



Quality Submittal Guidelines

Counter Plan for Minor Single Family Additions and Remodels

Projects that may qualify for over-the-counter plan review:

- Remodels or additions less than 1000 SF – no second floor additions or basements.
- Patio additions and enclosures.
- Carports enclosures into garages or livable space.
- Garage conversions to livable space.
- **Non-habitable** accessory buildings less than 1000 SF.
- Solar panels that are in compliance with City of Scottsdale placement guidelines.

During busy waiting periods, only one plan per customer will be honored.

Projects zoned Environmentally Sensitive Lands (ESL) must be submitted for either a 15 or 30 day review depending on the scope of the proposal.



General Information

Important: Counter Review cannot require any planning or civil issues. If a civil issue or planning is required, you must complete a full review.

Use a Single family Counter Plan Submittal Procedure for the following:

- A. Garage and Carport Conversions and Enclosures
- B. Patio Covers and Patio Cover Enclosures
- C. Detached Storage Sheds
- D. Remodels with little or no structural Revisions to the Existing Residence.
- E. New Patio covers and ramadas.

Plan Submittal Requirements

Submit two (2) complete sets of plans to include the following:

- a. Site plan on each set plus 1 additional (3 total).
- b. Dimensioned foundation plan showing new and existing structural supports and/or posts.
- c. Dimensioned floor plan
- d. Roof framing plan. If engineered trusses are used, submit the manufacturer's sealed calculations.
- e. Minimum of two (2) elevations
- f. Material specifications and Fasteners Schedule.
- g. Construction details keyed to plans
- h. Electrical plan
- i. Wall bracing plan

Site Plan

Lot Address: _____ Parcel Number: _____

Subdivision: _____ Lot: _____ Zoning: _____

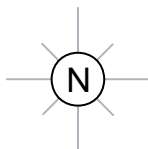
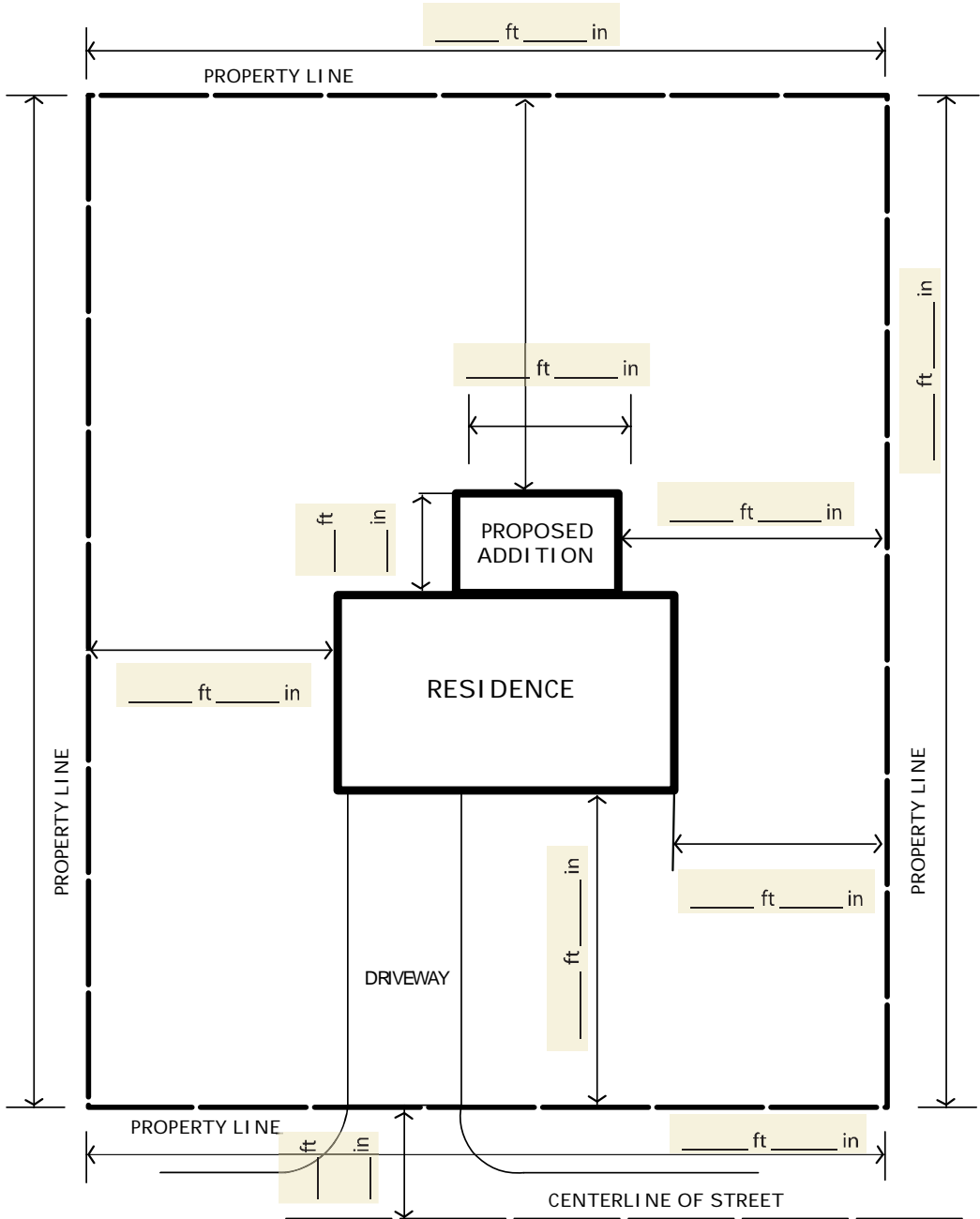
Property Owner's Name: _____

Instructions

1. Show all lot dimensions.
2. Show all easements on the property.
3. Show the location of the house and any additional structures on the property, dimension from the structure to property lines and existing adjacent structures.
4. For remodeling of the existing residence, fill in the square footage of the existing livable area of the residence, square footage of any attached garage or carport, and the square footage of any attached patio covers.
5. List the square footage of the area being remodeled or enclosed.
6. Fill in the FEMA block. See page 3 for additional information about the FEMA block.

For information on the lot dimensions, easements and the FEMA block, you may contact the records department at 480-312-2356.

***If this layout does not match your lot size/configuration, you will need to draw your own site plan using this as an example.**



Complete North Arrow Example:



FEMA BLOCK

Flood Insurance Rate Map (FIRM) Information

Community No.	Panel No.	Suffix	Date of FIRM	FIRM Zone	Base Flood Elev.	(In AO zone, give depth and velocity)
	Date					

(For Areas Under Study Or Preliminary F.I.R.M.)

Source of Map	Date of Map	Flood Zone	Base Flood Elevation	(In AO Zone, give depth and velocity. No habitable floors are permitted below lowest floor elevation)

FEMA Block Information

In accordance with FEMA and City requirements, the following information must be included on the cover sheet of all plans which establish lowest floor elevations and flood-proofing elevations for both residential and non-residential structures.

FLOOD INSURANCE RATE MAP (FIRM) INFORMATION

Community Number	Panel Number	Panel Date	Suffix	FIRM Date	FIRM Zone	Base Flood Elevation (AO Zone, use depth)
045012						

Engineer's Certification: The lowest floor elevation(s) and/or flood-proofing elevation(s) on this plan are sufficiently high to provide protection from flooding caused by a one hundred year storm, and are in accordance with City of Scottsdale Revised Code, Chapter 37- Floodways & Floodplains Ordinance.

* PLEASE NOTE *

From the Code of Federal Rules- 44CFR 65.2 Certification of data is a statement that the data is accurate to the best of the certifier's knowledge.

* Certification analysis is a statement that the analysis have been performed correctly and in accordance with sound engineering practices.

* Certification of structural works is a statement that the works are designed in accordance with sound engineering practices to provide protection from the base flood.

* Certification of "as built" conditions is a statement that the structure(s) has been built according to the plans being certified is in place and is fully functioning.

Additional Attachments

- a. Water meter calculation sheet to be completed if you are adding any new plumbing fixtures, Soils Testing Waiver, and Fire Sprinkler Worksheet. (see page 5)
- b. These examples of typical residential details show you the type of information that we are looking for on your plans (see page 8). Examples include:
 - Foundation Plan Example
 - Floor Plan Example
 - Framing Plan Example
 - Exterior Elevations Example
 - Section A Example
 - Exterior Wall Footing Example
 - Framing Details Connections Example
 - Gable End Bracing Example
 - Typical Wood Frame, Wall Section Example
- c. Instructions to incorporate residential notes on the plans as a block. It will facilitate the review of the project. (see page 21)



Water Meter Size Calculations

Single-Family Residential

Plan Check No.: _____

Date: _____

To determine your water meter fee, your water development fee and your sewer connection fee, we must know the size of the water meter required for your residence. To determine the correct size, please provide the following essential information. **This does NOT permit the violation of any section of any federal, state or local regulations.**

1) Total number of fixture units of all water-using outlets is:

Type of Fixture	Fixture Unit Value		Number of Fixtures	=	Total Fixture Units
Bidet	2	x	_____	=	_____
Bathtub (with/without overhead shower head)	1.4	x	_____	=	_____
Clothes washer	1.4	x	_____	=	_____
Dishwasher	1.4	x	_____	=	_____
Full-bath group with bathtub (with/without shower head) or shower stall	3.6	x	_____	=	_____
Half-bath group (water closet and lavatory)	2.6	x	_____	=	_____
Hose bibb (sillcock)	2.5	x	_____	=	_____
Kitchen group (dishwasher and sink with/without garbage grinder)	2.5	x	_____	=	_____
Kitchen sink	1.4	x	_____	=	_____
Laundry group (clothes washer standpipe and laundry tub)	2.5	x	_____	=	_____
Laundry tub	1.4	x	_____	=	_____
Lavatory	0.7	x	_____	=	_____
Shower stall	1.4	x	_____	=	_____
Water closet (tank type)	2.2	x	_____	=	_____
*Other	_____	x	_____	=	_____
			Total	=	_____

**Water supply outlets for items not listed above shall be computed at their maximum demand or according to the size of the supply pipe as indicated in the International Plumbing Code; whichever is greater.*

2) Total length of the water line from the water meter to the farthest water-using outlet/fixture is: _____ lineal feet.

3) Local water service pressure is _____ pounds per square inch (psi).

Please Note:

- It is your responsibility to obtain a water pressure field test at your site or as near to your site as possible. Your building permit **cannot be issued** until you have done so.
- An approved type pressure regulator preceded by an adequate strainer shall be installed and the pressure reduced to 80 psi or less.

Owner/Agent: _____

Phone: _____ Fax: _____

E-mail: _____

Signature: _____

Date: _____

To Be completed by Plan Reviewer

Size of Meter: _____

Size of Building Supply: _____

When approved by the City of Scottsdale, the Applicant must deliver a copy of this form, or the City approved plans, to the Fire Sprinkler Designer to use in the calculation of the fire sprinkler system.

Verification of the Meter size must accompany Fire Sprinkler plans submitted for review.

Planning & Development Services Department

7447 E Indian School Road, Suite 105, Scottsdale, AZ 85251 • Phone: 480-312-7000 • Fax: 480-312-7088

Soils Testing Waiver

You will need to provide a soils testing report or request a soils testing waiver. Use to the following form to request a soils testing waiver.

12/95-wmeter2.doc



Soils Testing Requirement Request for Waiver of Requirement

This certificate may be used in lieu of providing soils reports for single-family residences.

This does NOT permit the violation of any section of the Scottsdale Building Code or any federal, state or local regulations.

Project Name: _____ **Plan Check No.:** _____

Address: _____ **Zip Code:** _____

To be completed and signed by OWNER before a building permit is issued.

I, _____ (owner name – please print), hereby request waiver of the requirement that the City of Scottsdale be provided with a soil test report specifying bearing soil capacities and classifications of soil for my prospective building lot / site.

I hereby certify the following:

All footings, including isolated column footings shall be located with their bearing at eighteen inches (18”) minimum below lowest adjacent undisturbed soil or engineer certified compacted grade within 5’-0” and shall be:

- a.) **Provided with** a minimum effective soil bearing capacity of one thousand five hundred pounds per square foot (1500 psf).
- b.) **Designed for** a maximum effective bearing pressure of one thousand five hundred pounds per square foot (1500 psf).

Furthermore, the City of Scottsdale, Arizona, will be held harmless for any damage resulting from insufficient bearing pressure, expansive soil or any other soil problems.

Owners Signature

Date

If submitted by owner's agent, list title and relationship to project and furnish a letter signed by owner authorizing you as agent.

Planning & Development Services Department

7447 E Indian School Road, Suite 125, Scottsdale, AZ 85251 • Phone: 480-312-7080 • Fax: 480-312-7781

For an online version, go to www.scottsdaleaz.gov/bldgresources/forms.

Single Family Residential Fire Sprinkler Worksheet

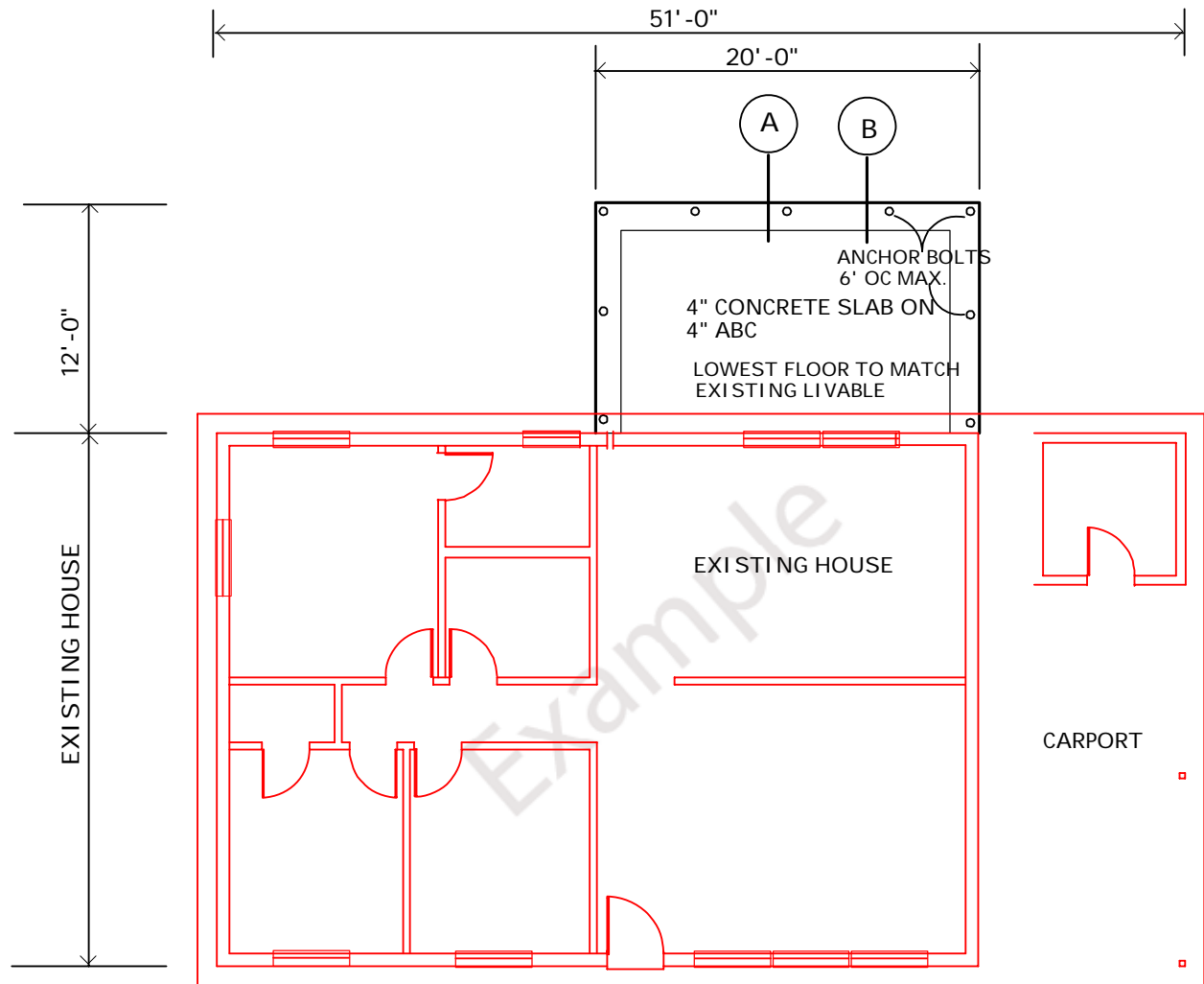
Please complete the fire Sprinkler Worksheet to determine if your proposed addition/remodel will require fire sprinklers in the entire house.

SINGLE FAMILY RESIDENTIAL FIRE SPRINKLER WORKSHEET 2001.1								
	USE	SQ. FT.		VALUE			VALUATION*	
EXISTING BUILDING								
A	LIVABLE / CONDITIONED AREA		X	\$95.91		=		
	BASEMENT - UNFINISHED		X	\$37.34		=		
						TOTAL A	=	
B	GARAGE		X	\$37.34		=		
	CARPORT		X	\$37.34		=		
	COVERED PATIO		X	\$37.34		=		
					TOTAL B	=		
C	TOTAL EXISTING VALUE, (A+B)				TOTAL C		=	
D	TOTAL EXISTING VALUE		X	25%	TOTAL D		=	
NEW CONSTRUCTION/ADDITION								
E	LIVABLE / CONDITIONED AREA		X	\$95.91		=		
	BASEMENT - UNFINISHED		X	\$37.34		=		
						TOTAL E	=	
F	GARAGE		X	\$37.34		=		
	CARPORT		X	\$37.34		=		
	COVERED PATIO		X	\$37.34		=		
					TOTAL F	=		
REMODELED AREAS, includes work requiring permit per IRC 105.2 amended.								
G	LIVABLE / CONDITIONED AREA		X	\$95.91	X	30%	=	
	GARAGE		X	\$37.34	X	30%	=	
	CARPORT		X	\$37.34	X	30%	=	
	COVERED PATIO		X	\$37.34	X	30%	=	
	BASEMENT - UNFINISHED		X	\$37.34	X	30%	=	
					TOTAL G	=		
H	TOTAL NEW AND REMODEL, (E+F+G)				TOTAL H		=	
IF H > D FIRE SPRINKLERS WILL BE REQUIRED								

* Values are based on the *ICC Building Safety Journal, July, 2008.* locked, revised 7/20/08

For an online version of this worksheet, go online to www.scottsdaleaz.gov/bldgresources/forms

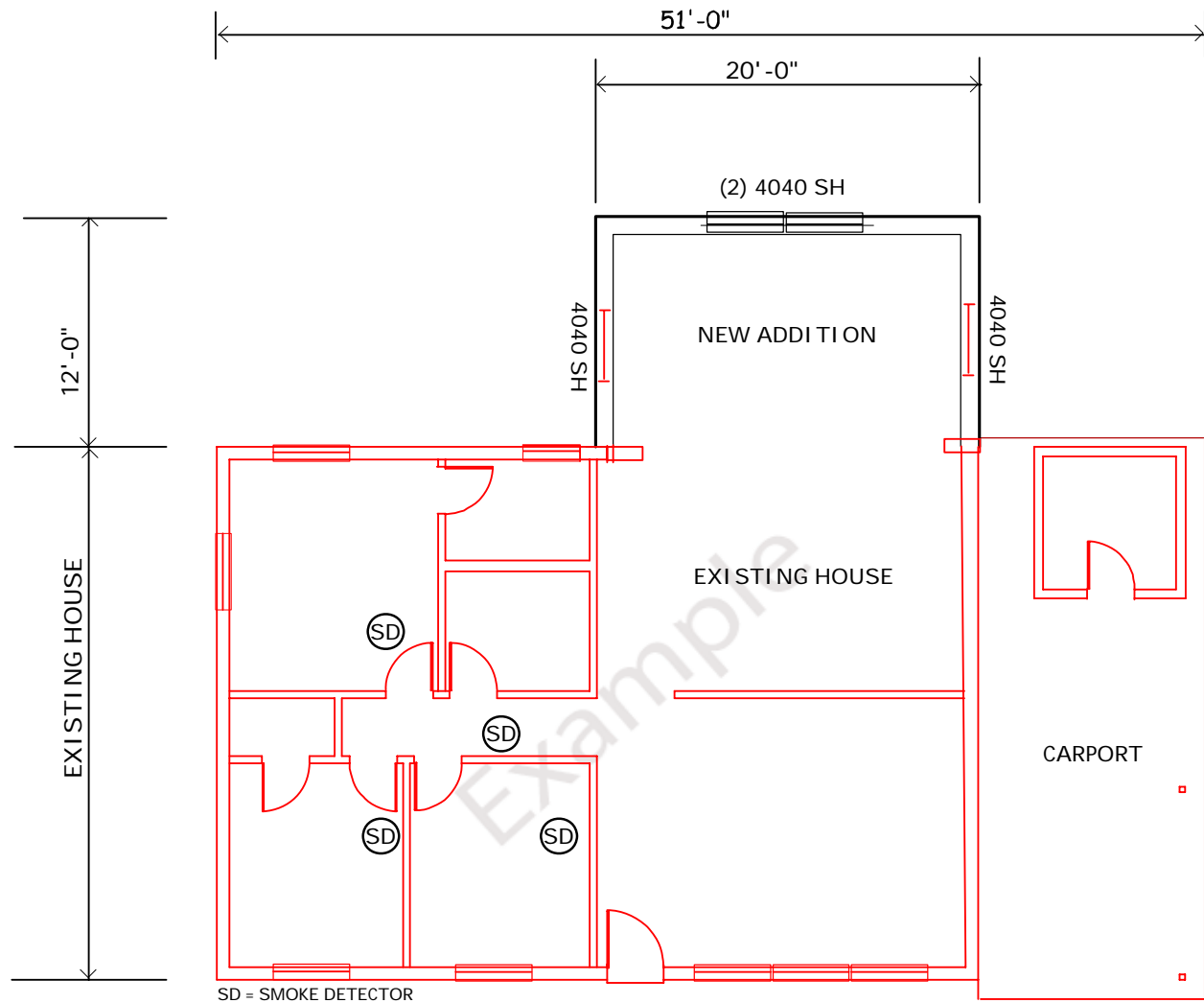
Foundation Plan Example



- SHOW EXTENT AND LOCATION OF FOUNDATIONS AND SLABS
- PROVIDE SOILS REPORT OR SOILS WAIVER FORM
- FOOTINGS MUST BEAR MIN. 1'-6" BELOW NATURAL GRADE
- PROVIDE MINIMUM 2 #4 CONTINUOUS IN FOOTINGS
- SHOW LOCATION OF POSTS AND COLUMNS
- SHOW LOCATION OF ANCHOR BOLTS AND HOLD DOWNS
- POST FOOTINGS SUPPORTING 750 lbs TO BE MIN. 24" x 24"

Figure is for example purposes only.

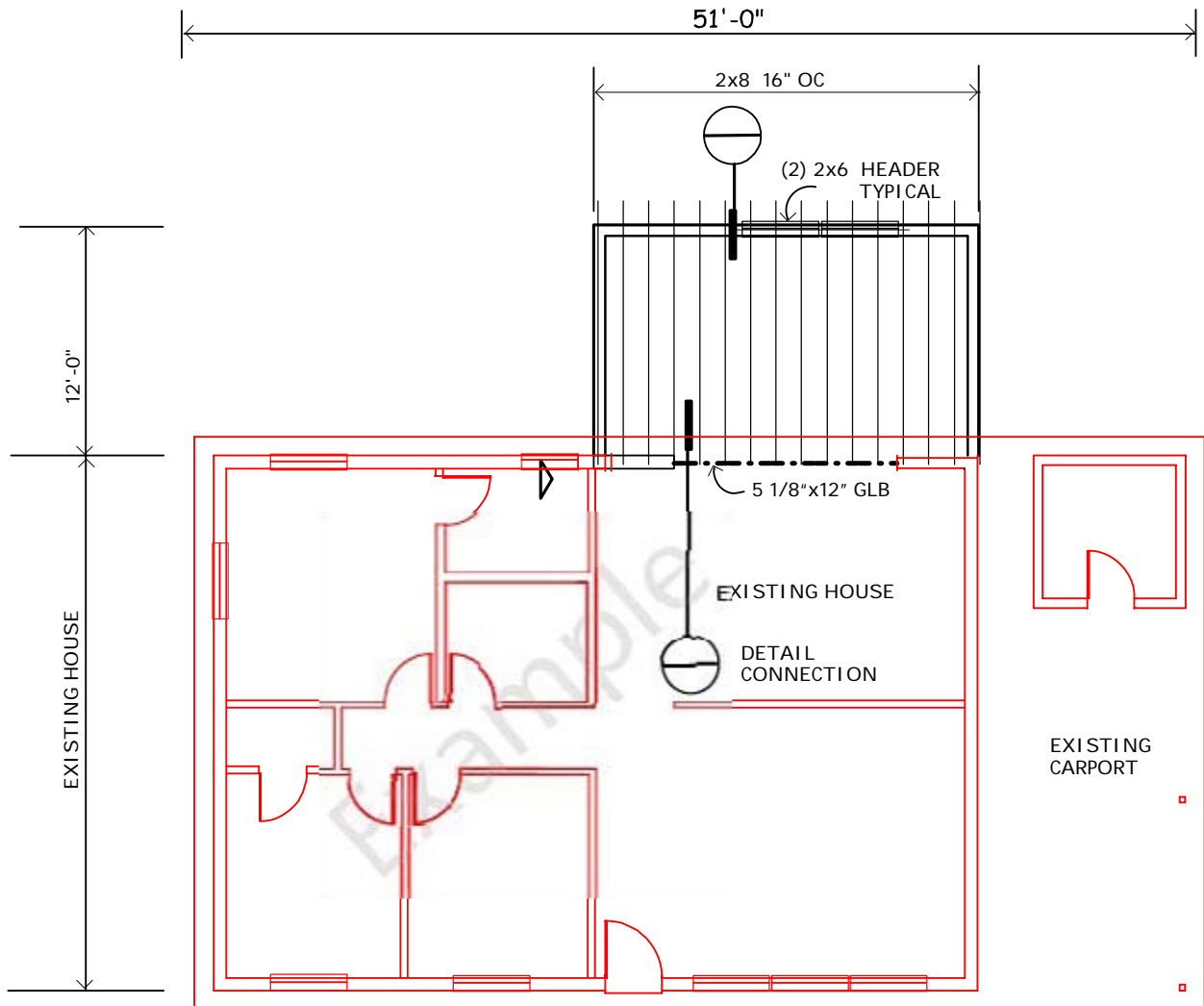
Floor Plan Example



- SHOW WINDOW SIZES AND TYPE OF OPERATION
- SHOW DOOR SIZES AND DIRECTION OF SWING
- SHOW ROOM NAMES
- SHOW CEILING HEIGHTS
- SHOW ALL EMERGENCY ESCAPE/RESCUE OPENINGS
- SHOW LOCATION OF ALL SMOKE DETECTORS IN ALL NEW AND EXISTING BEDROOMS AND OUTSIDE OF BEDROOM AREAS - (SMOKE DETECTORS SHALL BE HARD WIRED AND INTERCONNECTED)

Figure is for example purposes only.

Framing Plan Example

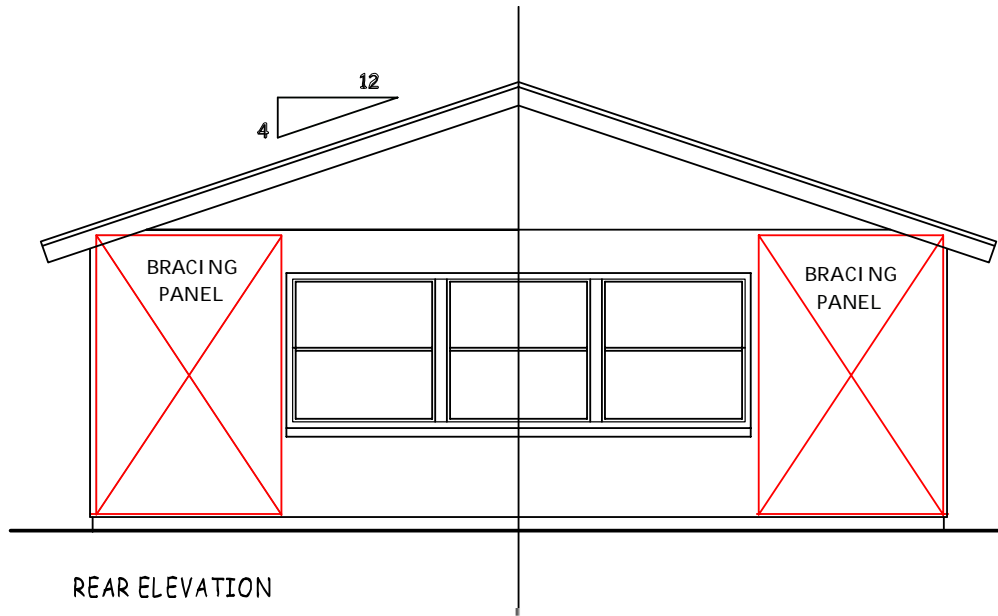


SHOW ON PLANS:

- A. RAFTER/JOIST SIZE AND SPACING
- B. POSTS AND BEAMS
- C. CONNECTION DETAIL REFERENCE
- D. SHEAR WALL LOCATION AND LENGTH
- E. SHOW ATTIC VENTILATION

Figure is for example purposes only.

Exterior Elevations Example



- PROVIDE MIN. 2 ELEVATIONS
- SHOW EXTERIOR WALL FINISHES
- SHOW PITCH OF ROOF
- INDICATE ROOFING MATERIAL
- SHOW LOCATION OF BRACING PANELS
- PROVIDE DIMENSIONS TO HIGHEST RIDGE
- SHOW LOCATION OF ALL OPENINGS

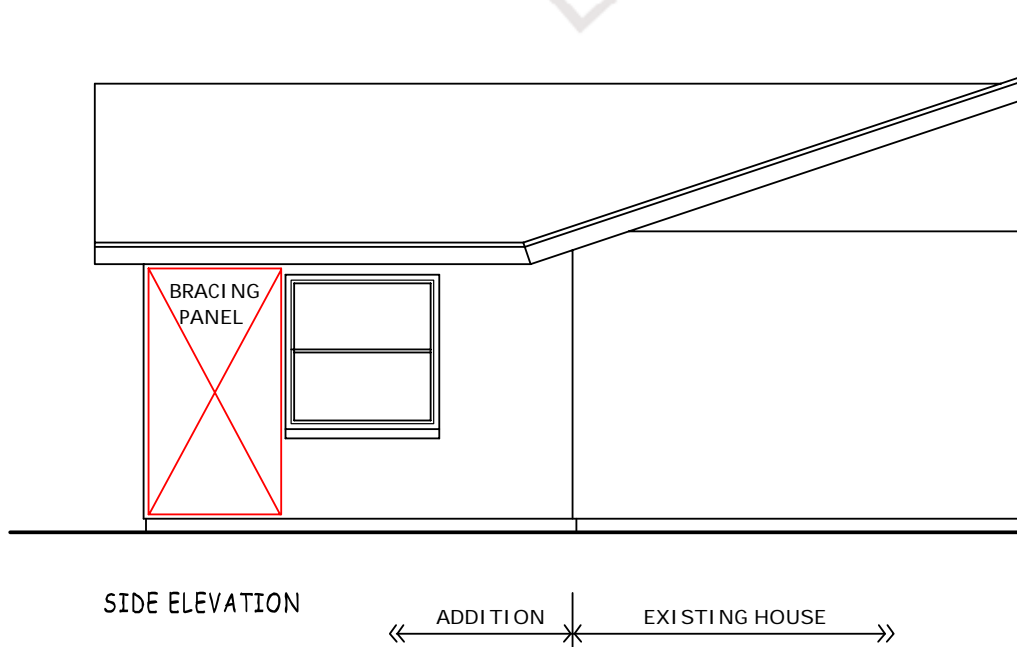


Figure is for example purposes only.

Section A Example

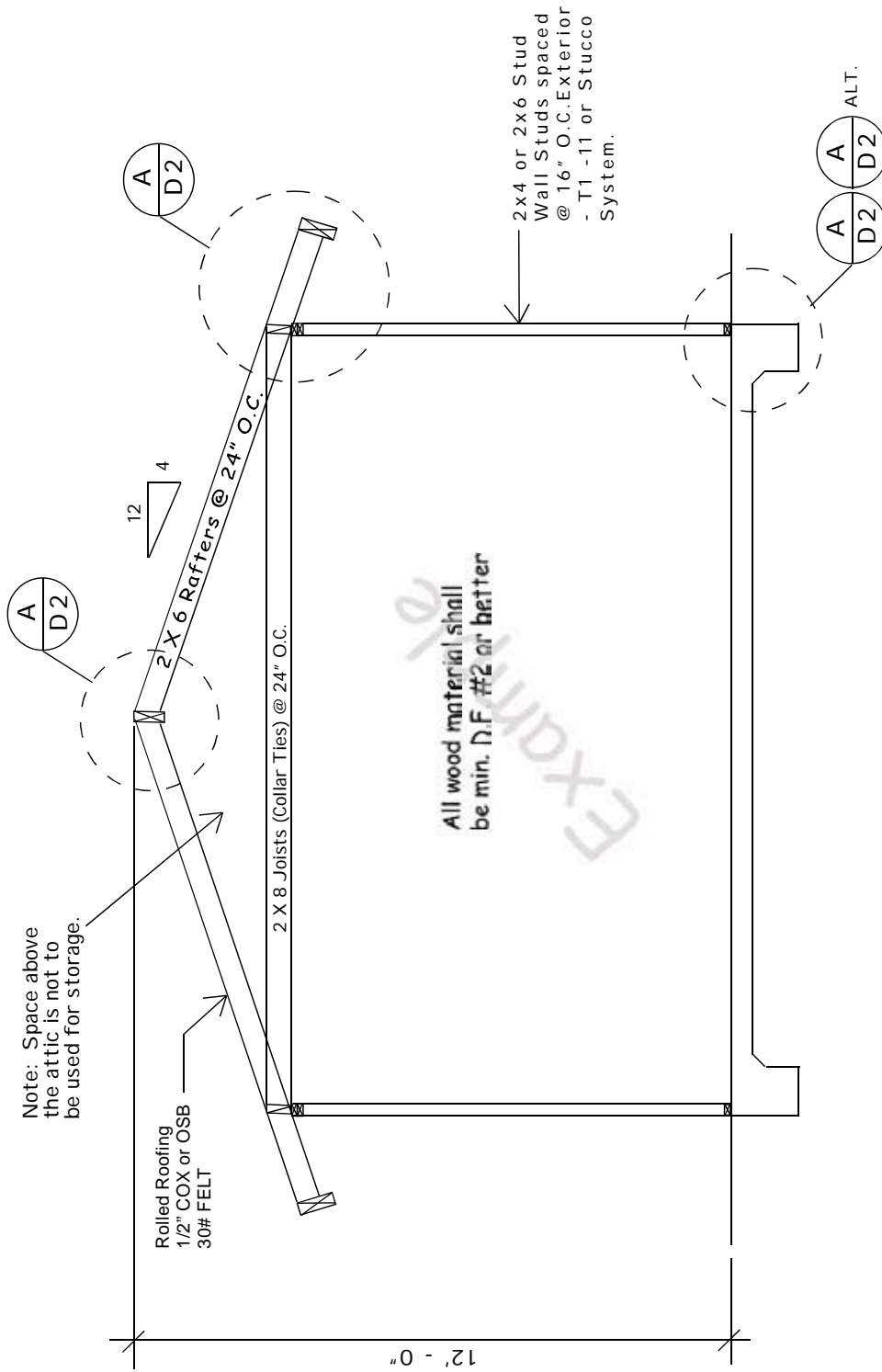


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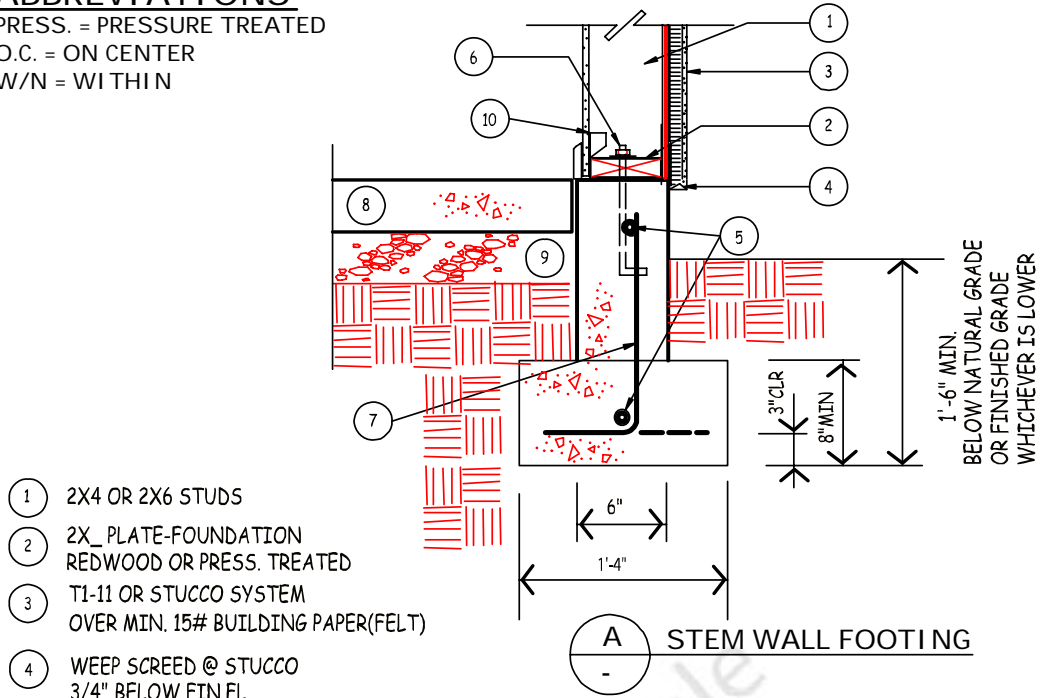
Exterior Wall Footing Example

ABBREVIATIONS

PRESS. = PRESSURE TREATED

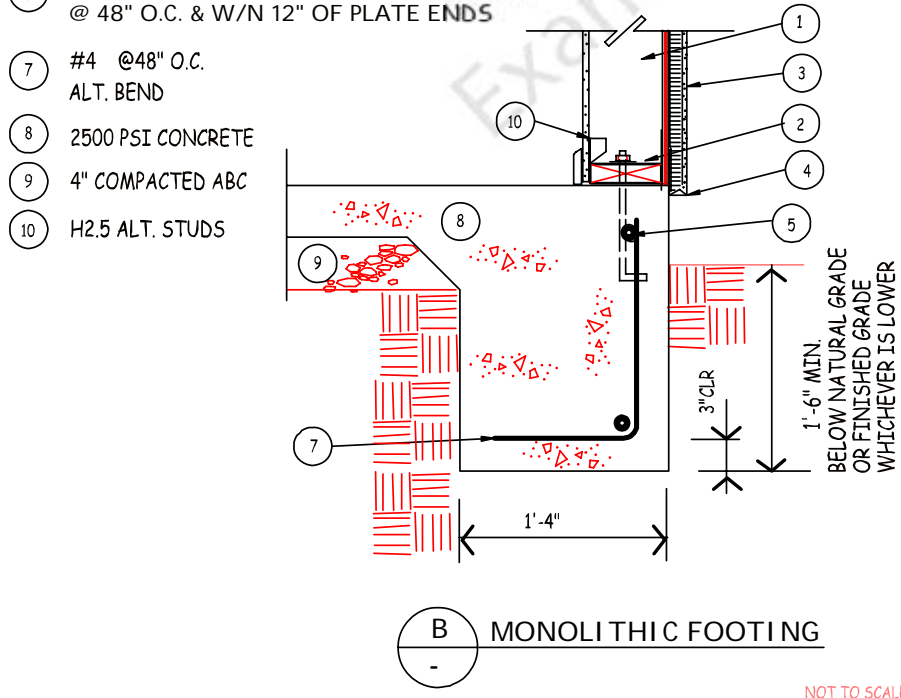
O.C. = ON CENTER

W/N = WITHIN



- ① 2X4 OR 2X6 STUDS
- ② 2X PLATE-FOUNDATION REDWOOD OR PRESS. TREATED
- ③ T1-11 OR STUCCO SYSTEM OVER MIN. 15# BUILDING PAPER(FELT)
- ④ WEEP SCREED @ STUCCO 3/4" BELOW FIN.FL.
- ⑤ #4 CONT. TOP & BOT.
- ⑥ 1/2"X10" ANCHOR BOLT, 7" MIN. EMBED. @ 48" O.C. & W/N 12" OF PLATE ENDS
- ⑦ #4 @48" O.C. ALT. BEND
- ⑧ 2500 PSI CONCRETE
- ⑨ 4" COMPACTED ABC
- ⑩ H2.5 ALT. STUDS

A STEM WALL FOOTING



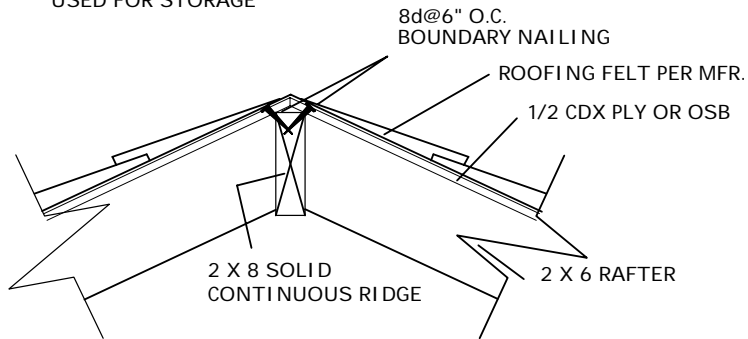
B MONOLITHIC FOOTING

NOT TO SCALE

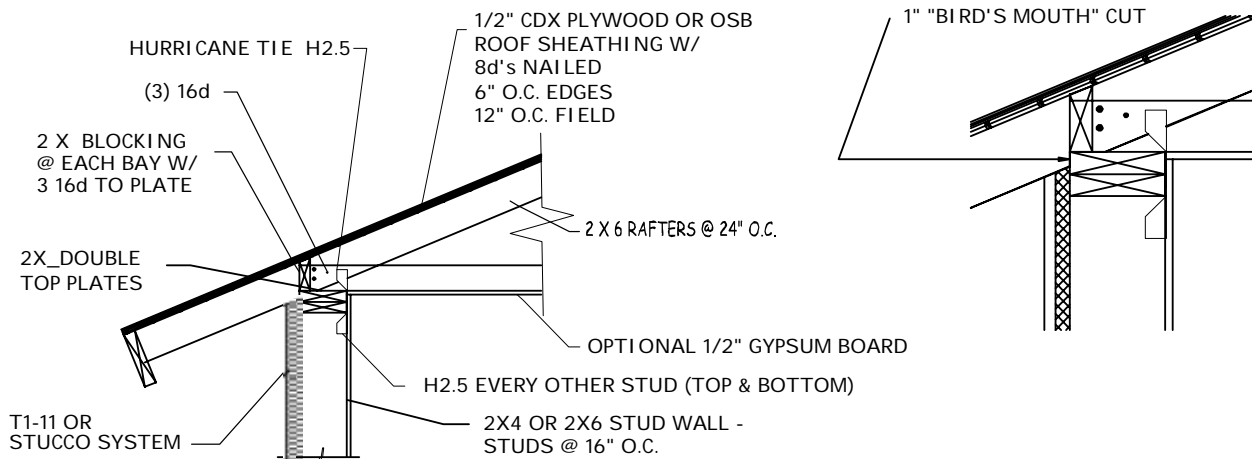
Figure is for example purposes only.

Framing Details Connections

NOTE! SPACE ABOVE ATTIC IS NOT TO BE USED FOR STORAGE



A RIDGE CONNECTIONS



NOT TO SCALE

B EAVE CONNECTIONS

Figure is for example purposes only.

Gable End Bracing Example

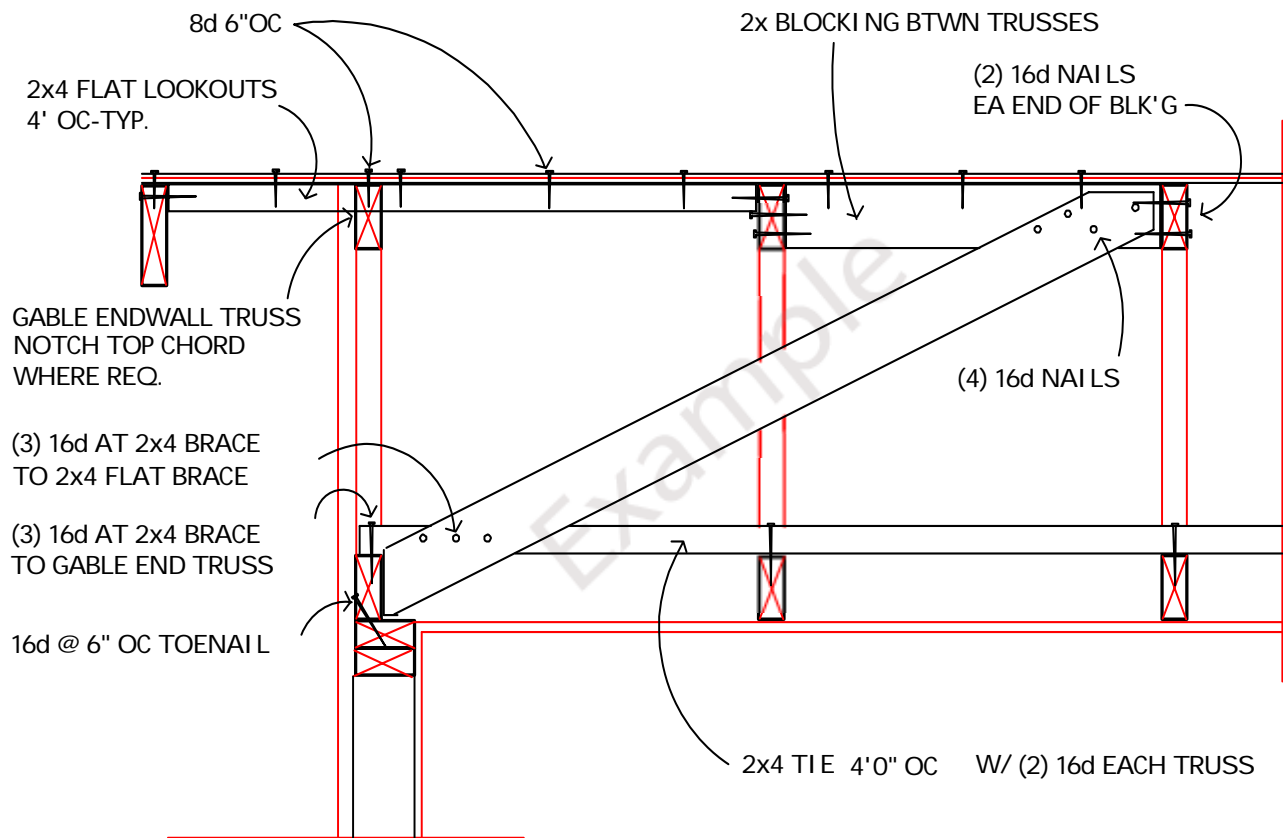


Figure is for example purposes only.

Typical Wood Frame, Wall Section

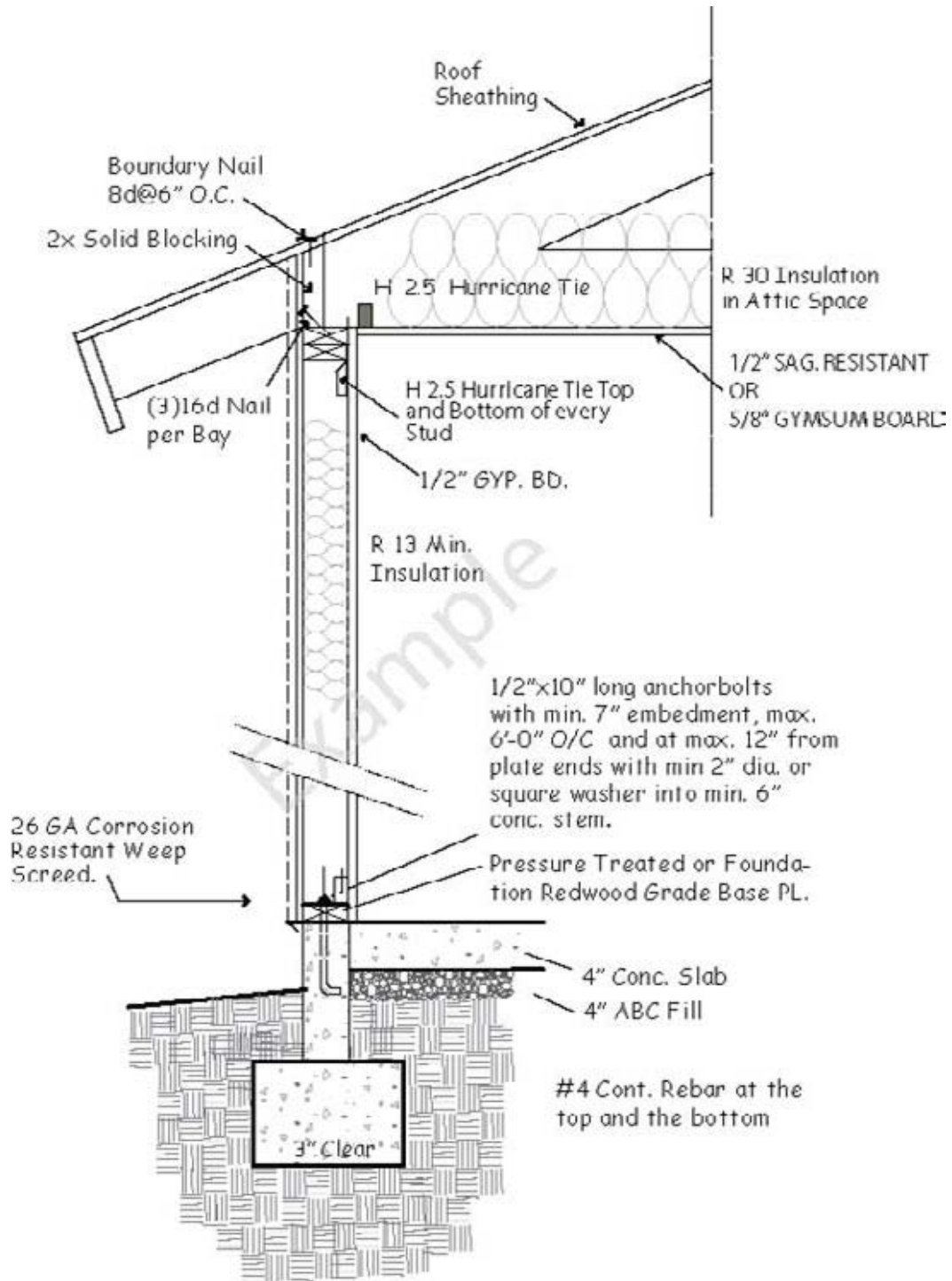
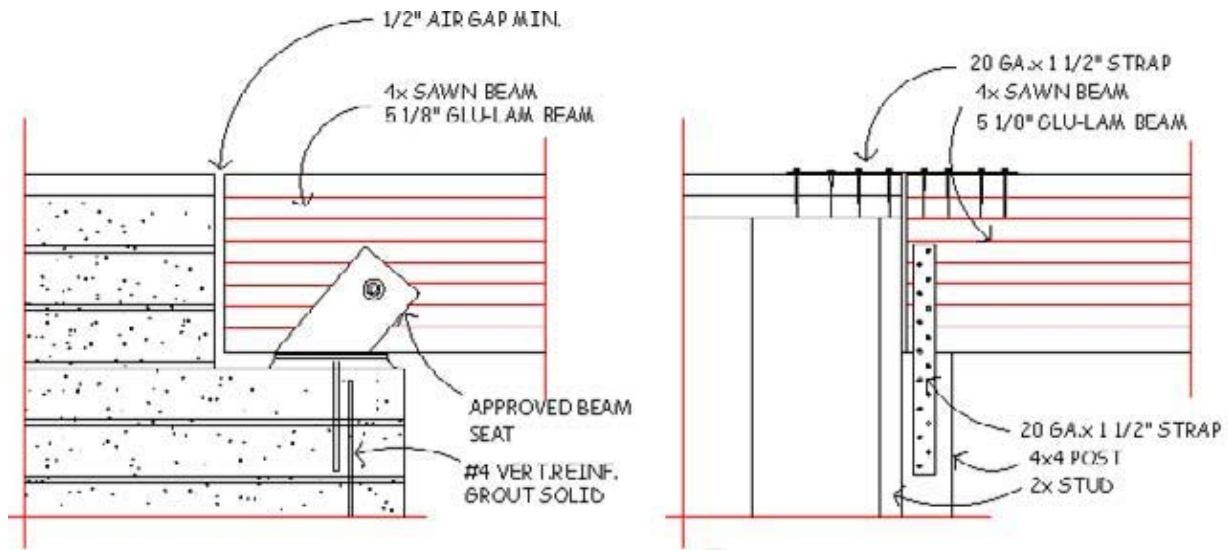


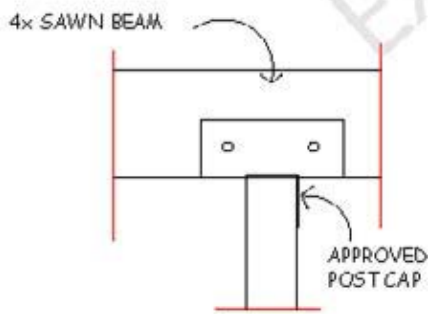
Figure is for example purposes only.

Beam Connections Example

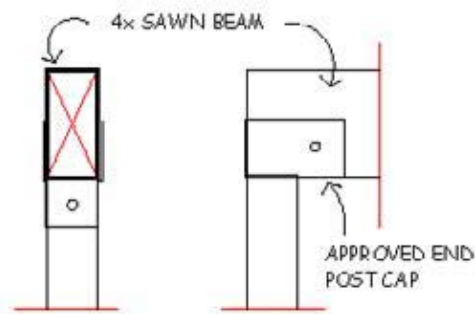


**BEAM TO MASONRY
WALL CONNECTION**

**BEAM TO FRAME
WALL CONNECTION**



POST AND BEAM



END POST AND BEAM

Figure is for example purposes only.

Typical Truss Bearing on Masonry Wall Example

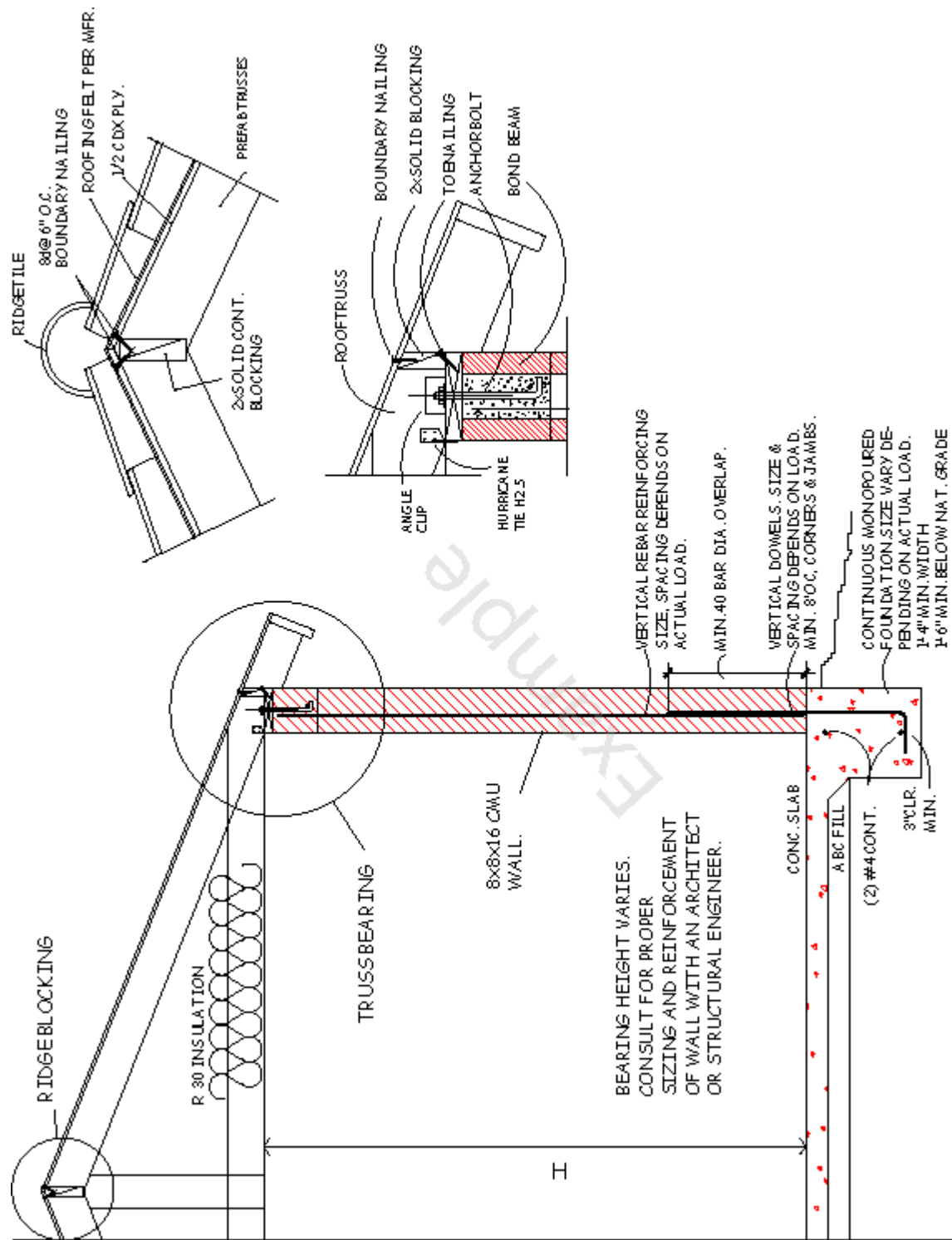
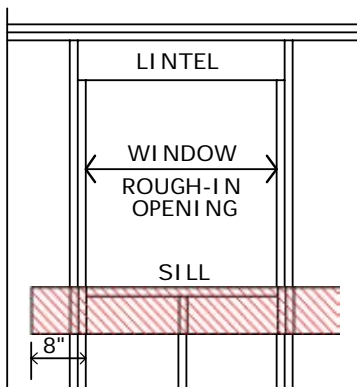


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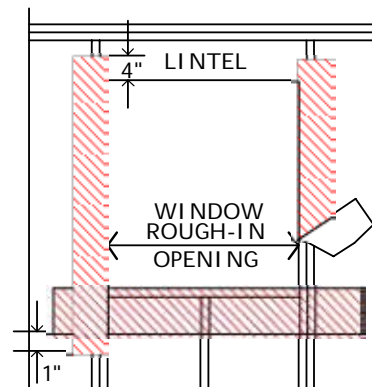
Window Flashing Details Example

Step 1



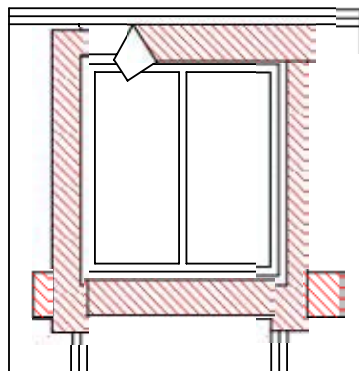
Attach sill strip with top edge level with rough sill; extend beyond edge of rough opening at least 8". Secure all building paper or similar approved flashing material with galvanized nails or power driven staples.

Step 2



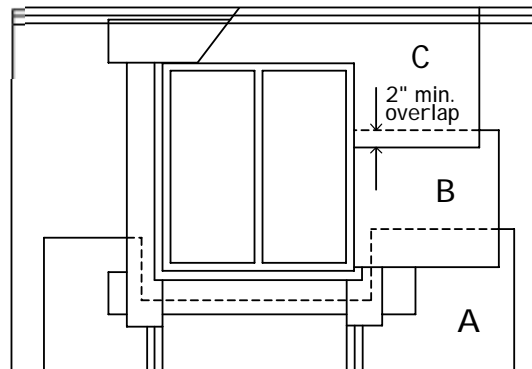
Attach jamb strips with side edge even with rough-jamb framing. Start strip 1" below lower edge of sill strip and extend 4" above lower edge of lintel.

Step 3



Install window into rough opening with sill and jamb flanges over previously installed flashing. Attach head flashing over the window flange.

Step 4



Commencing at the bottom (sole plate) of the wall, lay building paper under sill strip. Cut any excess building paper that may extend above the sill flange line on each side of opening (shown as dashed line). Do not cut building paper horizontally so the paper will lap over the jamb strips. Install successive lines of building paper (B,C,D etc) over jamb and head flanges, lapping each course.

Figure is for example purposes only.

Nailing Schedule

Include the Nailing Schedule in the Final Plans.

Building Elements	# and Type of Fastener	Spacing of Fasteners
Joist to sill or girder, toe nail	3-8d	
Sole plate to joist or blocking, face nail	16d	16 - o.c.
Top or sole plate to stud, end nail	2-16d	
Stud to sole plate, toe nail	3-8d or 2-16d	
Double studs, face nail	10d	24 - o.c.
Double top plates, face nail	10d	24 - o.c.
Sole plate to joist or blocking at braced wall panels	3-16d	16 - o.c.
Double top plates, minimum 48-inch offset of end joints, face nail in lapped area	8-16d	
Blocking between joists or rafters to top plate, toe nail	3-8d	
Rim joist to top plate, toe nail	8d	6 - o.c.
Top plates, laps at corners and intersections, face nail	2-10d	
Built-up header, two pieces with ½ - spacer Edge	16d	16 - o.c. each
Ceiling joists to plate, toe nail	3-8d	
Continuous header to stud, toe nail	4-8d	
Ceiling joist, laps over partitions, face nail	3-10d	
Ceiling Joist to parallel rafters, face nail	3-10d	
Rafter to plate, toe nail	2-16d	
1x brace to each stud and plate, face nail	2-8d	
Built-up corner studs	10d	24 - o.c.
Roof rafters to ridge, valley to hip rafters toe nail face nail		4-16d 3-16d
Rafter ties to rafters, face	3-8d	

Wood structural panels, subfloor, roof and wall sheathing to framing

	Fastener	edges	intermediate
5/16 – ½	6d common nail (subfloor, wall)	6	12
	8d common nail (roof)	6	12
19/32 – 1	8d common nail	6	12
1 1/8 – 1 ¼	10d common nail or		
	8d deformed nail	6	12
Celluloisc fiberbd Sheathing	1 ½ galv. Roofing nail	3	6

- All nails are smooth-common, box or deformed shanks except where otherwise stated.
- Nails shall be spaced at not more than 6 inches on center at all supports where spans are 48 inches or greater
- Four-foot-by-8-foot or 4-foot-by-9 foot panels shall be applied vertically.

For an online version of the Nailing Schedule, see www.scottsdaleaz.gov/bldgresources/forms.



REQUIRED RESIDENTIAL NOTES

The following notes shall be incorporated into the plans. If these notes are reproduced on the plans as a block, it will facilitate the review of the project. The notes are available in a dwg format and can be downloaded from.

PLACE THE FOLLOWING REQUIRED NOTES ON THE DRAWING

2006 International Residential Code (Ordinance 3744)
2006 International Building Code (Ordinance 3735)

1. All products listed by ICC/N.E.R. number(s) shall be installed per the report and manufacturer's written instructions. Product substitution(s) for product(s) listed shall also have an ICC approved evaluation report(s) or be approved.
2. Exterior wall, bottom sill plates, shall be pressure treated or equal, and shall bear/extend minimum 6 inches above finish grade. (R319.1).
3. Provide fire protection sprinkler system. (R903.2 as Amd.).
4. Miscellaneous site structures, pools, spas, fences, site walls, retaining walls, and gas storage tanks require separate permits.
5. All exits to be operable from the inside without the use of a key or special knowledge.
6. Doors leading into house from garage shall be self-closing, self-latching. (R309.1 Amd.).
7. Exterior wall penetrations by pipes, ducts or conduits shall be caulked. (R307.6)
8. Provide roof attic ventilation unless insulation is applied directly to underside of roof sheathing or the dimension is 24 inches or less between the ceiling and bottom of roof sheathing. (R806.1 Amd)
9. Energy compliance shall be demonstrated by passing REScheck energy compliance software with a score at least 15% above the IECC (N1101.2 amended).
10. Lumber shall bear an approved grading stamp (R502.1).
11. Provide engineered truss designs for all prefabricated trusses for review and approval by the City of Scottsdale. (R802.10.1).
12. Fire blocking shall comply with (R602.8).
13. Windows located more than 72" above finished grade shall have the lowest part of clear opening of the window to be minimum 24 inches above the floor in which it serves. (R613.2).
14. Gypsum board applied to a ceiling shall be 1/2" when framing members are 16" o.c. or **5/8"** when framing members are **24" o.c.** or use labeled 1/2" **sag-resistant gypsum ceiling board**. Table R702.3.5 (d).
15. Showers and tub-shower combinations shall be provided with individual control valves of the pressure balance or thermostatic mixing valve type. (P2708.3).
16. Shower area walls shall be finished with a smooth, hard non-absorbent surface, such as ceramic tile, to a height of not less than 72 inches above the drain inlet. Water-resistant gypsum board shall not be installed over a vapor retarder in a shower or tub compartment. Cement, fiber-cement or glass mat gypsum backers installed in accordance with manufacturers' recommendations shall be used as backers for wall tile in tub and shower areas and wall panels in shower areas (R702.3, .4).
17. Plumbing fixtures shall comply with the following conservation requirements: Table P2903.2. Water closets-Tank type 1.6 gal. /flush. Shower heads- 2.5 gal. /minute. Faucets- 2.2 gal. /minute, provide aerator.
18. Water treatment systems- shall be equipped with an automatic shutoff to prevent continuous flow when not in use.
19. Domestic dishwashing machines connected to a disposer shall have the discharge installed as high as possible. (P2717.3).

20. Hot water recirculation pumps. Provide a hot water demand controlled recirculation pump for water heaters located more than 20 feet from furthest fixture served. A manual control or occupant sensor switch shall operate the pump with an automatic temperature sensor shut-off (M2005.5 amended).
21. Registers, diffusers and grilles shall be mechanically fastened to rigid supports or structural members on at least two opposite sides in addition to being connected to the ductwork they serve.
22. The clothes dryer shall be provided with a 4-inch diameter exhaust duct to the exterior and shall not exceed a total length of 25 feet, unless an engineered duct system is provided. (M1501.3) The duct shall terminate not less than 3 feet from a property line or from openings into a building.
23. Exhaust air from kitchens, bathrooms and toilet rooms shall not be re-circulated within a residence or to another dwelling unit and shall be exhausted directly to the outdoors. Exhaust air from kitchens, bathrooms and toilet rooms shall not discharge into an attic, crawl space or other areas inside the building. M1506.2
24. Provide **IC**-rated recessed light fixtures installed in insulated ceilings. (N1102.4.3).
25. Fixtures located in damp or wet locations shall be "listed" to be suitable for such location. (E3903.8)
26. Provide **GFCI** protection for receptacles within 6' of all lavatories, sinks and basins. (E3802.7).
27. Provide **GFCI** protected receptacles at all exterior, bathroom and garage locations. (E3802.1, .2).
28. Provide a wall mounted **GFCI** protected receptacle outlet within 36" of a bathroom or powder room lavatory. (E3801.6).
29. All 125-volt branch circuits... in bedrooms shall be protected by a listed **AFCI**. (E3802.11).
30. Provide a switch for the stairway when there are 6 or more risers. (R303.6.1).
31. Receptacle outlets shall be installed so that no point along the floor line in any wall space is more than 6 feet, measured horizontally, from an outlet in that space, including any wall space 2 feet or more in width. (E3502.2).
32. Provide a minimum of two 20-amp small appliance branch circuits for the kitchen/dining/breakfast. (E3603.3).
33. The two or more 20-ampere small appliance branch circuits shall have no other outlets, except the receptacle installed solely for electric supply to an electrical clock in the kitchen/dining/breakfast areas or receptacles for supplemental equipment and lighting for gas-fired ranges, ovens, or counter-mounted units. (E3603.2).
34. Receptacle outlets for ranges and clothes dryers shall be a 3-pole with ground type. Four-wire, grounding-type flexible cords will be required for connection of ranges and clothes dryers. The bonding jumper shall not be connected between the neutral terminal and the frame of the appliance. Flexible cords shall be used only where the...flexible cord supplying an appliance shall terminate in a grounding-type attachment plug. (E4001.3.)
35. Provide a concrete encased grounding electrode of not less than 20 feet of #4 bare copper (200 ampere service). (E3508.1, .2).
36. Provide bonding to the water piping, gas and metal building systems. (Minimum #4 for 200-amp service). (E3503.1).
37. All metal piping systems, metal parts of electrical equipment, and pump motors associated with the hydro massage tub shall be bonded together using a copper bonding jumper, insulated, covered, or bare, not smaller than No. 8 solid. Metal parts of listed equipment incorporating an approved system of double insulation and providing a means for grounding internal non-accessible, non-current-carrying metal parts shall not be bonded. (E4104.2, .4).
38. R607.2.1 Masonry Bed and head joints...shall be 3/8 inch-thick, the thickness of the bed joint of the starting course placed over foundations shall not be less than 1/4 inch and not more than 3/4 inch. Mortar joint thickness shall be within the following tolerances from the specified dimensions:
 1. Bed joint: + 1/8 inch.
 2. Head joint: 1/4 inch + 3/8 inch.
 3. Collar joints: 1/4 inch + 3/8 inch.