | -72 | -120 | -145 | -169 | -193 | -217 | -241 | -38.55 |
| 90 | -91 | -151 | -181 | -212 | -242 | -272 | -302 | -43.22 |
| 100 | -131 | -281 | -262 | -305 | -349 | -393 | -436 | -53.36 |
| 110 | -175 | -292 | -351 | -409 | -467 | -526 | -584 | -64.56 |

| | MEAN ROOF HEIGHT (feet) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| EXPOSURE | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
| B | 1.00 | 1.00 | 1.00 | 1.00 | 1.05 | 1.09 | 1.12 | 1.16 | 1.19 | 1.22 |
| C | 1.21 | 1.29 | 1.35 | 1.40 | 1.45 | 1.49 | 1.53 | 1.56 | 1.59 | 1.62 |
| D | 1.47 | 1.55 | 1.61 | 1.66 | 1.70 | 1.74 | 1.78 | 1.81 | 1.84 | 1.87 |

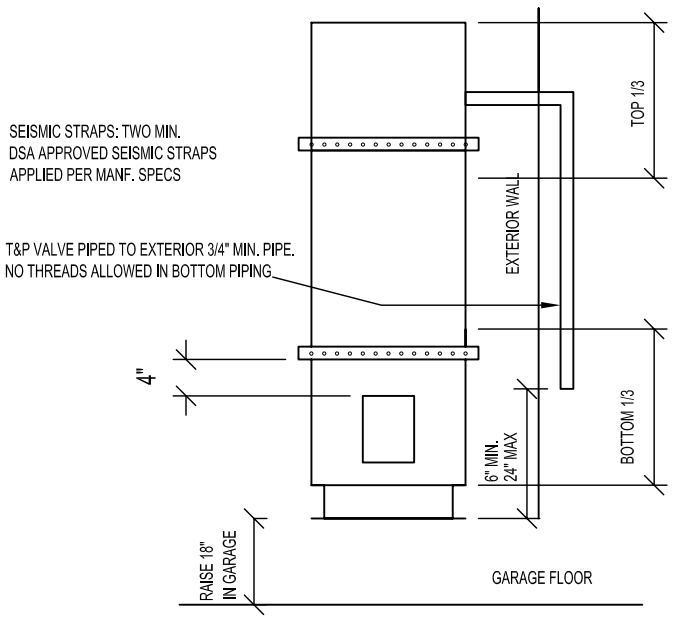
a. The uplift connection requirements are based on a 30-foot mean roof height located in Exposure. For Exposure C or D and for other mean roof heights, multiply the loads in Table 1 by the adjustment coefficients in Table 2.
b. The uplift connection requirements are based on the framing being spaced 24 inches on center. Multiply by 0.67 for framing spaced 16 inches on center and multiply by 0.5 for framing spaced 12 inches on center.
c. The uplifft connection requirements include an allowance for 10 pounds of dead load.
d. The uplift connection requirements do not account for the effects of everhands. The magnitude of the above loads shall be increased by adding the overhang loads found in the table. The overhang loads are also based on framing spaced 24 inches on center. The overhang loads given shall be multiplied by the overhand projection added to the roof uplift value in the table.
e. The uplift connection requirements are based upon wind loading on end zones as defined in Figure 6-2 of ASCE 7. Connection loads for connections located a distance of 20 percent of the least horizontal dimension of the building from the corner of the building are permitted to be reduced by multiplying the table connection value by 0.7 and multiplying the overhang load by 0.8.
f. For wall-to-wall and wall-to-foundation connections, the capacity of the uplift connector is permitted to be reduced by 100 pounds for each full wall above.(For example, if a 500 pound rated connector is used on the roof framing, a 400-pound rated connector is permitted at the next floor level down.)
g. Interpolation is permitted for intermediate values of basic wind speeds and roof spans.
h. The rated capacity of approved tie-down devices is permitted to include up to a 60-percent increase for wind effects where allowed by material specifications.

# FOUNDATION SYSTEM ON EXPANSIVE SOIL
# FOR 1 OR 2 STORY R-3/ ACCESSORY U OCCUPANCIES

(PER SECTIONS 1802.2, 1802.2.1, 1805.8)

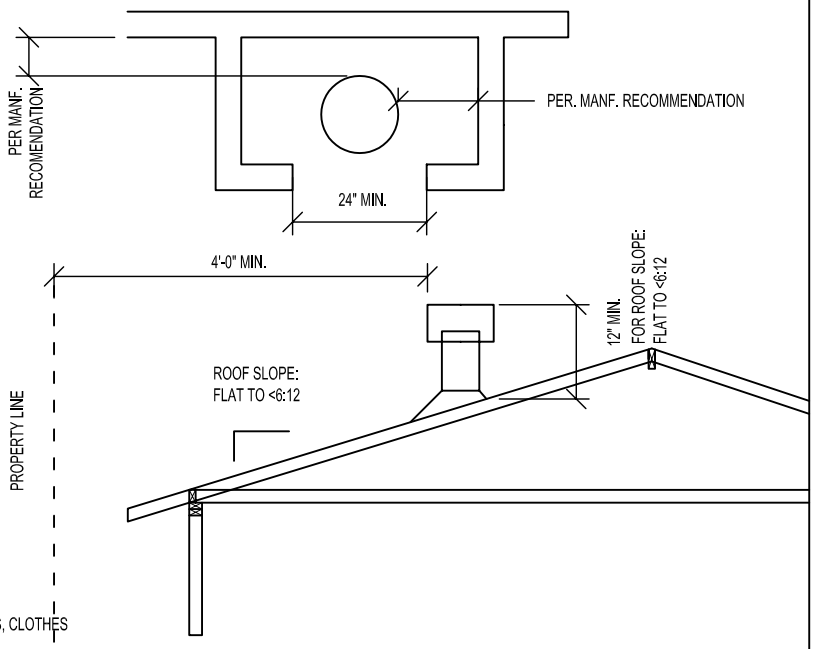



- SOLID BLOCKED CRIPPLE WALLS (IF USED), SHALL NOT EXCEED 14" IN HEIGHT WITHOUT ENGINEERING ANALYSIS.
- PERIMETER WALLS, INTERIOR BEARING WALLS AND POSTS SUPPORTED ON CONTINOUS FOUNDATIONS.
- 12"/15"/18" - MIN. FOOTING FOR SUPPORTING ONE FLOOR, TWO FLOORS, AND THREE FLOORS RESPECTIVELY.
- SHEAR TRANSFER DETAILS AND OTHER REQUIREMENTS NOT SHOWN FOR CLARITY.




NOTE: NO GAS-FIRED WATER HEATER ALLOWED IN BEDROOMS, BATHROOMS, CLOTHES CLOSETS, OR ANY SPACE OPENING INTO A BEDROOM OR BATHROOM.

WATER HEATERS

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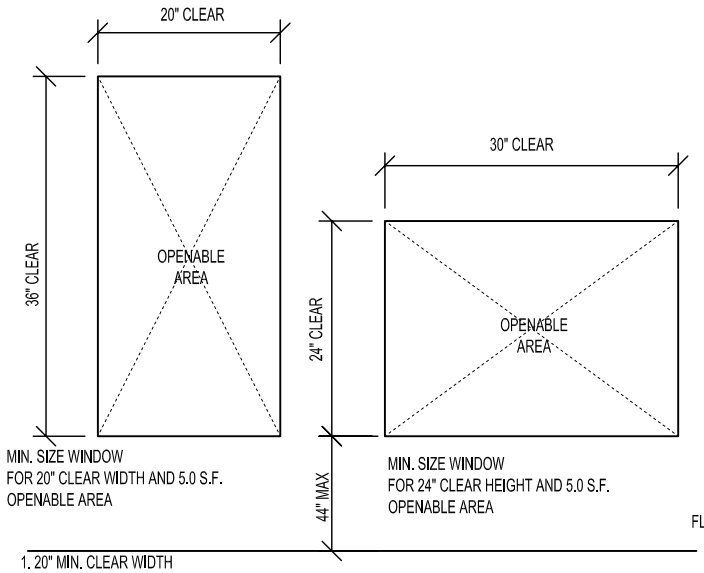


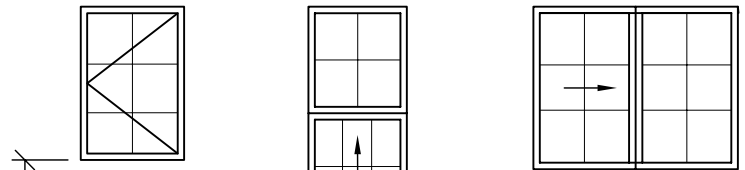

MIN. SIZE WINDOW
FOR 20" CLEAR WIDTH AND 5.0 S.F.
OPENABLE AREA

MIN. SIZE WINDOW
FOR 24" CLEAR HEIGHT AND 5.0 S.F.
OPENABLE AREA

1. 20" MIN. CLEAR WIDTH
2. 24" MIN. CLEAR HEIGHT
3. 5.0 SF MIN. OPENABLE AREA AT GRADE-FLOOR ONLY, 5.7 SF MIN. ELSEWHERE.

EMERGENCY ESCAPE/ EXIT WINDOW (1026)

THE FOLLOWING WINDOW SIZES WILL BE THE MINIMUM ALLOWED FOR 5.0 SF. OPENABLE AREA EGRESS UNLESS MANF. DATA IS SUPPLIED



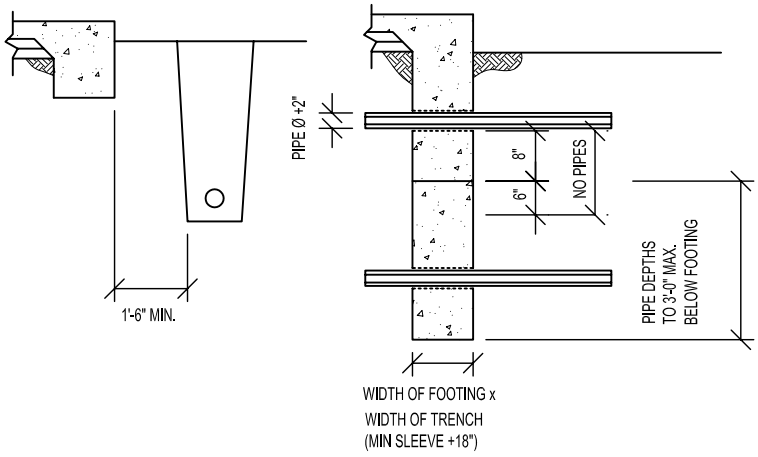

SINGLE CASEMENT: 2-4 X 4-0, 2-6 X 3-6
DOUBLE CASEMENT: 4-8 X 4-0
CASEMENT/ FIXED COMBO: 7-0 X 4-0
OTHER WINDWO TYPES
AWNING: NONE W/O MANF. DATA
BAY W/ FIXED CENTER: NONE W/O MANF. DATA

SINGLE/ DOUBLE HUNG: 3-0 X 5-0, 3-0 X 5-6 ,3-4 X 5-0, 3-8 X 5-0, 4-0 X 5-0
SINGLE/ FIXED COMBO: NONE W/O MANF. DATA

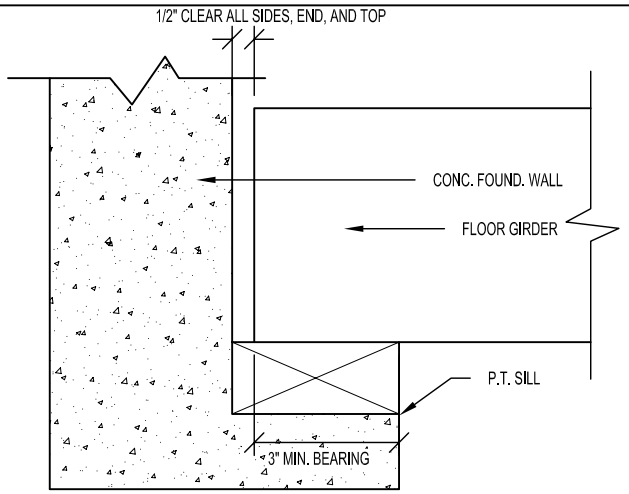
SLIDER:
4-0 X 4-0
5-0 X 3-6
6-0 X 3-0
SLIDER/ FIXED COMBO:
8-0 X 4-0
10-0 X 4-0
12-0 X 3-0

NOTE: SIZES ARE TAKEN FROM DATA SUPPLIED BY WINDOW MANUFACTURERS. HOWEVER, THESE ARE GENERAL DIMENSIONS AND MUST BE VERIFIED WITH ACTUAL WINDOWS INSTALLED TO MEET MINIMUM EGRESS REQUIREMENTS.

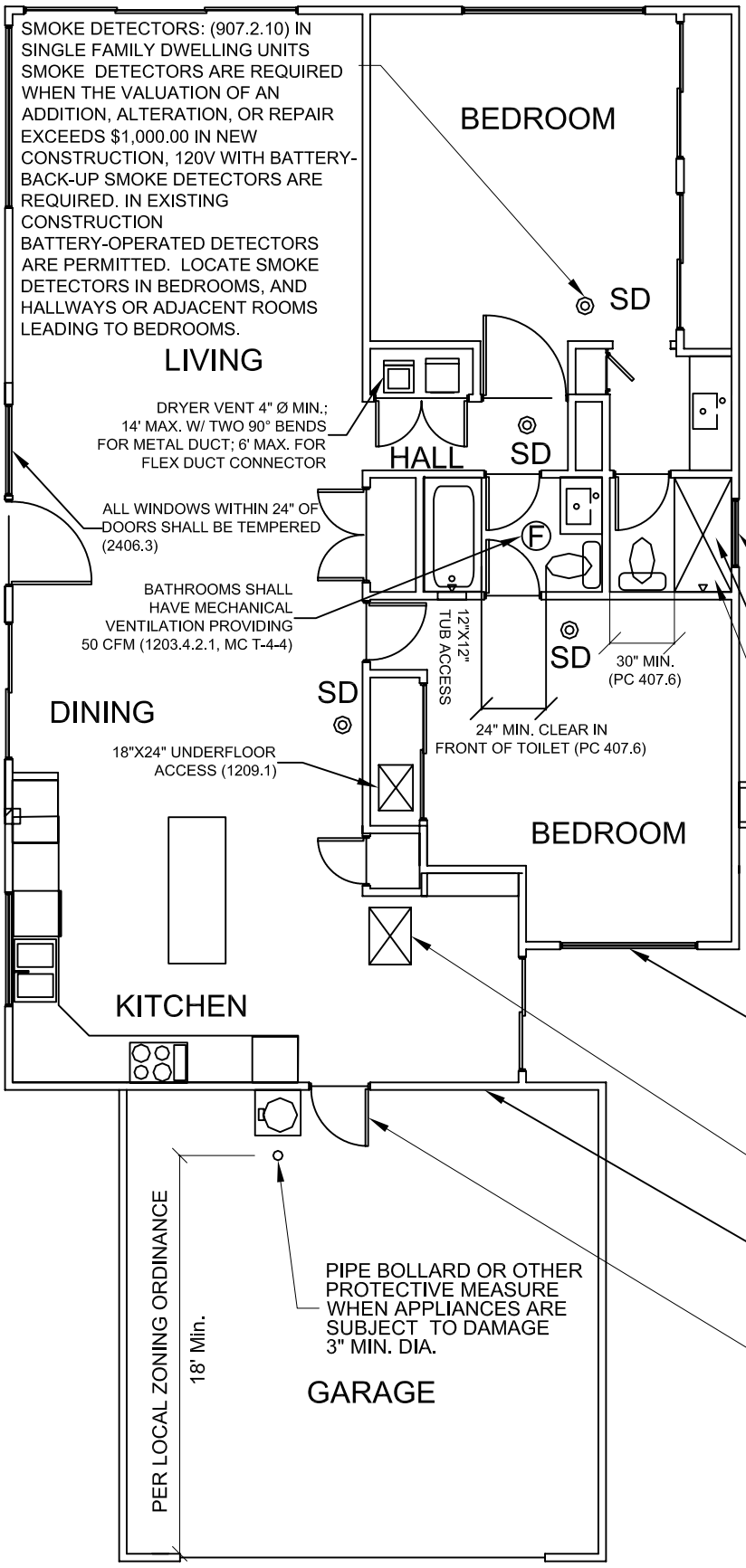
EMERGENCY ESCAPE/ EXIT WINDOW (1026)




TRENCHES AT FOOTINGS




GIRDER (2308.7 / 2304.11.2.5)




LIGHT: (1205)
ALL ROOMS REQUIRE NATURAL LIGHT BY MEANS OF EXTERIOR WINDOWS OR SKYLIGHTS MIN. 8% OF THE FLOOR AREA OF THE ROOM.

VENTILATION: (1203)
ALL ROOMS REQUIRE NATURAL VENTILATION BY MEANS OF OPENABLE WINDOWS MIN. 4% OF THE FLOOR AREA OF THE ROOM.

MINIMUM ROOM DIMENSIONS: (1208)

1. AT LEAST ONE ROOM 120 SF. OTHER HABITABLE ROOMS GREATER THAN OR EQUAL TO 70 SF.
2. HABITABLE SPACES, OTHER THAN A KITCHEN SHALL NOT BE LESS THAN 7' IN any PLAN DIMENSION.
3. KITCHEN AREA SHALL NOT BE LESS THAN 50 SF OF GROSS FLOOR AREA. KITCHENS SHALL HAVE A CLEAR PASSAGEWAY OF NOT LESS THAN 3'-0" BETWEEN COUNTER TOPS AND APPLIANCES OR BETWEEN COUNTER TOPS AND WALLS
4. BATHROOMS, TOILET ROOMS, KITCHEN, AND STORAGE ROOMS HAVE TO HAVE 7'-0" HIGH CEILING.
5. OCCUPIABLE SPACES, HABITABLE SPACES & CORRIDORS SHALL HAVE A CEILING HEIGHT OF NO LESS THAN 7'-6".

IF LESS THAN 60" ABOVE STANDING SURFACE AND DRAIN INLET (2406.3, 6714) WINDOWS AT SHOWERS & TUBS SHALL BE TEMPERED.

SHOWER & TUB ENCLOSURES SHALL BE TEMPERED (2406.3, 6714). SHOWER DOORS SHALL SWING OUT. NET AREA OF SHOWER RECEPTOR SHAL BE MIN. 1024 SQ. IN. OF FLOOR AREA, AND ENCOMPASS 30 IN. Ø CIRCLE (PC 411.7)

70" HIGH NON-ABSORBENT FINISH @ SHOWER WALL (1210.3)

ALTERNATE 18" X 24" UNDERFLOOR ACCESS FROM EXTERIOR

GLAZING SHALL MEET THE FOLLOWING:
U-FACTOR = 0.38 MAX, SHGC - 0.31 MAX.
GLAZING AREA LIMITS:
20% MAX OF TOTAL FLOOR AREA.
5% MAX OF THAT CAN BE WEST FACING.
OTHERWISE PROVIDE TITLE 24 ENERGY CALCS.

22" X 30" ATTIC ACCESS, OR 30" X 30" IF FURNACE IS IN ATTIC. MIN HEADROOM OF 30". (MC 904.11)

1/2" GYPSUM BOARD TO ROOF LINE (406.1.4 #1)

THE DOOR SHALL BE A SELF-CLOSING, TIGHT-FITTING 1-3/8" SOLID CORE DOOR. (406.1.4)
NOTE: THE GARAGE SHALL NOT OPEN INTO A SLEEPING ROOM.

## RESIDENTIAL REQUIREMENTS