# City of Gillette

## Guide for Residential Home Additions


## Building Inspection Division

Office (307) 686-5260
Inspection Line (307) 686-5256

City of Gillette

# Building Inspection Division
# Guideline to 2024 IRC Residential Construction

This booklet is provided to help answer questions you may have regarding building codes within the City of Gillette. It is **not** intended to answer all questions that may arise on any given project within the community, but to serve as a general guideline. Feel free to contact the Building Inspection Division at (307) 686-5260 if you have any questions.

**Licensing:** If you hire a contractor for your project, you need to make sure they are licensed with the City of Gillette.

**Permits:** Permits are required for electrical, plumbing, heating and air conditioning work and to build, alter, repair, move, or demolish any building.

| **BUILDING SQUARE FOOTAGE** | **PERMIT FEES** |
|---|---|
| 0 – 500 | $30 |
| 500 – 1,000 | $60 |
| 1,000 – 2,000 | $100 |
| 2,000 – 5,000 | $150 |
| Over 5,000 | $150+ $.04 per square foot |
| Miscellaneous residential (includes remodels, damage or repair) | $20 |

| **PLUMBING** | **PERMIT FEES** |
|---|---|
| Minimum permit fee | $10 |
| Each plumbing fixture, trap or set of fixtures on one trap | $2 |
| Residential Plumbing (new single family construction) – Interior | $30 |

| **MECHANICAL** | **PERMIT FEES** |
|---|---|
| Residential – New HVAC<br>(Includes up to 2 heating units, A/C unit, vents, ducts, bath fans, dryer vents) | $30 |
| Each additional unit | $15 |

| GAS | PERMIT FEES |
|---|---|
| Gas piping system of one (1) to four (4) outlets | $10 |
| Gas piping system of five (5) or more outlets | $15 |

## ELECTRICAL

The fee for an electrical permit shall be computed in accordance with the following schedule. Fees are payable at the time of issuance of the electrical permit. The minimum fee for the issuance of an electrical permit is $10.

Electrical repair, temporary construction electrical service, MH and RV hook-up (not on a privately owned lot), services, change services, basement finish, additions, alterations, or repairs, on either primary or secondary services, are computed separately.

| | PERMIT FEES |
|---|---|
| 0 – 60 amp capacity | $10 |
| 61 – 100 amp capacity | $12 |
| 101 – 200 amp capacity | $13 |
| Each additional 100 amp capacity or fraction | $4 |
| Each sub-panel | $5 |

The maximum fee for single family residences on a privately owned lot, as outlined by the International Residential Code, including EMHs, townhouses, and patio houses is:

| | PERMIT FEES |
|---|---|
| 0 – 100 amp capacity | $40 |
| 101 – 200 amp capacity | $50 |

In addition to the permit fees there is also a Capital Contribution Fee for new and upgrading services.

| | PERMIT FEES |
|---|---|
| 100 amp (or upgrade from 100 to 200 amp) | $175 |
| 200 amp | $350 |
| 400 amp | $700 |
| 600 amp | $1,050 |

## REQUIRED INSPECTIONS

The following are required inspections and the order in which they need to be completed for new construction, alterations and additions:

**Open Hole Letter** — If engineered foundation is required, Open Hole Letter shall be sent to Building Inspection before footing inspection.

**Footing** — After all rebar is tied and elevated in place and before any concrete is placed. If engineered, a Wyoming Engineered Stamped Foundation Plan is required for the inspection.

**Foundation Wall** — After all forms are in place and all vertical and horizontal rebar are tied, in place, and before concrete is placed.

**Damp-Proofing** — Before backfill is placed around foundation or crawl space walls.

**Drain Tile** — Before backfill is placed around foundation or crawl space walls.

**Underground Plumbing** — After all underground plumbing (waste, vent and water) have been installed and under test (before dirt and concrete are placed).

**Interior Footings** — After forms and rebar are in place.

**Foundation Location Certificate** — A Foundation Location Certificate prepared and signed by a licensed Wyoming surveyor.

Must be submitted to the Building Division before any further inspections are completed.

**Sill Plate** — When sill plate and sill seal are bolted in place (before floor system is put in place).

**Rough Plumbing** — After all waste, vent and water piping is installed and under test.

| | |
|---|---|
| **Rough Electric** | After all wiring and boxes are installed. |
| **Rough Mechanical** | After all venting and ductwork is installed. |
| **Gas** | After gas piping is installed, supported and under air test. **Details on page 15.** |
| **Rough Framing** | After the rough electrical, plumbing, mechanical and gas inspections are completed, and after the roofing, all framing, and fire blocking are complete and the structure is weather tight. |
| **Final Inspection** | Prior to moving furnishings into the building. |

This list does not include any special inspections that may be required and all of the inspections may not apply to every job.

## INSPECTION REQUESTS
## (307) 686-5256

Please call (307) 686-5256 and leave a message on the Inspection Line. You will need to have your permit application number or address and the type of inspection you are scheduling. Please include your name and telephone number for the inspector. **To receive an inspection in the same day, you need to call before 7:00 a.m.** Field inspectors are generally in the office between 8:00 – 9:00 a.m. and 1:00 – 2:00 p.m. if you need to contact them. When a specific time is requested, it will be noted on the request, however all times are approximate. While the Building Inspection Division will attempt to make the inspection at the requested time, conditions in the field may not make this possible all of the time. We would request your understanding and patience if this occurs on your project.

**Plans:** Plans are required for all dwellings and additions. A set of plans includes a plot plan, foundation plan, floor and roof plans, elevations, and construction section details. **See Residential Plan Checklist on page 26.** The plans should indicate what the scope of work includes. Plans need to be drawn to scale and specify all dimensions, size and spacing of building materials and any other information that is required to show how the structure will be constructed. All grading requires plans or approval and shall not affect the over lot grading for the subdivision or adjacent lots. More detailed requirements for a set of plans can be obtained from our office**.** Relocated buildings shall meet the same requirements as a new building. **Addition Plan Sample on page 25.**

**Plot Plans/Location on Property:** A plot plan is required for all new buildings. They are also required for additions, detached buildings, decks, patios, fences and retaining walls. A plot plan is a drawing that shows the shape and size (dimensions) of the property. It also shows the location of all buildings and their distance from the property lines and each other.
NOTE: For new buildings, a survey plot plan prepared by a Wyoming licensed Surveyor is required. **Sample on page 23.**

**Setback Zoning:** Setbacks from property lines vary throughout the City, due to the different land-use zoning areas. To obtain specific setback requirements please contact the City Planning Division at (307) 686-5281. Please be aware that the setbacks from the property line are often different between those required by the Zoning Ordinance and the Building Code. The Building Code setbacks are for completely different reasons than the Zoning Code setbacks.

**Parking and Garages:** A minimum of two, 9 foot x 18 foot (18 is from easement), paved, off-street parking spaces shall be provided for each dwelling unit. The parking spaces shall have a paved access to them. Detached garages shall have a paved access from the street or alley to the structure.

**Geo-Technical Evaluations (if using an engineered foundation):** A geo-technical evaluation and soils report for the foundation system should be prepared, sealed and signed by a Wyoming licensed engineer and shall be provided for all new construction.

**Foundation Drain Tile:** Drains shall be provided around all concrete or masonry foundations that retain earth and enclose interior spaces located below grade. Drainage tiles, gravel or crushed stone drains, perforated pipe or other approved

systems or materials shall be installed at or below the area to be protected and shall discharge by gravity or mechanical means into an approved drainage system. Gravel or crushed stone drains shall extend at least 1 foot beyond the outside edge of the footing and 6 inches above the top of the footing and be covered with an approved filter membrane material.

**Foundations/Footings:** Spread footings shall be a minimum of 42" below grade for frost protection. A continuous concrete footing or an engineered substitute is required for all bearing walls.

**Conventional Spread Footing:** Footings shall be a minimum of 16" in width and 8" in depth (two #4 rebar continuous in footing). #4 rebar shall be placed at 24" centers within the footing with a 90 degree bend for the foundation wall, **see detail on page 17.** Rebar should be tied in place for the inspection.

**Foundation Walls:** Walls shall have #4 rebar spaced at 24" centers in both vertical and horizontal directions. **See detail on page 17.**

**Ceiling Height:** Portions of a room with a sloping ceiling measuring less than 5 feet or a furred ceiling measuring less than 7 feet from the finished floor to the finished ceiling shall not be considered as contributing to the minimum required habitable area for that room.

**Egress Windows:** Basements, habitable attics and **every** sleeping room shall have at least one operable emergency escape and rescue opening. Where basements contain one or more sleeping rooms, emergency egress and rescue openings shall be required in each sleeping room. Where emergency escape and rescue openings are provided they shall have a sill height of not more than 44 inches above the floor. The net clear opening dimensions required by this section shall be obtained by the normal operation of the emergency escape and rescue opening from the inside. Emergency escape and rescue openings with a finished sill height below the adjacent ground elevation shall be provided with a window well. Emergency escape and rescue openings shall open directly into a public way, or to a yard or court that opens to a public way. All emergency escape and rescue openings shall have a minimum net clear opening of 5.7 square feet. To calculate square footage take height in inches multiplied by width in inches of opened window and divide by 144. **See page 21 for details and examples**.

**Exception:** Basements used only to house mechanical equipment and not exceeding total floor area of 200 square feet.

**Attic Access:** Buildings with combustible ceiling or roof construction shall have an attic access opening to attic area that exceeds 30 square feet and have a vertical height of 30 inches or greater. The vertical height shall be measured from the top of the ceiling framing members to the underside of the roof framing members. The rough-framed opening shall not be less than 22 inches by 30 inches and shall be located in a hallway or other readily accessible location. When located in a wall, the opening shall be a minimum of 22 inches wide by 30 inches high. When the access is located in a ceiling, minimum unobstructed headroom in the attic space shall be 30 inches at some point above the access measured vertically from the bottom of ceiling framing members. Attics containing appliances shall be provided with an opening and a clear and unobstructed passageway large enough to allow removal of the largest appliance, but not less than 30 inches high and 22 inches wide and not more than 20 feet long measured along the centerline of the passageway from the opening to the appliance. The passageway shall have continuous solid flooring in accordance with Chapter 5 not less than 24 inches wide. A level service space at least 30 inches deep and 30 inches wide shall be present along all sides of the appliance where access is required. The clear access opening dimensions shall be a minimum of 20 inches by 30 inches, and large enough to allow removal of the largest appliance.

**Smoke Alarms:** Smoke alarms shall be installed in each sleeping room, outside each separate sleeping area in the immediate vicinity of the bedrooms and on each additional story of the dwelling, including basements and habitable attics but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level. When more than one smoke alarm is required to be installed within an individual dwelling unit, the alarm devices shall be interconnected in such a manner that the actuation of one alarm will activate all of the alarms in the individual unit. Smoke alarms shall receive their primary power from the building wiring when such wiring is served from a commercial source, but when primary power is interrupted, alarms shall receive power from a battery. Wiring shall be permanent and without a disconnecting switch other than those required for over current protection.

**Carbon Monoxide Alarms:**

**R315.2.1 New construction.** For new construction, carbon monoxide alarms shall be provided in dwelling units where either or both of the following conditions exist.
1. The *dwelling unit* contains a fuel-fired *appliance.*
2. The *dwelling unit* has an attached garage with an opening that communicates with the dwelling unit.

**R315.2.2 Alterations, repairs and additions.** Where *alterations*, *repairs* or *additions* requiring a permit occur, the individual *dwelling unit* shall be equipped with carbon monoxide alarms located as required for new *dwellings*.
**Exceptions:**
1. Work involving the exterior surfaces of *dwellings*, such as the replacement of roofing or siding, or the addition or replacement of windows or doors, or the addition of a porch or deck.
2. Installation, alteration or repairs of plumbing or mechanical systems.

**Stairway, Handrail Guardrail Detail on page 20.**

## WOOD FRAME CONSTRUCTION

**Sill plate:** Sill plates and walls supported directly on continuous foundations shall be anchored to the foundation. Wood sole plates at all exterior walls on monolithic slabs, wood sole plates of braced wall panels at building interiors on monolithic slabs and all wood sill plates shall be anchored to the foundation with anchor bolts spaced a maximum of 6 feet on center. Bolts shall be at least 1/2 inch in diameter and shall extend a minimum of 7 inches into concrete or grouted cells of concrete masonry units. A nut and washer shall be tightened on each anchor bolt. There shall be a minimum of two bolts per plate section with one bolt located not more than 12 inches or less than seven bolt diameters from each end of the plate section. Interior bearing wall sole plates on monolithic slab foundation that are not part of a braced wall panel shall be positively anchored with approved fasteners. Cold-formed steel framing systems shall be fastened to wood sill plates or anchored directly to the foundation.

**Exceptions:** Foundation anchorage spaced as required to provide equivalent anchorage to 1/2-inch-diameter anchor bolts. Walls, 24 inches in total length or

shorter, connecting offset braced wall panels, shall be anchored to the foundation with a minimum of one anchor bolt located in the center third of the plate section and shall be attached to adjacent braced wall panels at corners. Connection of walls, 12 inches in total length or shorter, connecting offset braced wall panels to the foundation without anchor bolts, shall be permitted.

**Girders:** The ends of each joist, beam or girder shall have not less than 1.5 inches of bearing on wood or metal and not less than 3 inches on masonry or concrete except where supported on a 1-inch-by-4-inch ribbon strip and nailed to the adjacent stud or by the use of approved joist hangers.

**Floor Joist:** The ends of each joist, beam or girder shall have not less than 1.5 inches of bearing on wood or metal and not less than 3 inches on masonry or concrete except where supported on a 1-inch-by-4-inch ribbon strip and nailed to the adjacent stud or by the use of approved joist hangers. Joists framing from opposite sides over a bearing support shall lap a minimum of 3 inches and shall be nailed together with a minimum of three 10d face nails. A wood or metal splice with strength equal to or greater than that provided by the nailed lap is permitted. Notches in solid lumber joists, rafters and beams shall not exceed one-sixth of the depth of the member, shall not be longer than one-third of the depth of the member and shall not be located in the middle one-third of the span. Notches at the ends of the member shall not exceed one-fourth the depth of the member. The tension side of members 4 inches or greater in nominal thickness shall not be notched except at the ends of the members. The diameter of holes bored or cut into members shall not exceed one-third the depth of the member. Holes shall not be closer than 2 inches to the top or bottom of the member, or to any other hole located in the member. Where the member is also notched, the hole shall not be closer than 2 inches to the notch. **Example for solid lumber shown on page 18.** Engineered wood products (I-Joist) cuts, notches and holes bored in trusses, structural composite lumber, structural glue-laminated members or I-joists are prohibited except where permitted by the manufacturer's recommendations or where the effects of such alterations are specifically considered in the design of the member by a registered design professional.

**Under-Floor Clearance:** Wood joists, or the bottom of a wood structural floor, when closer than 18 inches, or wood girders when closer than 12 inches to the exposed ground in crawl spaces, or unexcavated area located within the periphery of the building foundation.

## ELECTRICAL

**Gas Line Bonding:** The piping is permanently and directly connected to the electrical service equipment enclosure, the grounded conductor at the electrical service, the grounding electrode conductor (where of sufficient size) or to one or more of the grounding electrodes used. For single and multi-family structures, a single bond connection shall be made downstream of the individual gas meter for each housing unit and upstream of any CSST connection. The bonding conductor shall be no smaller than a 6 AWG copper wire or equivalent. The bonding jumper shall be attached in an approved manner in accordance with NEC Article 250.70 and 250.104(3)(B) and the point of attachment for the bonding jumper shall be accessible. Bonding/grounding clamps shall be installed in accordance with its listing per UL 467 and shall make metal-to-metal contact with the piping. This bond is in addition to any other bonding requirements as specified by local codes.

**Sufficient Access and Work Space for Electrical Equipment:** **Detail on page 19.**

**Interior Electrical Panel:** Panel boards and over-current protection devices shall not be located in clothes closets, in bathrooms, or over the steps of a stairway.

**Non-Metallic Sheathed Cable (Romex):** Bored holes in framing members for wiring shall be located not less than 1 1/4 inches from the edge of the framing member or shall be protected with a minimum 1/16 inch steel plate or sleeve, a listed steel plate or other physical protection.

**Neutral Conductor:** No.6 and smaller must have white or natural gray insulation. Conductors larger than No. 6 may be identified where terminating in enclosures with a white color conductor or tape.

**Outlet, Junction Box, Switch:** Install properly sized outlet or junction box at each outlet, switch or junction point. A junction box may be installed in an attic where there is at least 30 inches of headroom with access and not covered with insulation.

**Number of Conductors in Outlet, Device and Junction Boxes:** Each conductor that originates outside the box and terminates or is spliced within the box shall be counted once, and each conductor that passes through the box without splice or termination shall be counted once. Each loop or coil of unbroken conductor having a length equal to or greater than twice that required for free conductors shall be counted twice. The conductor fill, in cubic inches, shall be computed using figures below, no part of which leaves the box, shall not be counted.

**Exception:** An equipment grounding conductor or not more than four fixture wires smaller than No. 14, or both, shall be permitted to be omitted from the calculations where such conductors enter a box from a domed fixture or similar canopy and terminate within that box.

**VOLUME ALLOWANCE REQUIRED PER CONDUCTOR (CUBIC INCHES)**

| SIZE OF CONDUCTOR | FREE SPACE IN BOX FOR CONDUCTOR |
|---|---|
| 18 AWG | 1.50 |
| 16 AWG | 1.75 |
| 14 AWG | 2.00 |
| 12 AWG | 2.25 |
| 10 AWG | 2.50 |
| 8 AWG | 3.00 |
| 6 AWG | 5.00 |

**Non-Metallic Sheathed Cable (Romex):** Maximum allowable on center support spacing for the wiring is 4 feet 6 inches. Maximum support distance in inches from box or other terminations is 12 inches.

**Make-up Wire:** At least 6 inches of free conductor, measured from the point in the box where it emerges from its raceway or cable sheath, shall be left at each outlet, junction, and switch point for splices or the connection of luminaries or devices. With each conductor being long enough to extend at least 3 inches outside the opening.

**Outlet Requirements:** Receptacles shall be installed such that no point measured horizontally along the floor line, on any wall space, is more than 6 feet from a receptacle outlet. Receptacles shall be installed in any space 2 feet or more in width (including space measured around corners) and unbroken along the floor line by doorways, fireplaces, and similar openings. A receptacle outlet shall be installed at each wall countertop space that is 12 inches or wider. Kitchen receptacle outlets shall be installed so that no point along the wall line is more than 24 inches measured horizontally from a receptacle outlet in that space. At least one receptacle outlet shall be installed in bathrooms within 3 feet of the outside edge of each basin. The receptacle outlet shall be located on a wall or partition that is adjacent to the basin or basin countertop, or installed on the side or face of the basin cabinet, not more than 12 inches below the countertop.

**Kitchen Small Appliance Circuits:** Every kitchen shall have at least two 20 amp circuits. The kitchen circuits shall not supply any other outlets except pantry, dining/breakfast rooms.

**Bathrooms (Bathroom Branch Circuits):** In addition to the number of branch circuits required by other parts, at least one 20 amp branch circuit shall be provided to supply bathroom receptacle outlet(s). Such circuits shall have no other outlets.

**Exception:** Where the 20 amp circuit supplies a single bathroom, outlets for other equipment or lighting within the same bathroom shall be permitted to be supplied by one circuit.

**GFCI Outlets:** All 125-volt through 250-volt receptacles installed in the locations specified below shall have ground-fault circuit-interrupter protection for personnel. Requirements for following locations include areas outside the room/location within 6' water source.

- Garages, and also accessory buildings that have a floor located at or below grade level not intended as habitable rooms and limited to storage areas, work areas, and areas of similar use
- Outdoors
- Crawl spaces — at or below grade level
- Basements — Finished or unfinished
- Kitchens — where the receptacles are installed to serve the countertop surface
- Sink receptacles – Receptacles that are located within 6 feet of the outside edge of a sink shall have ground-fault circuit-interrupter protection for personnel. Receptacle outlets shall not be installed in a face-up position in the work surfaces or countertops
- Bathtub or shower stall receptacles – 125-volt, single phase, receptacles that are located within 6 feet of the outside edge of a bathtub or shower stall shall have ground-fault circuit interrupter protection for personnel
- Laundry areas – Receptacles installed in laundry areas shall have ground-fault circuit interrupter protection for personnel
- Kitchen dishwasher branch circuit – ground-fault circuit-interrupter protection shall be provided for outlets that supply dishwashers in dwelling unit locations.

**Arc Fault Outlets:** All 120-volt, single phase, 15 and 20 amp branch circuits supplying outlets installed shall be protected by a listed arc fault circuit interrupter.

**Tamperproof Outlets:** All 125-volt, 15 and 20 amp receptacles shall be listed tamper-resistant receptacles.

**Laundry Equipment:** In addition to the number of branch circuits required at least one additional 20 amp branch circuit shall be provided to supply the laundry receptacle outlet(s). This circuit shall have no other outlets.

**Provide lighting as follows:** At least one wall switch controlled lighting outlet shall be installed in every habitable room and bathroom.

**Exceptions:** In other than kitchens and bathrooms, one or more receptacles controlled by a wall switch shall be considered equivalent to the required lighting outlet. Lighting outlets shall be permitted to be controlled by occupancy sensors that are in addition to wall switches, or that are located at a customary wall switch location and equipped with a manual override that will allow the sensor to function as a wall switch. At least one wall switch controlled lighting outlet shall be installed in hallways, stairways, attached garages, and detached garages with electric power. At least one wall switch controlled lighting outlet shall be installed to provide illumination on the exterior side of each outdoor egress door having grade level access, including outdoor egress doors for attached garages and detached garages with electric power. A vehicle door in a garage shall not be considered as an outdoor egress door. Where one or more lighting outlets are installed for interior stairways, there shall be a wall switch at each floor level and landing level that includes an entryway to control the lighting outlets where the stairway between floor levels has six or more risers. In attics, under-floor spaces, utility rooms and basements, at least one lighting outlet shall be installed where these spaces are used for storage or contain equipment requiring servicing. Such lighting outlet shall be controlled by a wall switch or shall have an integral switch. At least one point of control shall be at the usual point of entry to these spaces. The lighting outlet shall be provided at or near the equipment requiring servicing.

**Grounding Conductors:** In boxes with more than one, grounding conductor must be connected with an approved connector and pigtailed when attaching to the device.

**Clothes Closet Lighting:** The types of luminaries installed in clothes closets shall be limited to surface mounted or recessed incandescent luminaries with completely enclosed lamps, surface mounted or recessed fluorescent luminaries, and surface mounted fluorescent or LED luminaries identified as suitable for installation within the storage area. Incandescent luminaries with open or partially enclosed lamps and pendant luminaries or lamp holders shall be prohibited. The minimum clearance between luminaries installed in clothes closets and the nearest point of a storage area shall be as follows:

- Surface mounted incandescent or LED luminaries with a completely enclosed light source shall be installed on the wall above the door or on the ceiling, provided that there is a minimum clearance of 12 inches (305 mm) between the fixture and the nearest point of a storage space.
- Surface mounted fluorescent luminaries shall be installed on the wall above the door or on the ceiling provided that there is a minimum clearance of 6 inches.
- Recessed incandescent luminaries or LED luminaries with a completely enclosed light source shall be installed in the wall or the ceiling provided that there is a minimum clearance of 6 inches.
- Recessed fluorescent luminaries shall be installed in the wall or on the ceiling provided that there is a minimum clearance of 6 inches between the fixture and the nearest point of a storage space.
- Surface mounted fluorescent or LED luminaries shall be permitted to be installed within the storage space where identified for this use.

## CLOTHES DRYER VENTS

Exhaust ducts shall be supported at 4 foot intervals and secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Ducts shall **not** be joined with screws or similar fasteners that protrude into the inside of the duct. Ducts shall **not** be deformed. Transition ducts used to connect the dryer to the exhaust duct system shall be a single length that is listed and labeled in accordance with UL 2158A. Transition ducts shall be a maximum of 8 feet in length and shall not be concealed within construction. The maximum length of the exhaust duct shall be 35 feet from the connection to the transition duct from the dryer to the outlet terminal. Where fittings are used, the maximum length of the exhaust duct shall be reduced in accordance with table below and 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. Protective shield plates shall be placed where nails or screws from finish or other work are likely to penetrate the clothes dryer exhaust duct. Shield plates shall be placed on the finished face of all framing members where there is less than 1 1/4 inches between the duct and the finished face of the framing member. Protective shield plates shall be constructed of steel and shall have a minimum thickness of 0.062 inches and shall extend a minimum of 2 inches above sole plates and below top plates.

| DRYER EXHAUST DUCT FITTING TYPE | EQUIVALENT LENGTH DEDUCTIONS |
|---|---|
| 4 inch radius mitered 45 degree elbow | 2 feet 6 inches |

| | |
|---|---|
| 4 inch radius mitered 90 degree elbow | 5 feet |
| 6 inch radius smooth 45 degree elbow | 1 foot |
| 6 inch radius smooth 90 degree elbow | 1 foot 9 inches |
| 8 inch radius smooth 45 degree elbow | 1 foot |
| 8 inch radius smooth 90 degree elbow | 1 foot 7 inches |
| 10 inch radius smooth 45 degree elbow | 9 inches |
| 10 inch radius smooth 90 degree elbow | 1 foot 6 inches |

## GAS PIPING, INSTALLATION AND TESTING

**Gas Pipe and Fittings:** Cast iron pipe shall not be used. Steel and wrought iron pipe shall be at least of standard weight (Schedule 40) and shall comply with one of the following: ASME B 36.10, 10M; ASTM A 53/A 53M; or ASTM A 106. Seamless copper, aluminum alloy or steel tubing shall be permitted to be used with gases not corrosive to such material. Steel tubing shall comply with ASTM A 254. Copper tubing shall comply with standard Type K or L of ASTM B 88 or ASTM B 280. Copper and brass tubing shall not be used if the gas contains more than an average of 0.3 grains of hydrogen sulfide per 100 standard cubic feet of gas (0.7 milligrams per 100 liters). Corrugated stainless steel tubing shall be listed in accordance with ANSI LC 1/CSA 6.26 and shall be bonded per page 9. Plastic pipe, tubing and fittings used to supply fuel gas shall conform to ASTM D 2513. Pipe shall be marked “Gas” and “ASTM D 2513.”

**Gas Line Test:** The test pressure to be used shall be not less than one and one-half times the proposed maximum working pressure, but not less than 3 psig (20 kPa gauge), irrespective of design pressure. Preferred test is 15psi with a 15 psi test gauge. Where the test pressure exceeds 125 psig (862 kPa gauge), the test pressure shall not exceed a value that produces a hoop stress in the piping greater than 50 percent of the specified minimum yield strength of the pipe.

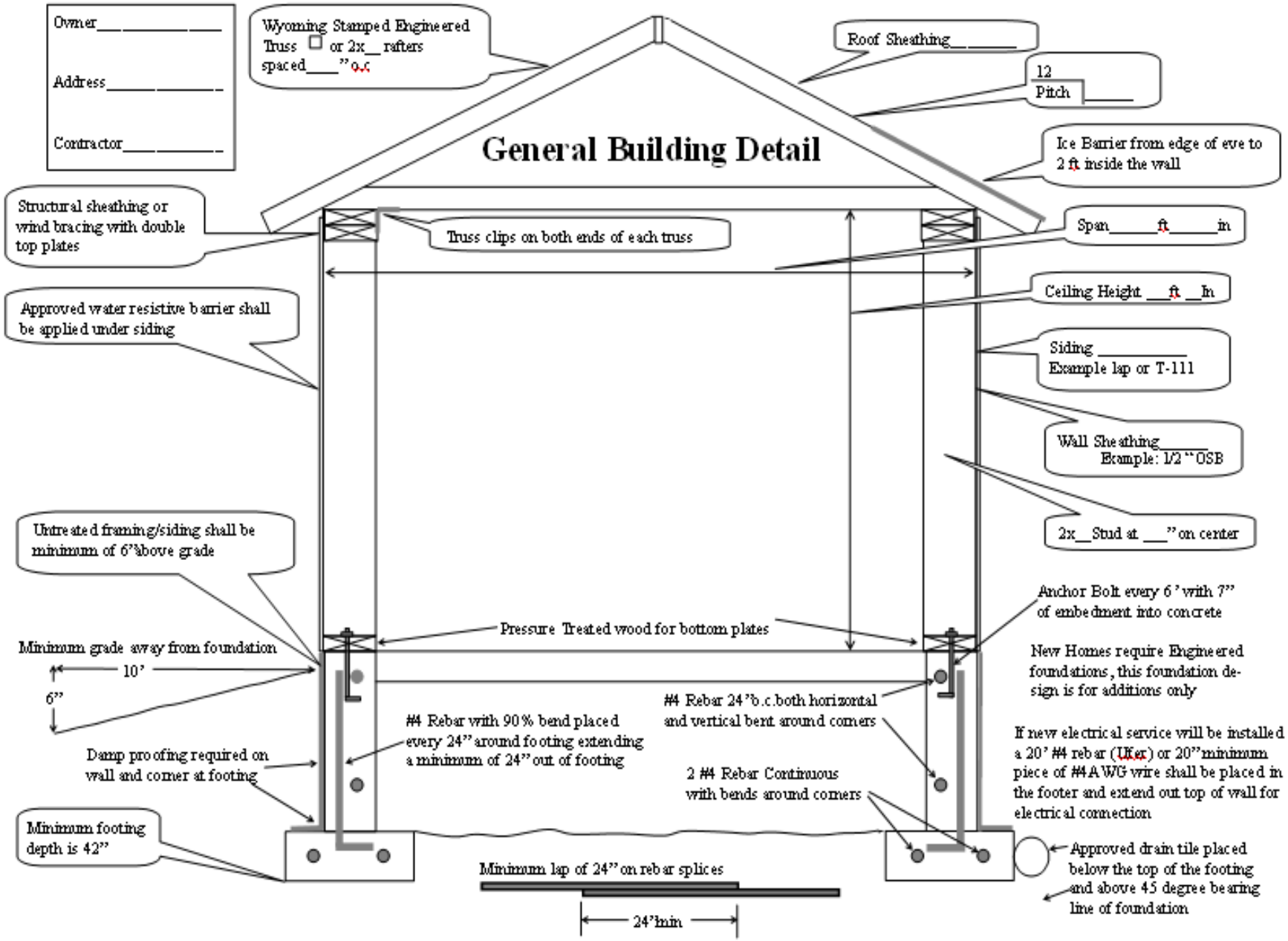
**Gas Appliance Connectors:** Connectors shall not exceed 6 feet in overall length. Measurement shall be made along the centerline of the connector. Only one connector shall be used for each appliance. Connector shall not be concealed in any floor, wall or ceiling space.

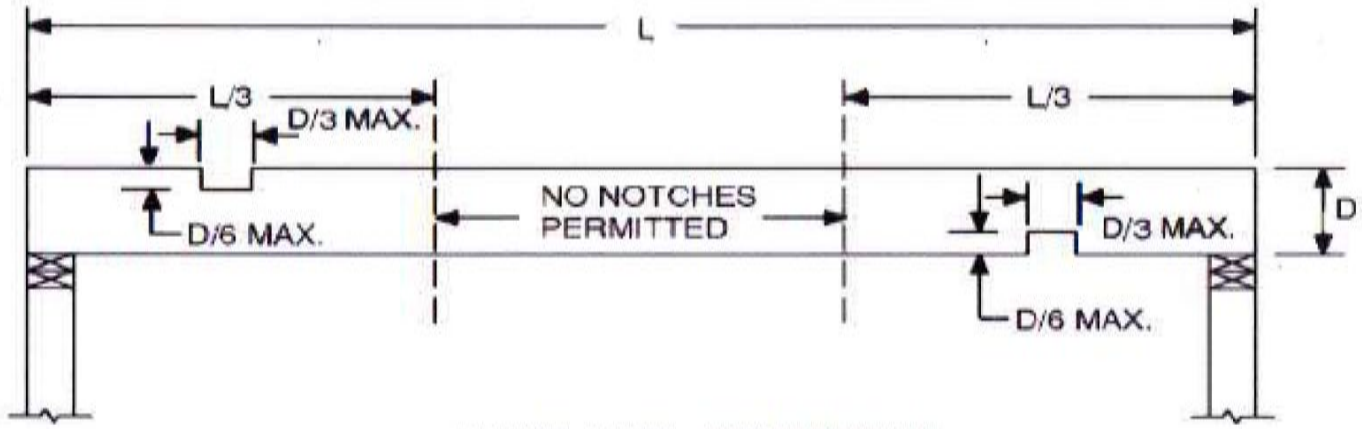
## PLUMBING

**Materials:** All materials used shall be installed in strict accordance with the standards under which the materials are accepted and approved. In the absence of such installation procedures, the manufacturer's installation instructions shall be followed. Where the requirements of referenced standards or manufacturer's

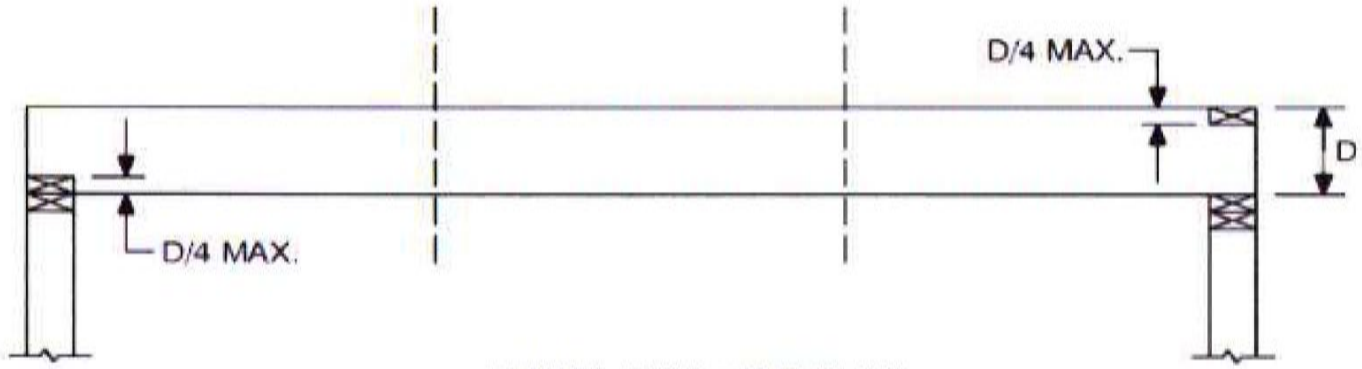
installation instructions do not conform to the minimum provisions of this code, the provisions of this code shall apply.

**Plumbing Vents Through Roof:** All open vent pipes which extend through a roof shall be terminated at least 12 inches above the roof or 12 inches above the anticipated snow accumulation, except that where a roof is to be used for any purpose other than weather protection, the vent extensions shall be run at least 7 feet above the roof.

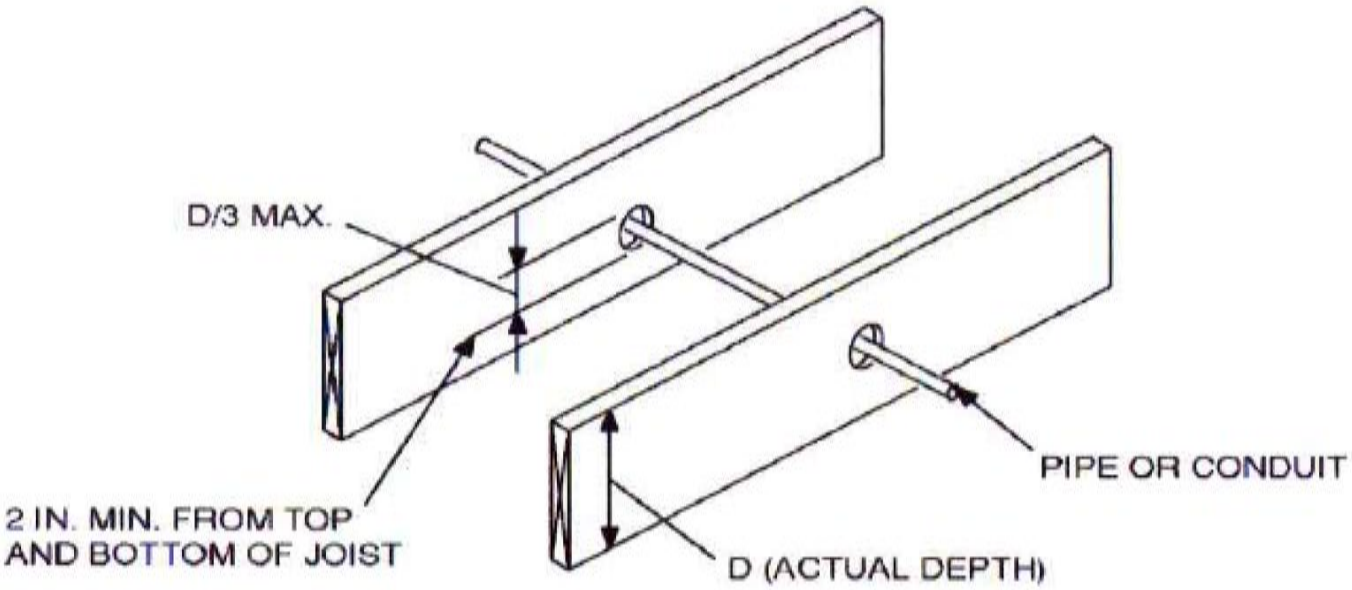

Owner_____
Address_____
Contractor_____
Wyoming Stamped Engineered Truss ☐ or 2x__ rafters spaced____" o.c
Roof Sheathing_____
12 Pitch _____
General Building Detail
Ice Barrier from edge of eve to 2 ft inside the wall
Structural sheathing or wind bracing with double top plates
Truss clips on both ends of each truss
Span_____ft_____in
Ceiling Height ___ft __In
Approved water resistive barrier shall be applied under siding
Siding _____
Example lap or T-111
Wall Sheathing_____
Example: 1/2" OSB
2x__Stud at ___" on center
Untreated framing/siding shall be minimum of 6"above grade
Anchor Bolt every 6' with 7" of embedment into concrete
Pressure Treated wood for bottom plates
Minimum grade away from foundation
10'
6"
New Homes require Engineered foundations, this foundation design is for additions only
#4 Rebar 24"o.c.both horizontal and vertical bent around corners
#4 Rebar with 90% bend placed every 24" around footing extending a minimum of 24" out of footing
If new electrical service will be installed a 20' #4 rebar (Ufer) or 20" minimum piece of #4 AWG wire shall be placed in the footer and extend out top of wall for electrical connection
Damp proofing required on wall and corner at footing
2 #4 Rebar Continuous with bends around corners
Minimum footing depth is 42"
Approved drain tile placed below the top of the footing and above 45 degree bearing line of foundation
Minimum lap of 24" on rebar splices
24"min



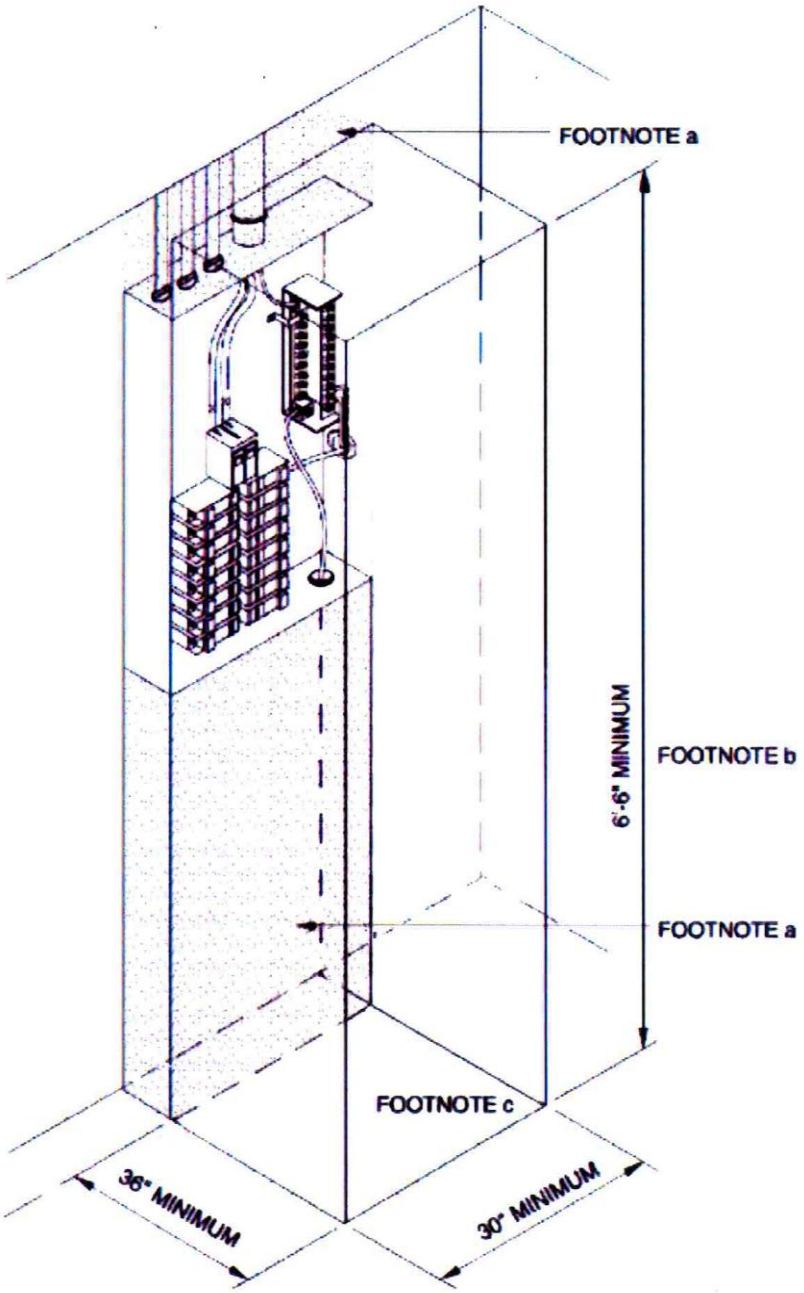

FLOOR JOIST—CENTER CUTS




FLOOR JOIST—END CUTS



Sufficient access and working space shall be provided and maintained around all electrical equipment to permit ready and safe operation and maintenance of such equipment

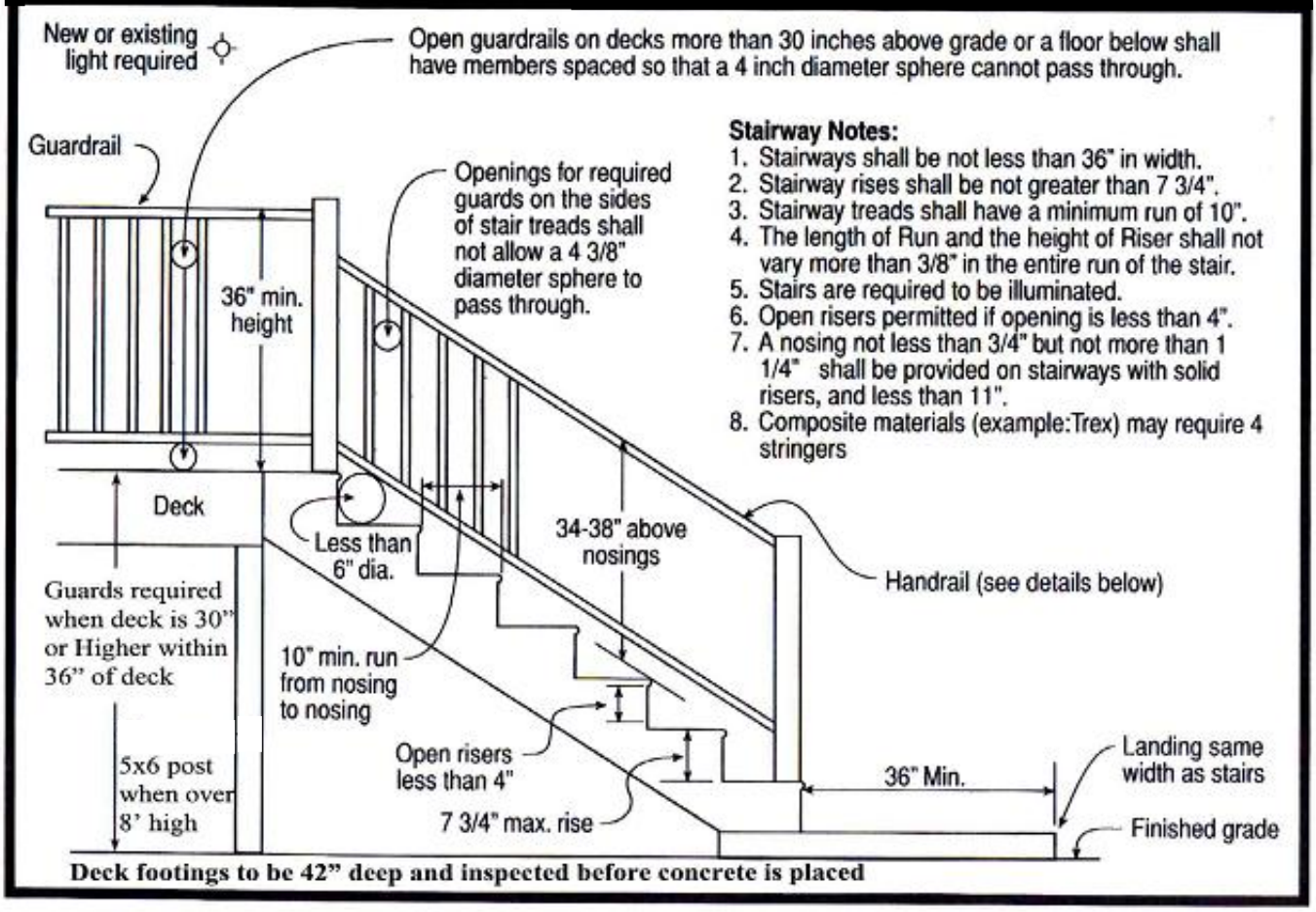



**WORKING SPACE AND CLEARANCES**

a. Equipment, piping and ducts foreign to the electrical installation shall not be placed in the shaded areas extending from the floor to a height of 6 feet above the panelboard enclosure, or to the structural ceiling, whichever is lower.
b. The working space shall be clear and unobstructed from the floor to a height of 6.5 feet.
c. The working space shall not be designated for storage.
d. Panelboards, service equipment and similar enclosures shall not be located in bathrooms, toilet rooms, clothes closets or over the steps of a stairway.
e. Such work spaces shall be provided with artificial lighting where located indoors.

# Residential Handrail, Guardrail & Stairway Detail

## Stair & Handrail Specifications



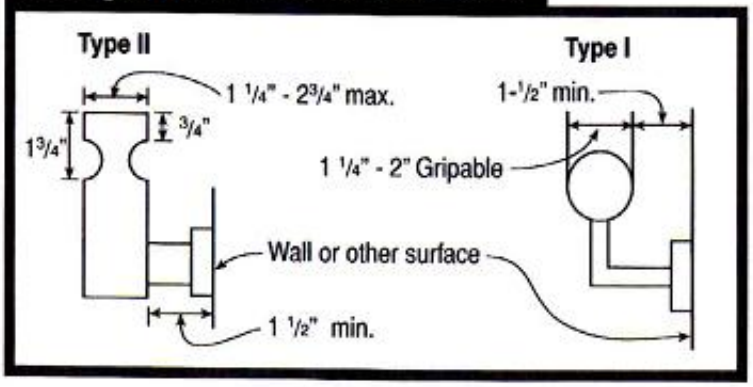

**Stairway Notes:**

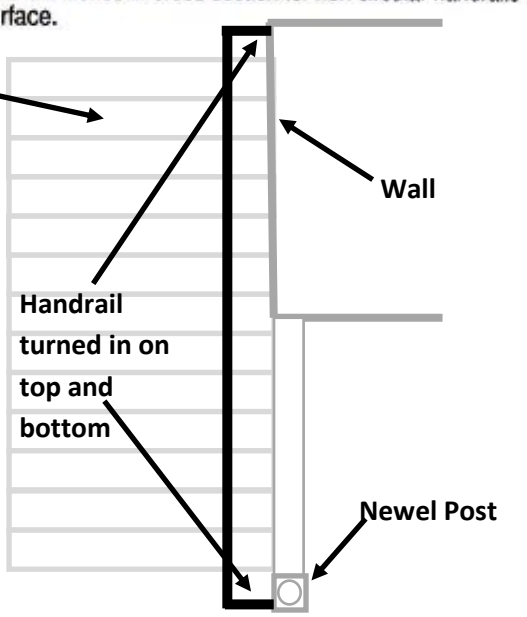
1. Stairways shall be not less than 36" in width.
2. Stairway rises shall be not greater than 7 3/4".
3. Stairway treads shall have a minimum run of 10".
4. The length of Run and the height of Riser shall not vary more than 3/8" in the entire run of the stair.
5. Stairs are required to be illuminated.
6. Open risers permitted if opening is less than 4".
7. A nosing not less than 3/4" but not more than 1 1/4" shall be provided on stairways with solid risers, and less than 11".
8. Composite materials (example:Trex) may require 4 stringers

**Handrail Notes:**

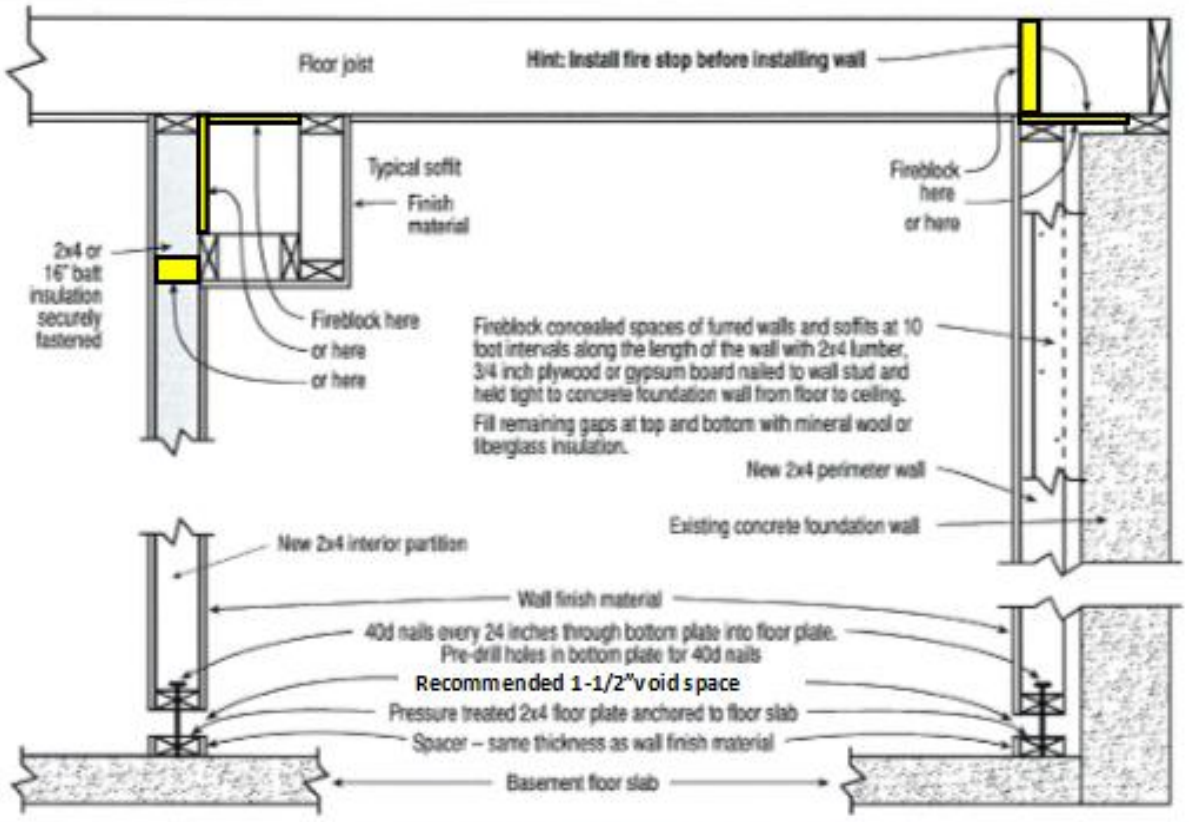
1. Handrails shall be continuous on at least one side of stairs with 4 or more risers.
2. Top of the handrails shall be placed not less than 34 inches nor more than 38 inches above stair nosings.
3. The handgrip portion of handrails shall be not less than 1-1/4 inches nor more than 2 1/4 inches in cross section for non circular handrails
4. Handrails shall be placed not less than 1-1/2 inches from any wall or other surface.
5. Handrails to be returned to wall, post or safety terminal

## Acceptable Handrail Details



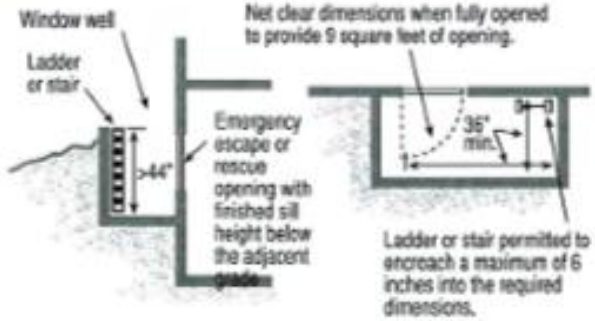



# Basement Finish Details




## Emergency Escape & Rescue Window Well

Emergency Escape And Rescue window wells must provide a minimum area of 9 square feet with a minimum dimension of 36 inches and shall enable the window to open fully. If the depth of the window well exceeds 44 inches, a permanently affixed ladder must be provided. The ladder must not interfere with the operation of the window.

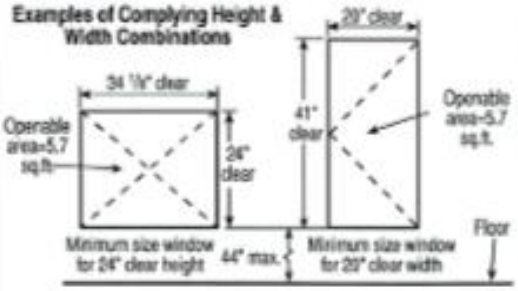



## Emergency Escape & Rescue Window

Emergency Escape And Rescue Windows must meet the following criteria:

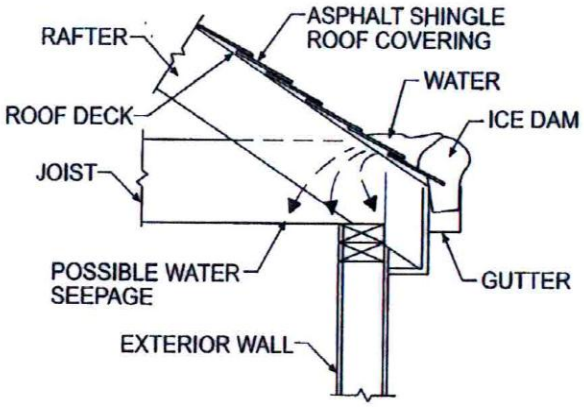
- A minimum total openable area of not less than 5.7 square feet
- A minimum clear openable height of not less than 24 inches
- A minimum clear openable width of not less than 20 inches.
- A finished sill height of not more than 44 inches above the floor and the window should be openable from the inside with normal operation and without the use of tools, keys or effort.

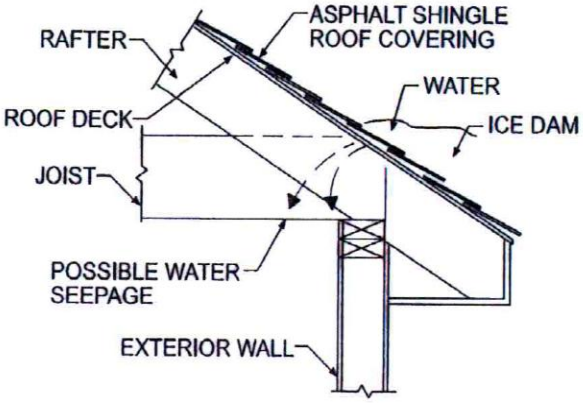
**Examples of Complying Height & Width Combinations**



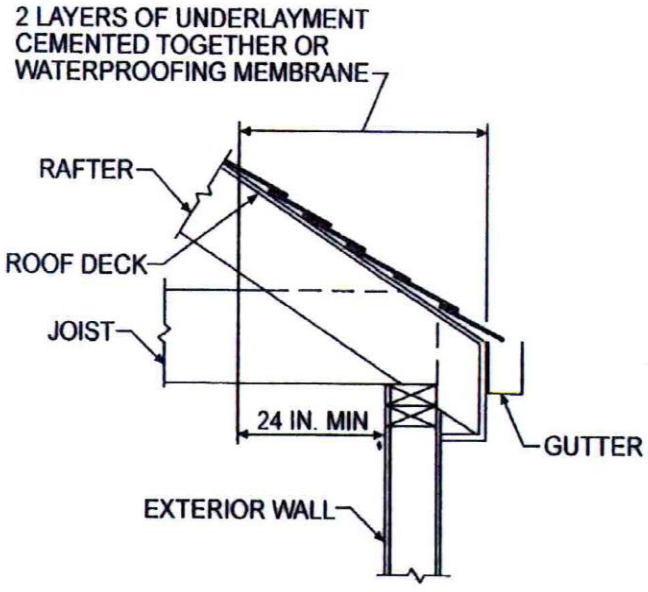

**Example of acceptable window openings for heights and widths**

| Width | 20 | 20.5 | 21 | 21.5 | 22 | 22.5 | 23 | 23.5 | 24 | 24.5 | 25 | 25.5 | 26 | 26.5 | 27 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Height | 41 | 40 | 39.1 | 38.2 | 37.3 | 36.5 | 35.7 | 34.9 | 34.2 | 33.5 | 32.8 | 32.2 | 31.6 | 31 | 30.4 |
| Width | 27.5 | 28 | 28.5 | 29 | 29.5 | 30 | 30.5 | 31 | 31.5 | 32 | 32.5 | 33 | 33.5 | 34 | 34.2 |
| Height | 29.8 | 29.3 | 28.8 | 28.3 | 27.8 | 27.4 | 26.9 | 26.5 | 26.1 | 25.7 | 25.3 | 24.9 | 24.5 | 24.1 | 24 |

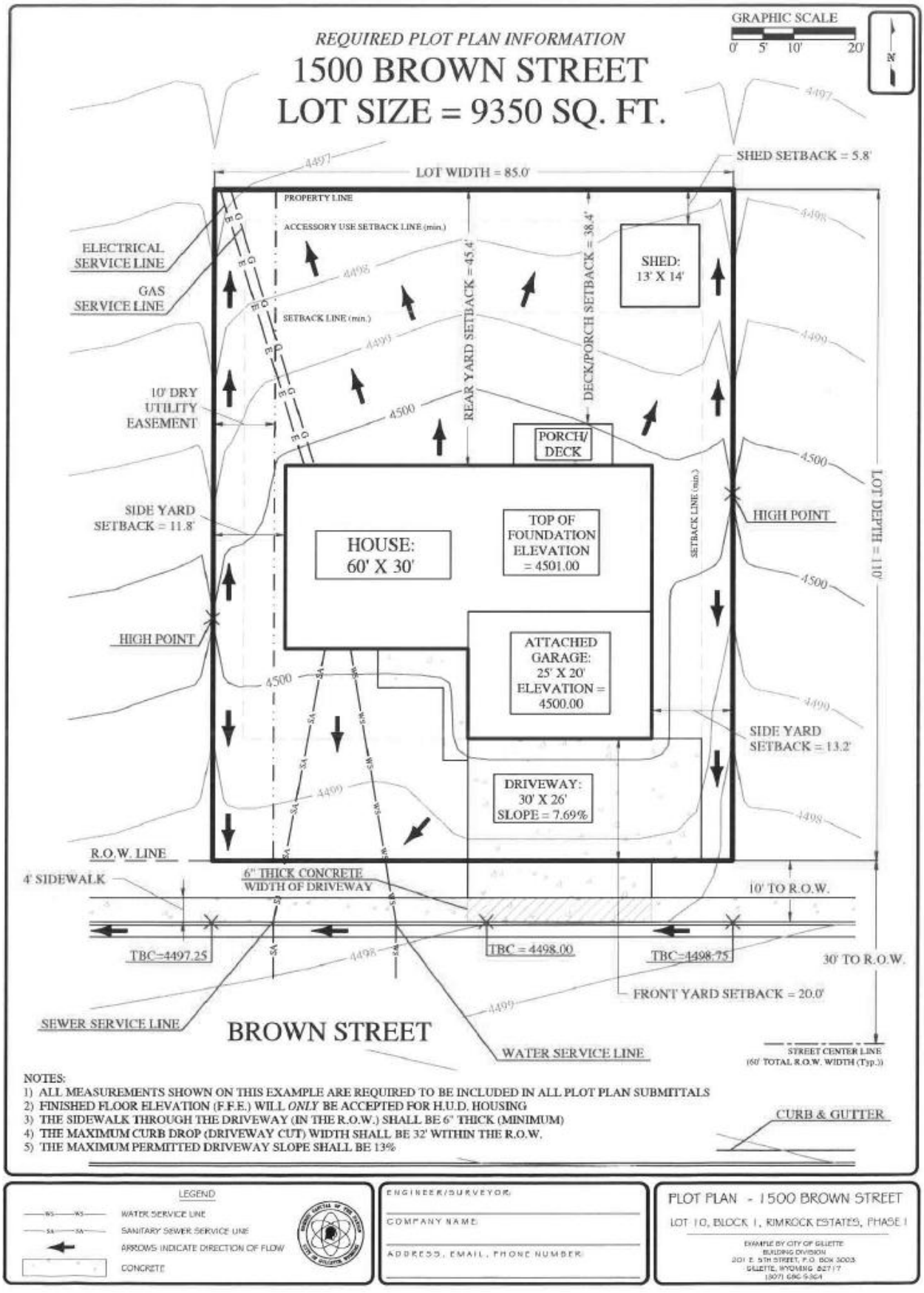



**POSSIBLE WATER DAMAGE FROM AN ICE DAM**




**Protective Ice Barrier**




NOTES:
1) ALL MEASUREMENTS SHOWN ON THIS EXAMPLE ARE REQUIRED TO BE INCLUDED IN ALL PLOT PLAN SUBMITTALS
2) FINISHED FLOOR ELEVATION (F.F.E.) WILL *ONLY* BE ACCEPTED FOR H.U.D. HOUSING
3) THE SIDEWALK THROUGH THE DRIVEWAY (IN THE R.O.W.) SHALL BE 6" THICK (MINIMUM)
4) THE MAXIMUM CURB DROP (DRIVEWAY CUT) WIDTH SHALL BE 32' WITHIN THE R.O.W.
5) THE MAXIMUM PERMITTED DRIVEWAY SLOPE SHALL BE 13%

LEGEND
WS WATER SERVICE LINE
SA SANITARY SEWER SERVICE LINE
ARROWS INDICATE DIRECTION OF FLOW
CONCRETE

ENGINEER/SURVEYOR:
COMPANY NAME:
ADDRESS, EMAIL, PHONE NUMBER:

PLOT PLAN - 1500 BROWN STREET
LOT 10, BLOCK 1, RIMROCK ESTATES, PHASE 1

EXAMPLE BY CITY OF GILLETTE
BUILDING DIVISION
201 E. 5TH STREET, P.O. BOX 3003
GILLETTE, WYOMING 82717
(307) 686-5304

# ***Minimum Standards for City Acceptance of Residential Plot Plans***

**Plot Plan Size**: 8 ½" X 11" Minimum, 11" X 17" Maximum

❖ **Required Bold Lines:**

- Property Lines
- Lot & Block Number
- Top of Foundation (T.O.F.) (*i.e. top of Concrete, CMU, ICF, etc.*)
- Top of Garage Floor (*usually at least 6" or more below the T.O.F.*)
- Curb & Gutter Linework with Top Back of Curb Elevation (T.B.C.) (*this elevation shall be surveyed to ensure accuracy in determining proper T.O.F. elevations and correct driveway slope calculations*)
- Building Outline (*Including Cantilevers & Garages*) to Include Attached Structures, i.e. Decks, Porches, Retaining Walls, Breezeways, etc
- Show any accessory structures such as a shed or a garage
- Scale Bar. Standard Engineering Scale Only. Architectural / Fractional Scale will not be accepted.
- Scale: 1"=20', 1"=30', 1"=40', 1"=50', or 1"=60', or 1"=100'(*max*)
- Proposed Water & Sewer Line Locations from the Structure to the City Mains
- Show all easements on the property, and Label Size and Type of Easement
- Drainage Flow Arrows (*sufficient amount to allow reviewer to adequately understand flow patterns*)
- If known, show the locations of the electrical, gas, and telecommunications lines & easements

❖ **Gray Scale Lines:**

- Building Setback Distance → Front, Side & Rear Yards – From Building (*Including Cantilevers & Garages*) to Property Line
- Finished Grade Contour Lines. Extend 20' (*minimum*) Beyond the Property Lines. (*the overall existing subdivision contours shall be modified to more adequately show the intra-lot drainage*)
- One (1) foot or two (2) foot contour intervals (*1 foot preferred*)
- Adjacent Streets (*Provide Street Name(s)*)
- Driveway Location & Slope – Show Width and Depth dimensions (*indicate if a 4' shelf around the front of the garage door will be installed, as this will drastically affect the driveway slope*)
- Sidewalks, walkways, patios, and/or other flatwork

❖ **Bottom Right Corner:**

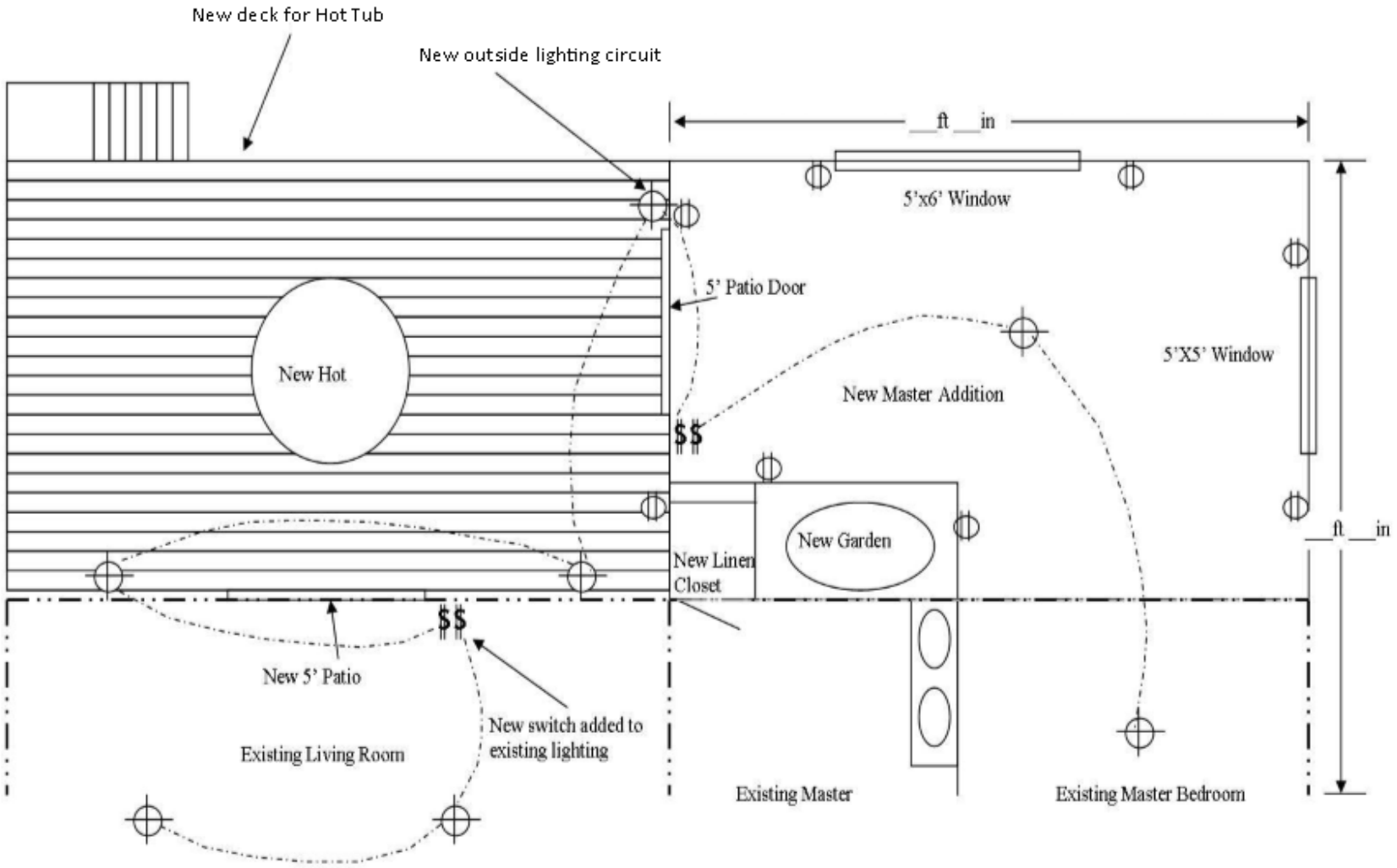
- Property Address
- Property Legal Description: Lot, Block, and Subdivision

❖ **Bottom Center:**

- Surveyor/Engineer/Architect
- Company Name
- Company Address, Phone Number, and E-mail

***Note:*** *A foundation location certification is requested at, or prior to, the sill plate inspection. Vertical construction without the foundation location certification is at the builder's risk. The location certification shall be signed and sealed by a Wyoming Registered Surveyor.*

# Addition Plan Sample



# CITY OF GILLETTE

BUILDING INSPECTION DIVISION, 201 E. 5th St., PO Box 3003, Gillette, WY 82717-3003 * 307-686-5260 * http://www.gillettewy.gov

## Residential Plan Checklist

Plans and specifications shall be in compliance with the **Current International Residential Code.** Plans must be drawn to scale and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed. Plans shall display, in detail, conformity to the provisions of the applicable code. Plans are submitted digitally through cPlan. www.cplan@gillettewy.gov

**Plot Plan Requirements (see page 25 for example)**

- ☐ Legal descriptions (lot, block, subdivision) and street address (number, direction, street, suffix).
- ☐ Show proposed porches, decks, patios, garages, exterior stairways, etc.
- ☐ Property lines & all utility easements must indicate dimensions, north arrow and must be drawn to scale; show setbacks (distance to the building from all property lines).
- ☐ Direction of drainage flow should be indicated with arrows. Drainage shall not impact adjacent properties. Show sidewalks (proposed & existing) and location of water, sewer & electrical services to house.
- ☐ Plot plan should show top of curb elevation at the highest point of property & proposed top of foundation elevation; show two all weather surface, off street, parking spaces, and driveway slope percentage.

**Geo-Technical Evaluations**

- ☐ The soils evaluation shall be prepared by a Wyoming licensed engineer and shall include the address of the property, location of any test boring and or excavation and a complete record of the soil samples, soil profile and water table elevation, if encountered.
- ☐ The soils report must include the bearing capacity of natural or compacted soil, provisions to mitigate the effects of expansive soils, mitigation of the effect liquefaction, differential settlement and varying soil strength and the effect of adjacent loads.
- ☐ Reports of perimeter drain tile required.
- ☐ NOTE: Open hole inspection from designing foundation engineer required at building footings inspection.

**Foundation Plan**

- ☐ The foundation plan shall indicate the size, location and type of material to be used as a foundation. Foundation is lot specific and must contain address on plans.
- ☐ The foundation shall be designed in accordance with any requirements as may be described in the geo-technical report and any specific load requirements as needed by the individual structure.
- ☐ Drawings shall be prepared, stamped and signed by a licensed engineer, detailing the location and size of all exterior and interior footings and any & all footings for decks, porches, retaining walls or other footings.
- ☐ Drains shall be provided around all concrete or masonry foundations that retain earth and enclose habitable or usable spaces located below grade (including crawl spaces).

**Floor Plan**

- ☐ The floor plan shall indicate the size and dimensions of every floor, including the basement for the complete structure.
- ☐ Show use of all rooms, halls, stairways, etc.
- ☐ Show locations & sizes of windows, doors safety glazing, mechanical equipment and location and type of energy to be used.
- ☐ Show location and detail of brace walls and panels.

**Floor Framing Plan**

- ☐ Provide a complete floor framing plan for all floors, specify the size and spacing of floor joist, beams, girders, columns or posts. (Layout plan must include a legend.)
- ☐ Indicate under floor access location and size (if applicable).
- ☐ Provide location and size of vent for ventilation.

**Roof Plan**

- ☐ Roof plans shall specify the size and spacing of all structural roof components for all roofs. (Truss layout or joist plan.)

**Sectional Drawings**

- ☐ The cross-sectional drawing, provides a cut-away view of the structure at one or more places; this view extends from the foundation through to the top of the roof.
- ☐ Show basements, crawl spaces, floors and any attic space.
- ☐ Cross-sectional drawings shall provide information regarding the size, spacing, insulation R-values and type of materials to be used in the structure and any required bracing.
- ☐ The pitch of the roof and the type of roof sheathing and roof covering are included in a typical sectional drawing.

**Details**

- ☐ Provide details of the specific components such as stairs, columns, grade beams, decks and their connections.

**Elevations**

- ☐ Elevation drawings shall be labeled as front, rear and side.