



Community Development
16000 N. Civic Center Plaza
Surprise, AZ 85374
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Standard Plan Application

Submittal Requirements

- Completed Standard Plan Application
- Completed Truss Review Waiver form
- Soils Report
- One complete set of plans which must be 24" x 36" and drawn to scale (1/4" = 1')
- One set of structural calculations sealed by State of Arizona Registrant
- One set of manufacturer's specifications
- Fees billed in arrears

Subsequent Submittal Requirements

- Response to comments including corrected sheet numbers
- Redlined plans, calculations, and manufacturer's specifications
- Two revised sets of plans, calculations, and manufacturer's specifications

After notice of approval is received, a disk containing all approved plans in PDF format will be required.

Standard Plan Application

Subdivision: _____

Model Number: _____ Elevation's: _____

Builder

Company Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Phone: _____ Fax: _____

Alternate Phone: _____ Email: _____

ROC Number _____ Business License _____

Property Owner (If different than builder)

Company Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Phone: _____ Fax: _____

Alternate Phone: _____ Email: _____

Primary Contact

Company Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Contact Person 1: _____ Title: _____

Phone: _____ Email: _____

Contact Person 2: _____ Title: _____

Architect/Designer

Company Name: _____ Contact Name: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Phone: _____ Fax: _____

Alternate Phone: _____ Email: _____

Only the primary contact listed above will be notified of submittal status.

Truss Review Waiver

In lieu of city review of prefabricated trusses when designed by an Arizona Registered Structural Engineer, this section must be completed.

As the Structural Engineer in charge of the structural design of this building, I will review the approved fabricator’s truss designs and all related connections (including all revisions to the truss design) provided to me for compatibility with the above referenced project. I will affix my signed and dated seal to either the truss manufacturer’s layout sheet, or to a letter of approval with an index of truss calculation sheets in said letter.

Structural Engineer

Company Name: _____ Engineer: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Phone: _____ Fax: _____

Alternate Phone: _____ Email: _____

Affix Seal
Here

Name of Structural Engineer (Please print)

As the owner/applicant, I agree that all truss design information will be provided to the structural engineer, for their review and approval. All documents will be provided to the structural engineer in ample time for a proper review and approval, and to allow the approved truss design packet to be available to the city inspector, prior to trusses being set in place.

Printed Name Title

Signature Date

Truss design calculation sheets will be legible, sealed, signed, and dated by the engineer. The truss fabricator will have a current third party quarterly inspection report performed by an approved inspection agency. A complete set of the truss design calculation sheets, truss placement sheets, and proof of engineer’s review and approval, will be included with the approved field set of plans prior to the trusses being set in place.

RESIDENTIAL PLAN REVIEW
2012 INTERNATIONAL RESIDENTIAL CODE

CODE	 ITEM: See Exceptions
R106.1	Architect's seal is signed, dated, and current (if applicable)
#2014-04A	All applicable building codes listed including reference to City of Surprise Ordinance #2014-04A
#2014-04A A.R.S 28-8482	Indicate method of sound attenuation compliance with City of Surprise Ordinance with either: 1). Windows are STC-22, Exterior walls shall achieve a minimum of overall thermal resistance rating of 18 (demonstrate the R-18 with a list of the system components and the summary of their individual R-values), Roof spaces shall achieve a minimum overall thermal resistance rating of 30. 2). A certified statement by a licensed architect or engineer certifying the residence achieves a maximum interior noise level of 45 decibels per ARS 28-8482.
R106.1	Owner of project with address and contact phone number.
R106.1	Vicinity Map - shows project location and major cross streets.
R106.1.1	Provide an electronic Windows data disk (CD/DVD) with sets of plans submitted. The City needs a digital copy of each of the complete set of plans. The file name(s) should be labeled with the home model number. Use either .TIF (Windows) format or .PDF extension. If multiple files (in lieu of one complete file) are submitted, each file name should match the sheet number, for example: 4096A1.1.tif, 4096 A1.2.pdf, 4096-M1.1.tif, etc. The disk label shall include the builder, subdivision, model number, and submittal date. If multiple plans are submitted at once, it is acceptable to include all of them on one CD/DVD.
R106.1.1	Floor areas: Grid/matrix with columns and rows. The columns are the square footages based on Elevation. The rows show the square footages of 1st floor, 2nd floor, total livable, porch, patio, garage, and all options (which impact square footage). First floor livable area to include stair area.
R106.1.1	Index – Compare to included sheets
R106.1.1	Project description or plan model number for standard home
R106.2	Address, legal description, and County Assessor's parcel number or Subdivision and City of Surprise for standard home.
R106.2, R111.1, & R302.1	Provide a fully dimensioned site plan, drawn to scale, including all fences, lot lines, right-of-way centerline measurements, encroachments, and easements. Plan of home shows walls, projections, fire separation distance(s) as applicable. Drawings show typical conditions such as mechanical condenser system, water, sewer, and gas service locations are to be included on plans. Options which increase the standard floor plan also need to be included. This plan does not have to be on the cover sheet (just preferred), but it must be in the completed plans. Table R302.1(2) note a exemption requires showing adjoining lot.
R111.1	Septic system location
R319	Building address shall be permanent and minimum 4" high and ½" stroke.
R807.1	Areas in attic over 30 SF and 30" high require access.
R307.2 & R702.3.8	Shower compartments require a non absorbent finish to 6' A.F.F. If another non absorbent finish is used than ceramic tile, the water-resistant gypsum backing shall be in compliance with ASTM C1396, C1178, C1278 with edges sealed per manufacturer.
R307.2 & R702.4.2	Shower compartments require a non absorbent finish to 6' A.F.F. When ceramic tile is used at the shower compartment or tub, the backing shall be cement, fiber-cement or glass mat gypsum in compliance with ASTM C1288, C1325, C1178, C1278.

CODE	ITEM: See Exceptions
R308 & ARS 36-1631	Safety glazing locations – sliding door, swinging door (except under 3" sphere), wet areas less than 60" A.F.F. or within 60" horizontally, within 24" arc from closed door and under 60" A.F.F., within 36" and less than 36" A.F.F. of stairways, landings, or within 60" horizontally, etc. "All interior and exterior glazing in bathrooms must be safety glazing when the bottom edge is less than 56" above the floor level."
R316.5.12 & R302.9.4	Provide protection from ignition barrier or product testing data for exposed foam plastic insulation in attic. Flame spread index not greater than 200 and smoke-developed index of not greater than 450 per ASTM E 84 or UL 723, or other methods defined. ESR-1006, 1788, etc.
ARS 40-360.22, M.	Buried nonmetallic piping, cables, and conduits, installed on private property, to be detectible (metallic) or have a detectible underground location device (tracer wire) attached to it. This includes, but is not be limited to, the installation of nonmetallic underground facilities such as: 1). Nonmetallic communication cable, nonmetallic water lines, nonmetallic sewer lines, and nonmetallic gas lines. 2). Nonmetallic landscape irrigation sprinkler piping greater than 2" in diameter. 3). Any cable, pipe, or conduit which conveys, or is designed to convey, water, sewage, gas, oil, chilled water, refrigerants, swimming pool water, and steam. 3). It also includes empty nonmetallic pipes and conduits. Therefore, effective immediately, all underground cable, pipe, and conduits shall be detectible (metallic) or have a detectible underground location device installed with it. The recommended detectible underground location device is a #18 or larger copper tracer wire securely attached to the nonmetallic cable, pipe, or conduit at 8' o.c. It shall have 12" of tracer wire accessible above grade at any above grade termination. Effective December 31, 2005.
R109.1.5, N1102.4, N1103.2.2	Special inspections are required prior to inspection by the City of Surprise for the following conditions in residential construction: Recertification of surface soils as identified on Soils Report meeting moisture and compaction requirements, engineered backfill compaction report, post tension, concrete over 3000 psi, high-strength bolting, and structural steel welding or steel moment frames. In addition the following reports prepared per code are required: drilled and epoxy retrofit anchors, truss repair, air leakage rate and duct tightness.
R302.12	Draft stopping - Concealed space between floors not to exceed 1000 SF at open web type trusses.
R302.9	Wall and ceiling finishes to meet flame spread index not greater than 200 and smoke-developed index of not greater than 450. A variety of alternative test methods are available.
R602.8, R1003.19, & R302.11	Fireblocking - Between concealed spaces vertically at the ceiling and floor levels, horizontally not exceeding 10', interconnections, stairs stringers at top and bottom of run, all openings around pipes, ducts, cables and wires. Per R1003.19 special requirements at masonry chimneys.
R612	Indicate use of code compliant windows and doors meeting the following: Exterior windows and sliding doors shall be tested by an approved independent laboratory, and bear a label identifying manufacturer, performance characteristics and approved inspection agency to indicate compliance with AAMA/WDMA/CSA 101/I.S.2/A440. Exterior side-hinged doors shall be tested and labeled as conforming to AAMA/WDMA/CSA 101/I.S.2/A440 or comply with ASTM E330.
R309.4 & R612.4	Garage doors shall be tested in accordance with either ASTM E 330 or ANSI/ DASTMA 108, and shall meet the acceptance criteria of ANSI/DASTMA 108. Garage door openers shall be listed per UL 325.
R702.3	Sag-resistant gypsum ceiling board, exterior gypsum board product identification.
R702.3.5 Table &	Minimum thickness and application of gypsum board - nail, screw types, and spacing schedule Table R702.3.6.

CODE		ITEM: See Exceptions
R503, R807.1 & M1305.1.3		Mechanical access within 20' of the mechanical equipment with continuous solid 3/4" flooring per Chapter 5 and 24" wide through 30" high clear opening. 30" x 30" x 30" in front of access required to equipment. This requirement needs to be identified on the plans. The actual products to be used for the mechanical platform need to be identified.
R807.1, N1102.2.4, & M1305.1.3		Attic access location provide detail which meets: 22" x 30" opening. Prescriptive energy efficiency requires the following: Access doors from conditioned spaces to unconditioned spaces (e.g., attics and crawl spaces) shall be weatherstripped and insulated to a level equivalent to the insulation on the surrounding surfaces. Access shall be provided to all equipment that prevents damaging or compressing the insulation. A wood framed or equivalent baffle or retainer is required to be provided when loose fill insulation is installed, the purpose of which is to prevent the loose fill insulation from spilling into the living space when the attic access is opened, and to provide a permanent means of maintaining the installed R-value of the loose fill insulation.
R106.1.1		Fixtures to be identified; tubs, shower, water closet, lavatories, sinks, etc.
R303.3 & M1507.4		Bathrooms: Minimum of 3 SF glass, opens half-way. Exceptions: 50 CFM intermittent or 20 CFM continuous.
R307.1 [Figure] & P2708		Shower compartments are to be a minimum 900 square inches cross section finished dimension with a 30" minimum diameter and 70" high except if having not less than 25" in minimum dimension then 1300 square inches is required. 22" minimum clear and unobstructed finished width for access and egress. 24" clearance in front of shower opening. Typical pan minimum is 32" x 32".
R307.1 [Figure], P2705		Fixture clearances - 15" on water closet, 21" in front of water closet and sinks. 24" clearance in front of shower opening.
R310.1		Rescue openings max 44" to bottom of clear opening, 5.7 SF net clear opening at 20" width and 24" height. 5 SF at grade. Typical minimums at 6'-8" header height = or 4036XO , 7' header = 4040, and 8' header = 5040XO. 3050SH works for all 3 header heights, a 2650SH same but on 1st floor only. Check for obstructions on Elevations.
ARS 9- 500.16 (1998)		A gas or liquid fuel fireplace shall have dampers that remain permanently open. A fireplace or woodstove that directly burns wood or other solid fuel shall not be approved to be installed or constructed. The installation of a permanent gas or electric log insert will be required; a gas or electrical stub out for future installation of a log will not be acceptable. Exception: an EPA 40 code of Federal Regulations part 60, subpart AAA as in effect July 1, 1990 approved solid fuel burning appliance will be acceptable.
M1801		Fireplace chimney height above roof (for drafting), size, shape, change in direction per manufactures installation instructions. Verify location shown on Architectural Elevation(s). Vent free, B-Vent, Direct Vent.
M1801 & G2454		Fireplaces - type/ fuel - Manufacturer model number. Sill/hearth detail. Flue penetration detail. Outdoor decorative appliances shall be tested in accordance with ANSI Z21.97 and shall be installed in accordance with the manufacturer's instructions.
M1307.3, G2408.2, & #2014-04A		Platforms for appliances with ignition source. Min. 18" Exception clothes dryers.
M1307.3.1, G2408.3, & P2801.3		Protection of appliances from impact in garage or other area subject to vehicle damage. Typically with a pipe bollard. Accessible for inspection, service, repair and replacement without removal of permanent construction, other appliances, or any other piping or ducts associated with other appliances.
R302.5.1 & #2014-04A		Solid wood door not less than 1-3/8" thick, solid or honey-comb-core steel door not less than 1-3/8" thick, or a 20-minute fire-rated door, equipped with a self-closing device.

CODE		ITEM: See Exceptions
R302.6, [Table] R702.3.5, & #2014- 04A		Fire separation - walls ½" gypsum board and ceilings are 5/8" type X.
R106.1.1		Usable space below stairway back wall location and use identified.
R302.7		Under stair protection ½" gypsum wall board at usable space below.
R311.7.1		Minimum width 36" (above handrail).
R311.7.1 & R311.7.8		Handrails required at 4 or more risers. Handrails 34" - 38" height. Continuous full length of the flight, from a point directly above the top riser of the flight to a point directly above the lowest riser of the flight. Terminate as return to wall, in newel posts or safety terminals. Not less than 1½" from the wall. Maximum projection 4½".
R311.7.2		The minimum headroom in all parts of the stairway shall be not be less than 6'- 8" inches measured vertically from the slope plane adjoining the tread nosing or from the floor surface of the landing or platform.
R311.7.5.1, R311.7.5.2		Riser height 7-3/4" maximum, Tread depth 10" minimum. 3/8" maximum overall variation. "The tread depth shall be measured horizontally between the vertical planes of the foremost projection of adjacent treads and at a right angle to the tread's leading edge."
R311.7.5.3		Nosing profile - Between 3/4" and 1¼", maximum variation 3/8", etc.
R311.7.6 & R311.7.3		Landing at bottom. Landings at top if door swings over stair. All landings minimum 3' x 3'. Landing required if run over 12'.
R311.7.8.3.		All required handrails shall be of one of the following types or provide equivalent grasp ability. 1. Type I. Handrails with a circular cross section shall have an outside diameter of at least 1¼" and not greater than 2". If the handrail is not circular it shall have a perimeter dimension of at least 4" and not greater than 6¼" with a maximum cross section of dimension of 2¼". 2. Type II. Handrails with a perimeter greater than 6¼" shall provide a graspable finger recess area on both sides of the profile. The finger recess shall begin within a distance of 3/4" measured vertically from the tallest portion of the profile and achieve a depth of at least 5/16" within 7/8" below the widest portion of the profile. This required depth shall continue for at least 3/8" to a level that is not less than 1¼" below the tallest portion of the profile. The minimum width of the handrail above the recess shall be 1¼" to a maximum of 2-3/4". Edges shall have a minimum radius of 0.01".
E3602.2 [Table] & M1303		Appliances labeled (energy source) - Kitchen, Laundry, & Garage
M1901		Gas range 30" vertical clearance to unprotected combustibles.
R106.1.1		Room names - declare room use
R106.2		Overall dimensions - match site plan
R301.3 & R602.3(5)		Wall construction; stud size and spacing. Cross reference with Structural. Structural shall indicate grade and species of all studs, posts, beams, and headers.
R301.5 [Table] & R312		Guardrails - At over 30" above floor, 36" min. height. Stairs over 30" not less than 34". 4" sphere rule typical with 6" sphere at riser thread rail triangle, except 4-3/4" sphere for guards on open side of stairs. 200 lb single concentrated load and 50 lb for guard rail in-fill components.

CODE	ITEM: See Exceptions
R303 & M1507	Habitable rooms: Natural light 8% & 4% ventilation. Exceptions: Artificial light of an average 6 foot-candles. Adjoining rooms and whole-house mechanical ventilation system provide exceptions.
R304	Habitable room sizes, dimensions, and minimums. 1 room minimum 120 SF. Other rooms 70 SF with 7' minimum dimension, except kitchen.
R305	Ceiling heights in habitable rooms typically are minimum 7', except bathrooms and showers = 6'-8", and areas with sloped ceilings.
R311.2.2	Egress door - minimum one - 3'-0" X 6'-8". 32" minimum clear with the door at 90 degrees. Readily openable from inside the dwelling without the use of a key or special knowledge or effort.
R311.3 & R311.7, R311.8	Landings at required egress doors - 1½" maximum below if door swings out. All exterior doors maximum 7-3/4" below top of threshold if door swings in. Landing 3'x3' typical minimum. ¼" in 12" maximum slope on exterior landings. Required egress doors provide access to grade.
R311.6	The minimum width of a hallway shall be not less than 3'-0".
R106.1.1	Building heights - finish floors/ plates/ ridges
R703.10	Exterior cementitious board products like Hardi-plank, Hardi-shingle provide ESR Report, method of attachment, and support information. HardiePlank Lap Siding is ESR-2290, HardiePanel Siding is ESR-1844, etc.
R106.1.1	Height of building: ___' _____"
R106.1.1	Match floor plan and roof plan configuration
R310.1	Window header heights - Impact on sill height egress windows
R312.2	Second story windows (72" above finish grade). Bottom edge of operable portion of window above 24" of F.F.E. Exceptions; fixed or 4" sphere rule if below 24", window fall prevention device per ASTM F 2090
R703.8	At exterior window and door openings flashing shall be installed per manufacturer's installation instructions or registered design professional.
R703.8 & 903.2	Roof wall, valley, ridge, rake, and penetration flashing details - key to elevations, sections, or roof plan. Minimum 26 gauge.
R806	Attic vents and calculations 1/150 net free unless High-Low then 1/300 with 40%-50% located in high vents. High vents shall be located no more than 3 feet below the ridge or highest point of the space. 1/16" - ¼" corrosion-resistant wire mesh. O'Hagin typically is about 95 square inches or 0.68 SF, 97 Sq. In.
R903.4, R905.3.2, R905.5, & R905.9	Roof slopes/ directions - to edges, drains or scuppers. Clay/concrete tile minimum slope 2½:12 with double underlayment until 4:12. Rolled roof 1:12. Built-up roof ¼:12 meeting UL 55A or Table R905.9.2.
R905	Roof materials specified ESR Report, i.e. 1647, 1759, 1900, etc. and slopes match product specification. Specify underlayment; ASTM D 226 type II, etc. Tile ASTM C1492, etc.
R703, R703.2	Exterior wall finishes specified, water-resistive weather (vapor) barrier - 1 layer of ASTM D 226 type II No. 15 asphalt felt with 2" horizontal lap and 6" vertical laps.
R703.12	Veneer – brick or stone. ESR Report, i.e. 1215, 2380, 2598, etc.
R703.6	Stucco system - ESR Report; i.e. 1471, 1607, etc.
R703.6.2.1	Weep screeds. 26 Gauge, 3½" vertical leg @ or below foundation plate line a minimum of 4" above earth and 2" above paving.

CODE		ITEM: See Exceptions
N1101.12.1 .1		An R-value identification mark shall be applied by the manufacturer to each piece of building thermal envelope insulation 12 inches (305 mm) or greater in width. Alternately, the insulation installers shall provide a certification listing the type, manufacturer and R-value of insulation installed in each element of the building thermal envelope. For blown or sprayed insulation (fiberglass and cellulose), the initial installed thickness, settled thickness, settled R-value, installed density, coverage area and number of bags installed shall be listed on the certification. For sprayed polyurethane foam (SPF) insulation, the installed thickness of the areas covered and R-value of installed thickness shall be listed on the certification. The insulation installer shall sign, date and post the certification in a conspicuous location on the job site. Provide information which indicates compliance of this code requirement.
N1101.15 & #04-2014		Compliance method of "prescriptive", or simulated performance alternative, or alternative materials - method N1101.9 as adopted. Performance approach requires calculations per REScheck, REM/Rate or approved software. N1101.9 as adopted requires a RESNET testing and inspection protocol. Indicate method used.
N1101.16		A permanent certificate shall be completed and posted on or in the electrical distribution panel by the builder or registered design professional. The certificate shall not cover or obstruct the visibility of the circuit directory label, service disconnect label or other required labels. The certificate shall list the predominant R-values of insulation installed in or on ceiling/roof, walls, foundation (slab, basement wall, crawl space wall and/or floor) and ducts outside conditioned spaces; U-factors for fenestration and the solar heat gain coefficient (SHGC) of fenestration, and the results from any required duct system and building envelope air leakage testing done on the building. Where there is more than one value for each component, the certificate shall list the value covering the largest area. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment. Where a gas-fired unvented room heater, electric furnace, or baseboard electric heater is installed in the residence, the certificate shall list "gas-fired unvented room heater," "electric furnace" or "baseboard electric heater," as appropriate. An efficiency shall not be listed for gas-fired unvented room heaters, electric furnaces or electric baseboard heaters. Provide on plans and complete as best as possible for a sample of this certificate.
N1102.1.1 [Table] & #04-2014		Prescriptive requires compliance glazed fenestration 0.40 Solar Heat Gain Coefficient (SHGC) 0.25 . With simulated performance alternative, or alternative materials - method N1101.9, also identify insulation values on calculations.
N1102.1.1 [Table] & #04-2014		Prescriptive requires compliance of R-38 ceilings, R-13 walls, R-13 floors, R-0 slabs and R-0 crawl spaces. With simulated performance alternative, or alternative materials - method N1101.9, also identify insulation values on calculations. Always shown on Section plans.
N1102.2.3, R806.3		Construction documents details shall include, but are not limited to, as applicable, insulation materials and their R-values; fenestration U-factors and SHGCs; area-weighted U-factor and SHGC calculations; mechanical system design criteria; mechanical and service water heating system and equipment types, sizes and efficiencies; economizer description; equipment and systems controls; fan motor horsepower (hp) and controls; duct sealing, duct and pipe insulation and location; lighting fixture schedule with wattage and control narrative; and air sealing details. Insulation baffles (if prescriptive).

CODE	ITEM: See Exceptions
N1105.4.2 & #04-2014	Simulated performance alternative, or alternative materials - method shows multiple orientations in calculations. When an otherwise identical building model is offered in multiple orientations, compliance for any orientation shall be permitted by documenting that the building meets the performance requirements in each of the four cardinal (north, east, south and west) orientations.
N1105.4.2 & #04-2014	Provide completed Energy Compliance Certificate(s) on plans when simulated performance approach or N1101.9 is used.
N1105.4.3.3 & #04-2014	Provide documentation of actual values used in determining energy compliance certificate(s) calculations on 8½ x 11.
R106.1	Engineer's seal is signed, dated, and current (if applicable)
E3602.2 [Table]	All electrical appliances included and shown as service loads.
E3602.2 [Table]	Calculations for main panel and all subpanels.
E3602.2 [Table]	HVAC loads. Fan coils 864 VA for fan coil from 2 - 3.5 tons, 5 ton =1656 fan coil. Heat pump for 2 ton 3105 VA, 3 ton 3634, 3.5 ton 3949 VA, 5 ton 6394 - 7236 VA.
E3602.2 [Table]	Special use loads, such as swimming pools, golf cart chargers, sewage ejectors, etc.
E3603.1 & E3704.2(1) [Tables]	Feeder wire sizes and types; conduit sizes and types.
E3606.4	Rating of main panel and subpanels. Typical is 200 Amp, 22,000 AIC Main, 120/240V, 1 phase 3 wire, NEMA 3R, surface mount.
E3608	Indicate method for grounding electrode – either concrete encased #4 rebar, #4 AWG copper 20' long located horizontally encased by at least 2" of concrete within the concrete foundation with 4 AWG, or two each 8' long 5/8" diameter nonferrous ground rods
E3609	Bonding to copper water (if over 10' length) within 5' of piping into building and gas pipes typically with 6 AWG copper/ 4 AWG aluminum.
E3404.11	Panel schedule for main panel & all subpanels.
E3702.9.1 & E3703	Indicate required branch circuits and identify breaker amperage ratings. Minimum of 2 - 20A kitchen, 1 - 20A bathroom, 1 - 15A garage and laundry, 1 -30A electric dryer, 1 - 40A electric range over 8.75kVA.
E3705.1 & E3705.4.4	Wiring meets sizing 125% and 60 degrees C for NM. 30 Amps = #10 Cu or # 8 Al, 40 Amps = #8 Cu or #6 Al, 45 Amps = #6 Cu or #4 Al, 50 Amps = #6 Cu or #4 Al.
E3902.12	All branch circuits that supply 120-volt, single-phase, 15- and 20-ampere outlets installed in family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreations rooms, closets, hallways and similar rooms or areas shall be protected by a combination type arc-fault circuit interrupter installed to provide protection of the branch circuit.
E3903.2	Switch-controlled light in kitchen and bathroom, also in every other habitable room (or receptacle). No dimmers allowed.
E3903.3	Switch controlled light at each exterior door at grade.

CODE	ITEM: See Exceptions
E3903.3, E3903.4	Switch-controlled light in utility rooms and garage.
E3905.6	At every outlet used exclusively for lighting, the ceiling box shall be designed or installed so that a luminaire or lampholder can be attached. Such boxes shall be capable of supporting a luminaire weighing up to 50 pounds. A luminaire that weighs more than 50 pounds shall be supported independently of the outlet box, unless the outlet box is listed and marked for the maximum weight to be supported.
E4003.12	Clearances to light fixtures in clothes closets; varies based on type of lamp. Example a recessed can light with a lens can be 6" clear from shelf or 18" from wall, but an open recessed can light must be 12" from shelf or 24" from wall.
E4003.9	Damp or wet listed fixtures at required locations. Fixtures shall be listed for use in the type of application.
M1305.1 & E3903.4	Switch at required passageway for light and a receptacle at attic HVAC equipment. Light located at or near the equipment requiring servicing.
N1102.4.4 & E4004.8	Light fixtures in ceiling envelope either Type IC airtight, Type IC max 2 CFM leakage, or non-IC in airtight box. Non-IC requires clearance to combustibles.
N1104	A minimum of 75% of the lamps in permanently installed lighting fixtures shall be high-efficacy lamps or a minimum of 75% of the permanently installed lighting fixtures shall contain only high-efficacy lamps.
R303.7	Light fixture at stairs, minimum of 1 foot candle, switches at both levels if more than 6 risers.
E3901.10	Receptacle in hallways 10' long.
E3901.11	Foyers that are not part of a hallway with an area over 60 SF shall have receptacle(s) located in each wall space 3' or more in width and unbroken by doorways, floor-to-ceiling windows, and similar openings.
E3901.12	GFCI and weatherproof receptacle within 25' of outdoor HVAC equipment.
E3901.2	Receptacle spacing in habitable rooms so no point measured horizontally along the floor 6', etc.
E3901.4	In kitchen and dining rooms, a GFCI protected receptacle outlet shall be installed at each wall counter space 12 inches or wider so that no point along the wall is more than 24 inches from a receptacle outlet.
E3901.4	Single receptacle serving countertops at peninsula or kitchen island unless a rangetop or sink in island. Outlets can be no more than 12" below countertop.
E3901.6	GFCI receptacle within 3 feet of each bath lavatory.
E3901.7, E3902.3, & E4002.9	Exterior receptacles at front & rear of house fail to mention the requirement for the bubble box. A receptacle installed outdoors in a location protected from the weather or in other damp locations shall have an enclosure for the receptacle that is weatherproof when the receptacle cover(s) is closed and an attachment plug cap is not inserted. A receptacle shall be considered to be in a location protected from the weather where located under roofed open porches, canopies and similar structures and not subject to rain or water runoff. GFCI and weatherproof exterior receptacles at front & rear of house are not to be more than 6'-6" above grade.
E3901.9 & E3902.2	GFCI receptacle in garage. All 120v 15 and 20A receptacles in garage to be GFCI.
E3902.7	All 125-volt, single-phase, 15- and 20-ampere receptacles that are located within 6 feet of the outside edge of a sink that is located in an area other than a kitchen, shall have ground-fault circuit-interrupter protection for personnel.

CODE	ITEM: See Exceptions
E4002.14	Tamper resistant receptacles required on all new outlets were applicable per the following code "Receptacles in every room per E3901.2 except the following locations shall be required to be tamper resistant: 1. Receptacles located more than 5½' above the floor. 2. Receptacles that are part of a luminaire or appliance. 3. A single receptacle for a single appliance or a duplex receptacle for two appliances where such receptacles are located in spaces dedicated for the appliances served and, under conditions of normal use, the appliances are not easily moved from one place to another." Identify locations of required devices on plans or include the above note.
R314	Smoke alarms at bedrooms - inside of and per manufacturer's installation instructions.
R314 & R315	Interconnected smoke and carbon monoxide alarms required per the following: For homes with attached garages, a listed per UL 2034 (for carbon monoxide) and UL 217 (for smoke) and installed per NFPA 72 combination smoke alarm and carbon monoxide detector listed for interconnection with the other smoke alarms located per manufacturer's installation instructions and in the immediate vicinity outside of bedrooms. Listed per UL 217 and installed per NFPA 72 smoke detectors shall be located inside bedroom(s) and on each story. Smoke alarm(s) shall be hard wired with battery backup, and interconnected with all other smoke alarms. For additional options see R314 and R315. Identify locations of required devices.
E4101.5 Table	Specify electric water heater disconnecting means. Table E4101.5.
E3905.8	Ceiling fan outlet boxes shall be marked by their manufacturer as suitable for this purpose. For outlet boxes designed to support ceiling-suspended fans that weigh more than 35 pounds, the required marking shall include the maximum weight to be supported.
E3405	Working space for panelboards. Clear access 30" wide and 36" in front and 6'-5" high. 90 degree opening of doors or hinged panels.
E3405	Disconnects at all HVAC equipment. Clear access 30" wide and 36" in front. Always in line of sight of equipment.
E3604	Clearances to overhead service drop - above roof and openings
E3803	Underground insulated conductors and cables for branch circuits to be listed for use in wet locations.
N1104.1.1	Fuel gas lighting systems shall not have continuously burning pilot lights. Provisions for electrical ignition required for gas water heater, stoves, ranges, and fireplaces.
P2720 & E4102	GFCI for whirlpool tub with access panel in readily accessible location.
R106.1	Engineer's seal is signed, dated, and current (if applicable)
M1401.(3), M1601, & N1103.6	Sizing calculations for heating & cooling equipment sized in accordance with ACCA Manual S based on building loads calculated per ACCA Manual J or other approved method. Duct systems shall be designed in accordance with ACCA Manual D. Provide ACCA Manual S, J, and D on 8½ x 11.
N1103.2.	Insulation of supply & return ducts = R-8 or R-6 in attics based on energy compliance method.
N1103.2.2	Duct tightness test per N1103.2.2 or other adopted method.
N1103.2.2.1 & N1104.11	Gas fired furnace = no continuous pilot light. Air handler is sealed with leakage no more than 2% of air flow when tested to ASHRAE 193.
G2425 - G2428	Vent & vent connector for gas hot water heater.

CODE	✍	ITEM: See Exceptions
G2407 & M1701		Outdoor combustion air for gas water heater - 2-permanent opening method: vents and or ducts within 12" of ceiling and floor. 1 square inch per 2,000 Btu/h. 50 CF/1000 Btu/h
G2407 G2442 & M1701 - M1703		Outdoor combustion air for forced air furnace - 2 permanent opening method: vents and or ducts within 12" of ceiling and floor. 1 square inch per 2,000 Btu/hour via horizontal ducts and 1 square inch per 4,000 Btu/hour via direct communication. 50 cubic feet per 1000 Btu/hour for indoor air source.
G2409		Clearances for gas furnaces - identify on plans. Equipment and B-vent clearances are to be per manufacture's installation instructions.
G2439, M1501, & M1502		Dryer vent - size & length; Min. 4" not to exceed 35' with reductions 2½' reduction for each 45 degree bend and 5' for each 90 degree bend. Terminate to outside of building with backdraft damper. No screens. Ducts shall be mechanically fastened. Screws or similar fasteners shall not protrude more than 1/8" into the inside of the duct. 2" over-sized nail plates. Include note on plans.
M1303		Equipment specifications: (Manufacturer and model number, weight, - electrical: amps, volts, and motor phase - gas: BTUH)
M1305.1, M1401.2, & G2406.2		Locations of HVAC equipment with provisions for inspection, service, repair and replacement. Gas appliance prohibited equipment include sleeping rooms, bathrooms, toilet rooms, and storage closets except when it complies with either; direct venting, or a number of conditions per G2406.2.
M1305.1.2		Closet HVAC unit - clearances/ access
M1307		Furnace/blower section in attic. Support details, including sizes, gauges and attachment method of metal brackets (at each end) and type of product for support between. If chain, provide individual chain strength.
M1401.2		Air filter location shown. (FF)
M1411.3		Auxiliary drain pan 1½" deep and 3" larger than the unit coil, corrosion resistant. Where subject to water damage with full drain pan, appliance shall be located above pan flood level.
M1411.3		Primary and secondary condensate drains shall be a minimum of 3/4" and slope minimum of 1/8" per foot. The overflow drain shall discharge to a conspicuous point to alert occupants of stoppage. Optional interlock.
M1411.6		Refrigerant circuit access port caps shall be fitted with locking-type tamper resistant caps or otherwise secured to prevent unauthorized access.
M1502.4.5, G2439.5.6		Where the exhaust duct is concealed within the building construction, the equivalent length of the exhaust duct shall be identified on a permanent label or tag. The label or tag shall be located within 6 feet of the exhaust duct connection.
M1503		Range hoods discharge outdoors through smooth single air tight wall duct with backdraft damper unless listed and labeled as a ductless range hood.
M1506.2, R303.5.2, & R303.6		Air exhaust openings shall terminate not less than 3' from property lines; 3' from operable and nonoperable openings into the building and 10' from mechanical air intakes except where the opening is located 3' above the air intake. Exhaust air shall not be directed onto walkways. Outside opening protection. Air exhaust and intake openings that terminate outdoors shall be protected with corrosion-resistant screens, louvers or grilles having a minimum opening size of ¼" and a maximum opening size of ½", in any dimension. Openings shall be protected against local weather conditions. Outdoor air exhaust and intake openings shall meet the provisions for exterior wall opening protectives in accordance with this code.

CODE	ITEM: See Exceptions
M1507.3.1, & R303.5.1	Outdoor air ducts - Mechanical and gravity outdoor air intake openings shall be located a minimum of 10' from any hazardous or noxious contaminant, such as vents, chimneys, plumbing vents, streets, alleys, parking lots and loading docks, except as otherwise specified in this code. Where a source of contaminant is located within 10' of an intake opening, such opening shall be located a minimum of 3' below the contaminant source. Exhaust from dwelling unit toilet rooms, bathrooms and kitchens shall not be considered as hazardous or noxious.
R303.3 & M1507.4	Bathrooms: glass 3 SF, opens half-way. Exceptions: 50 CFM intermittent or 20 CFM continuous.
M1601.2	Factory-made ducts shall bear a listing and label indicating compliance with UL 181 and UL 181A or UL 181B.
N1103.1.1	One programmable thermostat per each separate heating and cooling system shall be provided capable of controlling the heating and cooling on a daily schedule to maintain different temperature set points.
M1411.5	Insulation of mechanical system refrigerant suction piping R-4.
M1411.5	Refrigerant suction piping shall be insulated with insulation having external surface permeance not exceeding 0.05 perm [2.87 ng/(s • m² • Pa)] when tested in accordance with ASTM E 96.
N1103.5, M1507 & R202	Whole-house mechanical ventilation system required when house meets the mandatory 5 air changes per hour. Efficacy for range hoods and in-line fan 2.8 CFM/watt. Bathroom, utility room with minimum CFM of 10 efficacy of 1.4 CFM/watt and maximum of 90 CFM. Bathroom, utility room with minimum CFM of 90 efficacy of 2.8 CFM/watt and no maximum. See Table M1507.3.3(1) for CFM based on floor area.
R106.1	Key legend, abbreviation list. Shows all supplies, returns, duct types, symbols, etc.
R302.5.2	Garage HVAC unit – raised platform 26ga metal ducts for penetrations and have no openings into the garage.
R303.6	Intake openings for outside air and outlet for air exhaust protected by ¼" to ½" screen.
R303.9 & #2014-04A	Required heating and cooling: "Every dwelling unit shall be provided with heating and cooling facilities capable of maintaining a minimum room temperatures between of 70°F and 90°F at a point 3 feet above the floor and 2 feet from exterior walls in all habitable rooms at the design temperature. The installation of one or more portable space heaters or portable space coolers shall not be used to achieve compliance with this section."
R310	Outdoor ground-mounted condenser unit - egress clearance? Code does not show a minimum, but 20" wide is reasonable to expect.
R703.8	The condensing unit detail or note to identify the required product(s) for the penetration through the vapor barrier (i.e. roof jack) or listed pipe sleeving method.
R106.1	Engineer's seal is signed, dated, and current (if applicable)
G2406, G2408.1	Fixtures match plans.
G2413	Appliance BTUH, gas line lengths, gas line sizes. Standard and options are to be separate diagrams unless easy to read. Gas piping sized per tables.
G2414 & G2415	Gas line materials identified. CSST, steel, or plastic types and/or manufacturer.
G2415.9 & #2014-04A	Gasline minimum burial depths: 12" except plastic pipe then 18" with yellow 18 AWG insulated tracer wire.
G2419.4	Dirt leg/sediment trap on all gas appliances, except clothes dryers, ranges, fireplaces, and outdoor grills.

CODE	ITEM: See Exceptions
G2412	Gas meter location identified.
G2413, G2415.15, & G2420	Gas outlet (stub) locations identified. Appliance shutoff valve provided.
G2415.6 & G2415.8	Underground penetration and sleeve detail. Not less than 2" above floor. Sleeve capable of being pressurized to full pressure of gasoline. Not less than 4" outside building, vented above grade to the outdoors, and installed to prevent entrance of water and insects.
P2903	All fixtures listed - verify with floor plan
P2903	Available water pressure from municipal map or on-site verification
P2903 & AP103	Developed length and maximum distance from meter to plumbing fixture identified. Water meter, street lateral, and water supply line sizes. Between 9.5 and 32 WSFU 3/4" meter and 1" distribution pipe works up to 150' maximum developed length. With 1 1/4" pipe, developed length can be 400'. Three bathrooms typically = 1" minimum service.
P2903	Hot and cold water-supplies and minimum sizing per fixture are shown as matrix or on plans.
P2801.5, P2803, & P2905.5 [Table]	24 gauge, 1 1/2" deep, drain pan and drain to approved location at water heater 3/4" minimum T&P, and pan drain to drain to suitably located indirect waste receptor or to exterior of the building not less than or equal to 6" above ground in a location that does not cause personal injury of structural damage using materials listed in Table P2905.5 (not PVC).
E3602.2 [Table], N1101.8 & M1303	Water heater electric or gas? Amps (if electrical). Specify size and MBTUH (if gas). Efficiency of either to be shown on energy certificate.
M1307.3 & P2801.6	18" raised platform in garage & protection. Elevation of the ignition source is not required for appliances that are listed as flammable vapor ignition-resistant.
M2005.2	Gas water heater prohibited in storage closets. Bedrooms or bathrooms require a sealed enclosure.
P2903.9.2	Indicate shut off valve to service water heater.
P2904.17.1	Indicate dielectric fitting between flexible copper and water heater steel nipples.
P3004	4" diameter drainage line for 4 or more toilets, (over 42 D.F.U. at 1/4"/foot.)
P3004.1, P3005.4.1, P3005.4.2 [Tables]	Fixtures and floor drains shown. Waste and vent line sizes sized per tables with minimum slopes identified. 1/8" in 12" allowable only on 3" up to 36 F.U. at 1/8"/foot and 4" up to 180 F.U at 1/8"/foot.
P3005.2	Drainage pipe cleanouts required at change of direction > 45 degrees, every 40' pipe, base of vertical stack, 2-way (bull horn), same size as line, except when fixture trap or integral trap that is readily removable. 18" clearance in front for service.
P3112	Island sink venting - detail, with cleanouts.
N1103.3 & N1103.4	If prescriptive energy method is used, hot water piping from water heater to kitchen, outside conditioned space, under floor slab, 1/2" over 20' long, 3/4" over 10', over 3/4" = R-3.
P2603.5	Indicate 12" minimum water service burial depth.

CODE	✍	ITEM: See Exceptions
P2606.1		The annular space between the outside of a pipe and the inside of a pipe sleeve or between the outside of a pipe and an opening in a building envelope wall, floor, or ceiling assembly penetrated by a pipe shall be sealed with caulking material or foam sealant or closed with a gasketing system. The caulking material, foam sealant or gasketing system shall be designed for the conditions at the penetration location and shall be compatible with the pipe, sleeve and building materials in contact with the sealing materials.
P2709 & P2503.6		The adjoining walls and floor framing enclosing on-site built-up shower receptors shall be lined with utilizing approved materials and methods as identified on the plans. The lining material shall extend not less than 2 inches beyond or around the rough jambs and not less than 2 inches above finished thresholds. Sheet-applied load bearing, bonded waterproof membranes shall be applied in accordance with the manufacturer's instructions. 2" water test for inspection.
P2713.1		Bathtubs shall be equipped with a waste outlet and an overflow outlet. The outlets shall be connected to waste tubing or piping not less than 1½" in diameter.
P2717 & P2902.3.1		Provide or specify method for an air gap and discharge for the dishwasher. ¾" minimum pipe securely fastened to the underside of the counter or air gap method. The combined discharge from a sink, dishwasher, and waste grinder is permitted to discharge through a single 1½" trap. The discharge pipe from the dishwasher shall be increased to not less than ¾" in diameter and shall connect with a wye fitting between the discharge of the food-waste grinder and the trap inlet or to the head of the food grinder. The dishwasher waste line shall rise and be securely fastened to the underside of the counter before connecting to the sink tail piece or the food grinder.
P2902.4.3		Hose bibs shall have an approved vacuum breaker for protection for the potable water system. (Backflow prevention device).
P2902.5.3		Backflow for irrigation system shall be protected from backflow.
P2903.2 [Table]		Low flow fixtures: Lav. And Sink faucets 2.2 GPM @ 60 PSI, shower head 2.5 GPM @ 80 PSI, and W.C. 1.6 per flush.
P2904 & P3002		Plumbing materials - water, waste and gas pipes.
R401.3 & R403.1.7.3		Finish floor elevation and grading: On graded sites, the top of exterior foundation shall be above the elevation of the street gutter at the lowest point of discharge or the inlet of an approved drainage device a minimum of 12" plus 2%, or as approved by City Engineer, or 12" above highest elevation on lot. Surface drainage away from foundation walls minimum of 6" in 10', except where lot lines, walls, slopes and other physical barriers prohibit 6" in 10'.
R106.1		Engineer's seal is signed, dated, and current (if applicable)
R301		90 MPH basic wind speed, exposure class B, and seismic design B.
R404.1 & ACI 318.7.7.1		Concrete cast against earth and permanently exposed to earth reinforcing min. cover 3". No 6 through 18 bar = 2", W31 or D31 wire, and smaller = 1½".
R802.10.1.4		Loads - DL & LL for both top and bottom cords. Typical DL 21 PSF for tile roof, 16 PSF for floors. LL 20 PSF roofs, 40 PSF floors, 60 PSF cantilever floors.
R317.3 & R403.1.6		Sole plates - anchorage ½" steel anchor bolt with 7" embedment (or Simpson MASA), 6' minimum on center with minimum of 2 per sole plate (except connected short < 24" walls =1 and <12" walls = none). Last bolt in plate between 3½" and 12" from end (based on ½" bolt). Detail for missed or incorrectly installed anchor bolts.
R317		Sole plates - treatment with AWP A U1. Wood columns with 1" metal pedestal above concrete are excluded.

CODE	 ITEM: See Exceptions
R403.1	Footings shown at interior bearing walls
R309.1	Non-combustible floor sloped to drain or main vehicular entry door
R401.4.1 [Table] or Soils Report	Soil bearing capacity minimum match soils report. _____ PSF and special design requirements, current with all addendums. Sulfates, chloride, D78____"
R311.3	Slope porch and patio slabs to drain away from house maximum ¼" per 12"
R318	Termite treatment product and/or method specified.
R402.2 [Table] or Soils Report	Concrete strength minimum 2500 PSI, except exposed vertical concrete. Special inspection required over 3000 PSI
R403.1	Details keyed for all critical/unusual conditions
R403.1	Foundation plan match floor plan & dimensions
R403.1	Special conditions shown, i.e. steps, recessed areas, elevation changes, etc.
R403.1.1	Point loads from framing plan to spread footings
R403.1.1	Spread footing sizes - shown at post locations or structural calculations in lieu
R602.10	Anchors & shear wall hold downs
R403.1 (1) [Figure]	Footing types - T -footing vs. monolithic detailed
R403.1 [Table] or Soils Report Engineer's Calculation	Footings - minimum width R403.1, depth R403.1.4, and reinforcing per R403.1.3. Typical single story with 1500 psf load bearing capacity is 12" wide for single story, 15" wide for 2 - story and 12" below undisturbed ground surface. One #4 rebar at top and bottom of footing/stem and a 2nd #4 rebar at the bottom continuous.
R403.1	Footings shown at all exterior walls
R404.1.6	Sole plates - height above grade minimum 6".
R506 or Soils Report	Slab thickness specified minimum 3½" or per structural and soils report.
R602.10	Empirical design per R602.10 or provide engineering
R602.10	Interior braced wall lines & panels
R602.10	Shear wall transfer details - to roofs, floors & foundation
R602.10 & [Table] R602.10.1	Exterior braced wall lines & panels. Typically 3/8" structural OSB with 8d common (.131") nail at 6" edge 12" field.

CODE	ITEM: See Exceptions
R602.10 & [Table] R602.10.1	Where Architectural floor plan options move shear or load bearing walls, verify Structural calculate and show same options.
R602.10.6	Alternate braced wall panels - nailing schedule(s), OSB grade, and thickness
R602.10.6	Hold downs on shear wall plan and or foundation plan
R502.5(1), R502.5(2) [Tables]	Beam, header, girder truss - to - post connections
R502.7 & R802.8	Roof rafter/ floor joist blocking at bearing. Floor and roof rafters shall be supported laterally at the ends by nominal 2" solid blocking.
R602.3(1) [Table]	Roof-to-wall connections; nailing schedule.
R801.2	Critical details
R803	Ridge vent, perimeter boundary/diaphragm nailing of roof sheathing
R502.3.1 [Table]	Floor joist sizes
R602.7 & R802.1	Framing members specified - trusses, rafters, beams, headers, posts. Structural calculations supporting sizing provided.
R802.1	Lumber species & grades.
R802.10	Over-framing - specify location and provide detail(s).
R802.4 [Table]	Ceiling joist sizes.
R802.5.1 [Table]	Roof rafter sizes.
R802.9	Openings match floor plan - doors, windows, etc.
R503, R807.1 & M1305.1.3	Mechanical access within 20' of the mechanical equipment with continuous solid 3/4" flooring per Chapter 5 and 24" wide through 30" high clear opening. 30" x 30" x 30" in front of access required equipment. This requirement needs to be identified on the Structural plans.
R503.2.1.1 (1) [Table] & R803	Roof & floor sheathing and nailing schedule(s). Typical minimum 6" edge 12" field.
R602.7.1, R602.7.2 [Table]	Beam, single , and box header sizes.
R801.2	Roof framing plan match floor plan, roof plan, and elevations