

#### DEVELOPMENT SERVICES

### Department of Building Safety

P.O. BOX 1971 AMARILLO, TEXAS 79105-1971 PHONE (806) 378-3041 **INSPECTION LINE (806) 342-1555** FAX (806) 378-3085

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#### PLAN REVIEW CORRECTION SHEET

Review performed under 2015 I-Codes, 2014 NEC, and the Amarillo Municipal Code.

R106.1 Design drawings for all engineered/manufactured wood products shall be provided prior to building frame inspection.

**R302.2.1** The fire-resistance-rated wall or assembly separating townhouses shall be continuous from the foundation to the underside of the roof sheathing, deck or slab. The fire-resistance rating shall extend the full length of the wall or assembly, including wall extensions through and separating attached enclosed accessory structures.

**R302.2.2** "Parapet Exception" A parapet is not required when the roof is covered with a minimum class C roof covering, <u>and</u> the roof decking is noncombustible or approved fire-retardant-treated wood for a distance of 4' on each side of the separation wall/s, <u>or</u> one layer of 5/8" Type X gypsum board is installed directly beneath the roof decking,

supported by a minimum of nominal 2-inch ledgers attached to the sides of the roof framing, for a distance of 4' on each side of the separation wall/s <u>and</u> there are no openings or penetrations in the roof within 4' of the separation wall/s.

**R302.5.1** Openings from a private garage directly into a room used for sleeping purposes shall not be permitted. Other openings between the garage and residence shall be equipped with solid wood doors not less than 1<sup>3</sup>/<sub>8</sub> inches thick – solid wood or honeycombcore steel, or a 20-minute fire-rated door, **equipped with a self-closing device.** 

**R302.6** Garage is required to be separated from the residence and its attic area with not less than  $\frac{1}{2}$ " gypsum board applied to the garage side,  $\frac{5}{8}$ " Type X on ceiling of garage with living above and the supporting structural members covered in minimum  $\frac{1}{2}$ " gypsum.

**R302.7** Enclosed accessible space under stairs shall have walls, under-stair surface and any soffits protected on the enclosed side with <sup>1</sup>/<sub>2</sub>-inch gypsum board.

**R302.11** Fire blocking required in concealed spaces at 10-foot horizontal intervals and vertical at ceiling and floor levels etc. and at openings around pipes, ducts, cables, and wires at ceiling and floor level.

**R303.3** Bathrooms without an operable window requires mechanical ventilation and shall discharge directly outdoor, not into the attic space per M1507.2.

**R303.9** Every dwelling unit shall be provided with heating facilities capable of maintaining a minimum room temperature of 68 degrees F at a point 3 feet above the floor and 2 feet from exterior walls in all habitable rooms. Portable space heaters shall not be used to achieve compliance.

**R308.4** Safety Glazing is required; in all doors, glazing within 24" of door, glazing enclosing / in building walls enclosing tub /showers, glass over 9 square feet of area w/ bottom edge within 18" of floor & top edge greater than 36" above floor and walking surface within 36", glazing within 60 inches horizontally of the bottom tread of a stairway and the glass is less than 60" above the nose of the tread. **R308.4.5** Safety glazing is required: where glazing is located in walls and fences enclosing swimming pools, hot tubs and spas where the bottom edge is less than 60 inches above a walking surface and within 60 inches horizontally of the water's edge.

**R310** Emergency escape and rescue openings are required in every sleeping room. Openings shall have; minimum opening of 5.7 square feet, grade floor openings can be a minimum of 5.0 square feet (operational from inside without use of keys or tools, maximum sill height of 44" from finished floor, minimum 20" opening width, minimum 24" opening height. Basements over 400 square feet must comply with this section, less than 400 SF shall be designed as a storm shelter.

R311.3 There shall be a floor or landing on each side of each exterior door.

R311.7.5.2.1 Stairs with winders are permitted provided the tread on the narrowest side 12 inches out is not less than 10 inches wide, and the minimum width of any tread is not less 6 inches.

R311.7 Stairways: Minimum width 36", Maximum riser height 7 ¾" (max. variance 3/8"), Minimum tread depth 10" (max variance 3/8"), Minimum nosing ¾" - maximum 1 ¼" on stairs with solid risers (open risers are permitted provided the opening does not permit the passage of a 4" diameter sphere). Minimum 6'8" headroom measured vertically from a sloped plane from floor surface to floor surface. R311.7.8 Handrails are required on all stairs with four or more risers located between 34"–38" in height measured vertically from nosing. Ends shall be returned to wall or terminate in newel post or safety terminal. Clear space between wall and handrail shall not be less than 1 ½" and shall be continuous (may be interrupted by newel post at a turn). Handrail cross-section 1¼" minimum - 2 " maximum or other equivalent grasping surface, edges with min. 1/8" radius.

**R312** Guards required on any walking surface over 30" from adjacent floor or grade, minimum 36" in height. Open sides of stairs with rise of 30" or more shall have guards minimum of 34" in height measured vertically from nosing. Openings in required guards shall not permit passage of a 4" sphere.

**R312.2.1** Where an operable window is located 72 inches above finished grade outside the lowest part of the clear opening shall be a minimum of 24 inches above finish floor. (fall protection)

R314 Smoke alarms required: Each sleeping room, immediate vicinity outside bedrooms, each story of dwelling including basement. All alarms shall be hard-wired, interconnected with battery backup. (Interior alterations and additions require the dwelling unit comply with this section).



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R315 Carbon monoxide alarms required: In the immediate vicinity of the bedrooms in *dwelling units with* fuel-fired *appliances* and in dwelling units that have attached garages (work requiring a permit require existing dwelling units to comply with this section). Approved alarms shall be installed in accordance with manufacturers installation instructions or located on the wall at a height 42 to 90 inches above floor, avoiding locations near heating/cooling vents or areas which provide turbulent airflow, and minimum 36 inches away from openings to areas of high humidity. Avoid installing CO alarms in kitchens or above fuel-burning appliances. All alarms shall be hardwired with battery back-up. (Interior alterations, repairs or additions require the dwelling unit to comply with this section).

**R317.1.2** All wood in contact with the ground, embedded in concrete in direct contact with the ground or embedded in concrete exposed to the weather that supports permanent structures shall be approved pressure-preservative treated wood.

**R401.2** Concrete foundations will be designed by registered design professional licensed in the State of Texas or constructed in compliance with The 2017 Panhandle Residential Foundation Manual. Foundation illustrations are on file and available in the office of the Building Official.

**R401.3** Drainage of surface water shall not create a hazard; Lots shall be graded away from foundation minimum of 6 inches within the first 10 feet. Exception for lots unable to comply with 401.3 allows for a prescriptive 5% grade away from structure to a swale with a minimum 2% slope.

R403.1.1 Interior load-bearing walls.

**R408.1** The under-floor space between the bottom of the floor joists and the earth shall have ventilation openings through the foundation walls or exterior walls.

**R408.4** Access shall be provided to all under-floor spaces. Openings through the floor shall be 18" x 24" or through a perimeter wall 16" x 24" minimum.

**R502.11** Wood trusses shall be installed to manufacturer's instructions / design drawings and truss design drawings are required on job site and made available for inspection prior to building frame inspection.

**R506.2.4** Slab-on-grade reinforcement must be supported to remain in place from the center to upper third of the slab for the duration of the pour.

R602.3.1 Stud size, height and spacing shall be in accordance to Table R602.3(5).

**R602.7** The allowable spans of girders/headers/beams shall not exceed the values of Table R602.7(1), 602.7(2) and 602.7(3) or an engineered beam shall be specified.

**R602.11** Braced wall line sills shall be anchored to concrete or masonry foundations in accordance with Section R403.1.6 and R602.11.1

**R703.8.4.1** Size and spacing. Veneer ties, if strand wire, shall be not less in thickness than No. 9 U.S. gage wire and shall have a hook embedded in the mortar joint, or if sheet metal, shall be not less than No. 22 U.S. gage by 7/8 inch corrugated. Each tie shall support not more than 2.67 square feet of wall area and shall be spaced not more than 32 inches on center horizontally and 24 inches on center vertically

**R802.3.1** Ceiling joists and rafters shall be connected in accordance with table R802.5.1(9) and nailed to the top plate, where ceiling joists are not connected to the rafters at the top plate, minimum 2x4 joists shall be installed higher as continuous rafter ties, such rafter ties shall be installed in the lower one-third of the attic height or the ridge must be supported by a girder designed to support all loads. To resist uplift Collar ties or ridge straps (minimum 1x4) shall be connected in the upper third of the attic space not more than 4 feet on center.

R802.4 Spans for ceiling joists shall be in accordance with Tables 802.4(1) and R802.4(2).

**R802.5** Spans for *rafters* shall be in accordance with Tables 802.5.1(1) through R802.5.1(8).

**R802.5.1** When under sizing rafters, purlins shall be sized no less than the rafters that they support. Purlins shall be continuous and shall be supported by 2-inch by 4-inch braces installed to bearing walls or engineered beam at a slope not less than 45 degrees from horizontal. The braces shall be spaced not more than 4 feet on center and the un-braced length shall not exceed 8 feet.

**R806.1** Enclosed attics and rafter spaces shall have cross ventilation for each separate space by ventilating openings.

R1003.20 Chimneys that exceed 30" shall be provided with full width crickets per table R1003.20.

**N1101.14** A permanent certificate shall be completed and posted on a wall in the space where the furnace is located, a utility room or other approved location in the building. Where located on an electrical panel, the certificate shall not obstruct the visibility of any required labels for the panel. The certificate shall list the predominant *R*-values of insulation installed in or on ceiling/roof, walls, foundation, ducts outside conditioned spaces, *U*-factors for fenestration, and the results from any required duct system and building envelope air leakage testing done on the building. The certificate shall list the types and efficiencies of heating, cooling and service water heating equipment.

Pre-printed, self-adhesive labels are available at the Building Safety counter in room 105 of City Hall.

N1102.1 The building thermal envelope shall meet the requirements of Table N1102.1.1 through N1102.1.4 based on the climate zone. N1102.2.4 Access hatches and doors from conditioned to unconditioned spaces shall be weatherstripped and insulated to a level equal to the installation on the surrounding surfaces.

N1104.1 A minimum of 75% of lamps in permanently installed lighting fixtures shall be high-efficacy lamps.



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**NEC210.8(A)** Receptacles located in bathrooms, garages, accessory buildings, outdoors, crawl spaces, unfinished basements, kitchen countertops including islands, and within 6' of laundry, utility and wet bar sinks are required to have GFCI protection.

NEC210.12 Circuits supplying outlets shall be protected by a listed arc-fault interrupter.

**NEC210.52** At least one receptacle shall be installed at each island countertop space and is required to be GFCI protected per NEC 210.8.

**NEC210.52(A)** Receptacles in all habitable rooms shall be installed such that no point measured horizontally along the floor line in any wall space is more than 6 feet from a receptacle outlet.

**NEC210.52(C)** Receptacle outlets for countertop spaces in kitchens, pantries, dining rooms and similar areas shall be installed such that no point measured horizontally is more than 24 inches from a receptacle outlet in that space. A receptacle outlet shall be installed at each countertop space that is 12 inches or wider.

NEC210.52(D) At least one receptacle outlet shall be installed in bathrooms within 3 ft. of the outside edge of each basin.

NEC210.52(E) At least one receptacle outlet shall be installed at grade level at the front and back of all one and two-family dwellings.

**NEC210.52(G)** At least one receptacle outlet, in addition to those for specific equipment, shall be installed in each basement, attached garage and detached garage with electrical power.

NEC210.52(H) Hallways of 10 feet or more in length shall have at least one receptacle outlet.

**NEC210.63** A receptacle outlet shall be installed at an accessible location for the servicing of heating and air conditioning equipment. The receptacle shall be on the same level within 25' of the equipment.

**NEC210.70** At least one wall switch-controlled lighting outlet shall be installed in every habitable room, bathroom, hallway, stairway, attached garage, detached garage and on the exterior side of outdoor entrances or exits.

**NEC240.24** Branch-circuit over-current devices shall not be located in the vicinity of easily ignitable material, such as clothes closets or located in bathrooms.

**NEC406.9(B)(1)** Receptacles installed in a wet location shall have an enclosure that is weatherproof whether or not the attachment plug cap is inserted.

NEC406.9(C) Receptacles shall not be installed within or directly over a bathtub or shower.

**NEC406.12** Tamper-resistant receptacles in dwelling units specified in NEC210.52, below 5.5' from floor, shall be listed tamper-resistant.

**NEC680** Electrical wiring and equipment in or adjacent to swimming pools shall be installed in accordance with the provisions of this Article.

**Sec 4-10-171(b)7g** No openings for access, light, or air are permitted on the wall of any structure where the normal side yard requirement is not observed between such wall and the side lot line. (This does not prevent the use of glass block installed as masonry units).

Sec 4-10-194(b)(1) Residential Height Regulations. Cooling towers, roof gables, chimneys and vent stacks <u>may not exceed forty (40) feet</u> above the average ground level of the Building. Water standpipes and tanks, church steeples, domes and spires, school Buildings, institutional Buildings, and flagpoles, may be erected to exceed three (3) Stories in Height in such District provided that one (1) additional foot shall be added to the Side, Front and Rear Yards Setbacks for each foot that any such structure exceeds three (3) Stories in Height

NFPA 54, Sec. 9.20 Listed Outdoor Cooking Appliances shall be installed in accordance with their listing and the manufacturer's instructions. Unlisted Outdoor Cooking Appliances shall be installed with clearances to combustible materials of not less than 36" at the sides and not less than the 48" at the front. In no case shall the appliance be located under overhead combustible construction.

Thermal Envelope/Gas Fired Appliances Depending on placement/location of the building thermal envelope, enclosed attic spaces

outside of the building thermal envelope are still required to be ventilated in accordance with R806.1. When gas fired heating units are installed within spray foamed building thermal envelopes (attic) are required to have sealed combustion chambers or the unit must be installed within its own enclosure (mechanical room) separate from attic space so that combustion air requirements are met in accordance with G2407.

#### TABLE N1102.1.2 (R402.1.2) INSULATION AND FENESTRATION REQUIREMENTS BY COMPONENT

4 excep Marine	0.35	0.55	0.40	40	15 or 13 +1 <sup>h</sup>	8/13	19	10/13	5, 12 in.	10/13
Climate Zone	Fenestration U-Factor	Skylight U- Factor	Glazed Fenestration SHGC	Ceiling R- Value	Wood Frame Wall R-Value	Mass Wall R-Value	Floor R- Value	Basement Wall R-Value	Slab R- Value & Depth	Crawl Space WALL R-Value