



Town of Alpine

RESIDENTIAL BUILDING PERMIT INSTRUCTIONS

BUILDING PERMIT APPROVAL PROCESS:

STEP 1 -- A Residential Building Packet is submitted and all fees paid.

STEP 2 -- The Town Building Official approves your plans and conducts an on-site inspection.

STEP 3 -- The Planning & Zoning Commission approves your residential building packet and a permit is issued.

STEP 1: YOUR BUILDING PACKET MUST INCLUDE:

A Residential Building Permit Application:

- * All applicable areas must be filled in. Application must be signed and dated.
- * All contractors and subcontractors hired by owners must obtain a Town of Alpine Business License. Applications are available at the Town Office or on the Town web site; www.alpinewyoming.org. Applications must be submitted and approved prior to conducting any work in the Town of Alpine.

A Residential Building Permit Checklist:

- * All applicable items must be turned in at the time of submittal. Applications are valid for 180 days from time of submittal. Failure to provide the necessary items warrants cancellation of your application. ALL information DUE NO LATER than 12pm on the Monday of the week prior to the scheduled meeting- no exceptions will be given.
- * All electrical contractors must be licensed by the State of Wyoming.
- * Property owner(s) are responsible to have all contractors and subcontractors request a utility locate prior to ANY digging. Requests for a locate can be made by calling 1-800-849-2476. *Failure to request a locate will result in the property owner and/or contractors and subcontracts being responsible for any and all subsequent damage to the Utility Companies' property and/or damage incurred by the property owner(s).*
- * Radon Mitigation System: Radon levels are reported as being high in this area. Please refer to Appendix F, available at the Town Office or on the web site, for further information. The Town of Alpine requires a radon mitigation system be installed for all new properties.
- * Site Plan: Submit your site-plan on 8 ½ x 11" paper.
- * Blueprints: The following plans must be engineered by a Wyoming Licensed Engineer.
 1. Building Elevations and building material used.
 2. Detailed Floor Plan
 3. Detailed Utilities/ Electrical Plan: indicate location of user ground cables, service entrance equipment, main disconnect and load center, fixed electrical appliances, devices, smoke detectors (one must be in each sleeping area and one outside of each sleeping area in the immediate vicinity), lighting and heating, indicate location of all GFIs and AFCIs in home and garage (inside and outside the structures).
 4. Foundation Plan: From the bottom of the footer to the finished grade, must be a minimum of 36".
 5. Detailed Roof Plan plus provide full engineered truss calculations that your roof will meet 100 # minimum snow load (live load), 90 mph wind factor and describe building materials used.
 6. Detailed Framing Plan and building materials used.

Property Warranty Deed:

- * Submit one (1) copy of the warranty deed describing property identified by surveyor which lists owner to property as being the same as on permit application.

Water & Sewer Connections:

- * Submit completed applications as outlined on each of the application forms.
- * Monthly fees will begin the first full month after installation of the meter, irrespective of use. Meter will be installed when requested.

Permit Fees:

- * All building permit fees must be paid when submitting your residential building permit application.
- * All water and sewer connection fees must be paid when submitting your applications.
- * Please write separate checks- 1 for new water connection fees, 1 for new sewer connection fees, and 1 for building fees.

STEP 2: Town Building Official Review:

Plan Review:

- * Plan reviews must be approved prior to being scheduled on the P&Z agenda. This includes your septic system if applicable.
- * The Town has currently adopted the 2006 International Building Codes. The Town has also adopted the Land Use and Development Code, available on the website, with additional guidelines.

On-Site Inspection:

- * Your property must be clearly stringed and staked, identifying the proposed site for any structure. Note: string and stake the exact dimensions of all structures; dimensions on the ground must match the site plan.
- * Property Stakes: All property monument/ surveyor pins must be exposed and visible for on-site setback inspection. Wooden stakes without surveyor's monuments will not be accepted.
- * If applicable, your entire septic system must also be stringed and staked including leach fields (primary and reserve fields).

Continued Inspections:

- * A Certificate of Placement must be obtained from a Wyoming Licensed Surveyor BEFORE your foundation is poured.
- * See attached Building Inspection Record Sheet as to when Stage Inspections are to be requested.
- * Call the P&Z Secretary to schedule any inspections. DO NOT CALL Inspectors directly for scheduling of inspections.
- * A Final Inspection is required for ALL permits to obtain a Certificate of Occupancy. Failure to do so may result in fines to the owner.

Septic System Inspections: (if applicable)

- * There are two stage inspections associated with your septic system.
 1. Set Septic Tank and Dig leach fields- DO NOT cover any part of the septic system until the inspection is approved.
 2. Septic Tank is plumbed in, gravel is in leach field and leach pipe is installed. Again DO NOT cover any part of your septic system or leach field until the inspection is conducted and your system is approved.
- * Note: If Septic Tank or Leach Field is covered before Final Inspection & Final Approval, Owner will be responsible to excavate tank and/or leach fields in order to complete the Final Inspection.

Repeat Inspections:

- * Any inspections that need to be repeated by the Building Official are subject to additional costs by contractor/owner.

STEP 3: Planning & Zoning Commission Reviews and Issues a Permit:

P&Z Agenda:

- * There will be NO guarantees of being on the following P&Z Agenda if...
 - You wait until the deadline day for turning in your paperwork or,
 - If your residential building packet is not complete or,
 - Your Review is found to be incomplete or not approved by the Town Building Official.

Scheduled Meetings:

- * The Planning & Zoning Commission meets 2nd and 4th Tuesdays of every month at 7:30 p.m. to review building packets. Call the Town Office and speak with the P&Z secretary if you have any questions at, 654-7754.

Issued Permit:

- * After your permit is approved by the Commission the P&Z Secretary will mail you your permit to the address you provided with your building packet.

By signing below, I acknowledge that I have read the above instructions, understand them, and agree to follow all Town of Alpine requirements. Additionally, I will inform all contractors and subcontractors of said requirements as well.

Owner Signature

Date

Contractor/Builder

Date

Footing and Stem Wall Inspections and General Information

R401.3 Drainage. Surface drainage shall be diverted to a storm sewer conveyance or other approved point of collection so as to not create a hazard. Lots shall be graded so as to drain surface water away from foundation walls. The grade away from foundation walls shall fall a minimum of 6 inches within the first 10 feet.

Exception: Where lot lines, walls, slopes or other physical barriers prohibit 6 inches of fall within 10 feet, drains or swales shall be provided to ensure drainage away from the structure.

R403.1.4 All exterior footings shall be placed at least 12 inches below the undisturbed ground.

R403.1.4.1 Except where otherwise protected from frost, foundation walls, piers and other permanent supports of buildings and structures shall be protected from frost by extending below the frost line or another accepted approved method. Decks supported by a dwelling require footings that extend below the frost line.

R403.1.4.2 Interior footings supporting bearing or braced walls and cast monolithically with a slab on grade shall extend to a depth of not less than 18 inches below the top of slab.

R403.1.5 Slope. The top surface of footings shall be level. The bottom surface of footings shall not have a slope exceeding one unit vertical in ten units horizontal (10- percent slope). Footings shall be stepped where it is necessary to change the elevation of the top surface of the footings or where the slope of the bottom surface of the footings will exceed one unit vertical in ten units horizontal (10- percent slope).

R403.1.6 The wood sole plate at exterior walls on monolithic slabs and wood sill plate shall be anchored to the foundation with anchor bolts spaced a maximum of 6 feet on center for a single story dwelling. The maximum anchor bolt spacing shall be 4 feet for buildings over two stories in height. There shall be a minimum of two bolts per plate section with one bolt not located more than 12 inches or less than seven bolts diameters from each end of the plate section. Bolts shall be at least ½ in diameter and shall extend a minimum of 7 inches into masonry or concrete. Anchor bolts shall be a minimum of 10 inches long and be on job site prior to stem wall or slab pour that requires foundation anchorage.

R403.1.7.3 Foundation Elevation. On graded sites, the top of any exterior foundation shall extend above the elevation of the street gutter at point of discharge or the inlet of an approved drainage device a minimum of 12 inches plus 2 percent. Alternate elevations are permitted subject to the approval of the building official, provided it can demonstrated that required drainage to the point of discharge and away from the structure is provided at all locations on the site.

R408.1 Ventilation. The under-floor space between the bottom of the floor joists and the earth under any building (except space occupied by a basement or cellar) shall be provided with ventilation openings through foundation walls or exterior walls. The minimum net area of ventilation openings shall not be less than 1 square foot for each 150 square feet of under-floor space area. One such ventilating opening shall be within 3 feet of each corner of said building. **EXCEPTION:** The total area of ventilation openings may be reduced to 1/1500 of under-floor area where the ground surface is treated with an approved vapor retarder material (6 mil plastic) and the required openings are placed so as to provide cross-ventilation of the space. The installation of operable louvers shall not be prohibited. Ventilation openings are not required where continuously operated mechanical ventilation is provided at a rate of 1.0 cfm for each 50 square feet of under-floor space floor area and ground surface is covered with an approved vapor retarder material (6 mil plastic).

R408.4 Removal of debris. The under-floor grade shall be cleaned of all vegetation and organic materials. All wood forms used for placing concrete shall be removed before a building is occupied or used for any purpose. All construction materials shall be removed before a building is used for any purpose.

R319.3 Fasteners. Fasteners (bearing plate washers, nails that attach floor joists, nails through shear wall into treated plate and any hardware) for pressure preservative and fire-retardant-treated wood shall be of hot-dipped galvanized steel, stainless steel, silicon bronze or copper.
Exception: One-half inch diameter or greater steel bolts.

R310.1 Emergency escape and rescue required. Basements with habitable space and every sleeping room shall have at least one openable 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, but shall not be required in adjoining areas of the basement. For basements with bedrooms requiring window wells the minimum horizontal area of the window well shall be 9 square feet, with a minimum horizontal projection and width of 36 inches. The area of the window well shall allow the emergency escape and rescue opening to be fully opened. Window wells with a vertical depth greater than 44 inches shall be equipped with a permanently affixed ladder or steps (the ladder or steps may encroach a maximum of 6 inches into the required dimension of the window well) usable with the window in the fully opened position. Ladders or rungs shall have an inside width of at least 12 inches, shall project at least 3 inches from the wall and shall be spaced not more than 18 inches on center vertically for the full height of the window well.

Before scheduling a footing inspection have all horizontal rebar lifted 3 inches above the ground, have the UFER ground attached properly to the rebar and have the vertical rebar dowels with a 6 inch bend and any hardware being used in the footing pour on site for inspection.

Before scheduling a stem wall inspection have all foundation vents in place for crawlspace foundations (if being placed in concrete stem wall), all required rebar 1 ½ inch clearance from exterior stem wall forms, have any required hardware/hold downs and have properly size anchor bolts on job site.

Town of Alpine One and Two Family Dwelling Plan List

This list is a summary of the code requirements for the way homes are typically constructed in the Town of Alpine. Please consult the 2006 International Residential Code book or the Town of Alpine Land Use & Development Code for more details.

Is it Complete?

Site Plan Requirements

_____ Draw plan to standard scale showing property corners, property lines, north arrow, utilities, driveway, existing structures and proposed structures.

_____ Site Plan must comply with the Town of Alpine Zoning Ordinance and other applicable ordinances and regulations.

_____ Property corner markers must be exposed and visible before calling for a Stage 1 and Foundation Inspection.

Sec. R301 Design Criteria

_____ Roof Snow Load 100psf live load, Wind Speed 90mph, Seismic Design Category D2, Weathering Severe, Frost Line Design Depth 36", Termites None to Slight, Decay None to Slight, Winter Design Temp -30F, Ice Shield Underlayment Required Yes, Air Freezing Index 2531, Mean Annual Temp 38F

Sec. R303 Light, Ventilation and Heating

_____ All habitable rooms are to have windows or doors with an area equal to 8% of the room's floor area, with a minimum of 1/2 that area being openable for ventilation. Show window sizes and the amount of openable area for each room in tabulated form or on building elevations.

_____ There is an exception for using mechanical ventilation and artificial lighting to provide required light and ventilation. If using this exception show mechanical system and distribution (cfm).

_____ Bathrooms and water closet compartments need 3 square feet of window, 1/2 of which is openable, or exhaust fan rated for 50 cfm intermittent or 20 cfm continuous ventilation.

_____ Stairways and their landings are required to be illuminated. Interior stairways require switching at the top and bottom.

_____ The heating system must be capable of maintaining 68F at a point 3' above the floor in all habitable rooms.

_____ The under floor space between the bottom of the floor joists and the earth under any building (except space occupied by a basement or cellar) shall be provided with ventilation openings through foundation walls or exterior walls. The minimum net area of ventilation openings shall not be less than 1 square foot for each 150 square feet of under floor space area. One such ventilation opening shall be within 3' of each corner of said building. Exception: The total area of ventilation openings may be reduced to 1/1500 of under floor area where the ground surface is treated with an approved vapor retarder material (6mil plastic) and the required openings are placed so as to provide cross ventilation of the space. The installation of operable louvers shall not be prohibited. Ventilation openings are not required where continuously operated mechanical ventilation is provided at a rate of 1.0 cfm for each 50 square feet of under floor space floor area and ground surface is covered with an approved vapor retarder material (6 mil plastic).

Sec. R304 Minimum Room Areas

_____ Every Dwelling unit is required to have one habitable room that has not less than 120 square feet of gross floor area.

_____ Other habitable rooms shall have an area of not less than 70 square feet and shall not have horizontal dimensions of less than 7'. Exception: kitchens

_____ Portions of a room with a sloping ceiling less than 5' or a furred ceiling measuring less than 7' shall not be considered as contributing to the minimum required habitable area for that room.

_____ **Sec. R305 Ceiling Height**

_____ Habitable rooms, hallways, corridors, bathrooms, toilet rooms, laundry rooms, and basements shall have a ceiling height of not less than 7'. Exception: beams and girders spaced not less than 4' o.c. may project not more than 6" below required ceiling height. For the other exceptions please see the code. (Note the 7' applies to soffited areas in finished basements.)

_____ **Sec. R306 Sanitation**

_____ Every dwelling unit shall be provided with a kitchen area and a sink in that area.

_____ All plumbing fixtures shall be connected to an approved water supply. Kitchen sinks, lavatories, bathtubs, showers, bidets, laundry tubs and washing machine outlets shall be provided with hot and cold water.

_____ Shower and tub/shower control valves shall be of the pressure balance or thermostatic mixture type. (ASSE 1016) The high limit stops shall be set to 120F maximum.

_____ Plumbing fixtures with flood rims located below the elevation of the next upstream manhole of the public sewer shall discharge through an approved backwater valve (and only those fixtures).

_____ **Sec. R308 Glazing** (the following locations need safety glazing)

_____ Glazing in doors and enclosures for hot tubs, saunas, steam rooms, bathtubs and shower; Glazing in any part of the building wall enclosing these compartments where the bottom exposed edge of the glazing is less than 60" above the floor or walking surface.

_____ Glazing adjacent to doors when the nearest edge is within a 24" arc of the door in the closed position and whose bottom edge is less than 60" above the floor.

_____ Glazing meeting all the following conditions, exposed area of an individual pane greater than 9 square feet, bottom edge less than 18" above the floor, top edge greater than 36" above the floor and one or more walking surfaces within 36" horizontally of the glazing.

_____ All glazing in railings.

_____ Glazing in walls and fences enclosing indoor and outdoor swimming pools, hot tubs and spas where the bottom edge of the glazing is less than 60" above the walking surface and within 60" horizontally of the water's edge.

_____ Glazing adjacent to stairways, landings and ramps within 36" horizontally of a walking surface when the exposed surface of the glass is less than 60" above the walking surface.

_____ Glazing adjacent to stairways within 60" horizontally of the bottom tread of a stairway in any direction when the exposed surface of the glass is less than 60" above the nose of the tread.

_____ **Sec. R309 Garages and Carports**

_____ Openings from the garage to the dwelling unit shall be protected by a solid wood door not less than 1 3/8" in thickness, a solid or honeycomb steel door not less than 1 3/8" thick or a 20 minute rated fire door.

_____ Ducts in the garage and duct penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum 26 gage steel and have no openings.

_____ The garage shall be separated from the residence and its attic area by not less than 5/8" type X sheetrock applied to the garage side. Garages beneath habitable room shall be separated from the habitable room by 5/8" type X sheetrock. Where the separation is a floor ceiling assembly, the structure supporting the separation shall also be protected by not less than 5/8" type X sheetrock.

_____ Garage floor surfaces shall be of concrete or approved substitute. Garage floor shall slope to a drain or toward the main vehicle entry doorway.

_____ Carports shall be open on at least two sides. Carport floor surfaces shall be concrete or asphalt.

Sec. R310 Emergency Escape and Rescue Openings

Emergency escape and rescue openings shall comply with all the following dimensions. Maximum sill height-44"; Minimum opening area-5.7 square feet; (Grade floor openings 5 square feet) Minimum opening height-24"; Minimum opening width-20"

Basements with habitable space and every sleeping room shall have at least one openable 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, but shall not be required in adjoining areas of the basement. For basements with bedrooms requiring window wells the minimum horizontal area of the window well shall be 9 square feet with a minimum horizontal projection and width of 36". The area of the window well shall allow the emergency escape and rescue opening to be fully opened. Window wells with a vertical depth greater than 44" shall be equipped with a permanently affixed ladder or steps (the ladder or steps may encroach a maximum of 6" into the required dimension of the window well) usable with the window in the fully opened position. Ladders or rungs shall have an inside width of at least 12", shall project at least 3" from the wall and shall be spaced not more than 18" on center vertically for the full height of the window well.

Sec. R311 Means of Egress

Each dwelling unit shall have not less than 1 exit door. This door must provide direct access to the exterior without requiring travel through a garage.

The required exit door shall be a side-hinged door not less than 3' in width and not less than 6' 8" in height.

There shall be a floor or landing on each side of an exterior door. The floor or landing shall not be more than 1.5" lower than the top of the threshold. Exception: The landing at an exterior doorway shall not be more than 7 3/4" below the top of the threshold provided the door does not swing over the landing.

The width of each landing shall not be less than the door or stairway served. The landing shall be at least 36" measured in the direction of travel.

All egress doors shall be readily openable from the side from which egress is to be made without the use of a key or special knowledge or effort.

The minimum width of a hallway shall not be less than 3'.

The minimum width of a stairway is 3'. All stairways shall have headroom of not less than 6'8" measured vertically from the slope plan adjoining the tread nosing or from the floor surface of the landing or platform.

The maximum stair riser height is 7 3/4". The minimum stair tread depth is 10". 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. Rise or tread depth shall not vary more than 3/8" within any flight of stairs. This includes exterior.

There shall be a floor or landing at the top and bottom of each stairway. Exception: a floor or landing is not required at the top of an interior flight of stairs, provided a door does not swing over the stairs.

Enclosed accessible space under stairs shall have walls, under-stair surfaces and any soffits protected on the enclosed side with 1/2" sheetrock.

Handrails shall be provided on at least one side of each continuous run of treads or flight with 4 or more risers. Handrails shall be continuous for the full length of the flight and the handrail ends shall be returned or terminate in newel posts. This includes exterior.

Handrail height shall be not less than 34" and not more than 38". All stairs shall be illuminated. This includes exterior.

Handrails adjacent to a wall shall have a space of not less than 1 1/2" between the wall and the handrail. Handrails with a circular cross section shall have a diameter of at least 1 1/4" and not greater than 2". Handrails with a non-circular profile shall have a perimeter dimensions of at least 4" and not greater than 6 1/4" with a maximum cross section of 2 1/4". This includes exterior.

Sec. R312 Guards

Guardrails for porches, decks, balconies or floor surfaces more than 30" above floor or grade shall have guardrails at least 36" high and for the open side of stairs the guardrail must be at least 34".

Guardrails are to have intermediate members such that passage of a 4" diameter sphere is not possible.

Sec. R313 Smoke Alarms

Smoke detectors are required in the following locations: in each sleeping room, outside each sleeping area in the immediate vicinity of the bedrooms and on each additional story.

Smoke detectors shall be hardwired, interconnected and have battery backup.

Sec R314 Foam Plastic

Foam plastic shall have a maximum flame-spread of 75 and a maximum smoke developed rating of 450 when tested to ASTM E 84.

Foam plastic shall be separated from the interior of the building by a minimum of 1/2" sheetrock or approved equivalent.

Sec. R315 Flame Spread

Wall and ceiling finishes shall have a maximum flame-spread classification of 200 and a max smoke density of 450.

Sec. R316 Insulation

Exposed insulation materials, including facing materials, installed in a floor-ceiling, roof-ceiling, crawl space, attic or wall assembly shall have a maximum flame spread of 25 and a maximum smoke developed rating of 450.

Sec. R317 Dwelling Unit Separation

Dwelling units in a duplex are to be separated from each other by wall and/or floor assemblies of not less than one hour, fire resistive construction. The assembly is to extend to and be tight against the exterior wall and wall assemblies are to extend to the under side of the roof sheathing. When a floor assembly is required to be fire resistive the supporting construction of the assembly is required to have an equal or greater fire resistive rating.

Townhouses are to be considered as separate buildings and have adjoining separate walls as required for property line walls for single family dwellings (one-hour). A common two hour separation wall, not containing plumbing, mechanical equipment, ducts or vents is also acceptable. The common wall is to be continuous from the foundation to the underside of the roof sheathing for the full length of the common wall. The common wall is to have a parapet 30" above the roof. A parapet is not required if the roof covering is a minimum Class C and the roof sheathing is non-combustible or approved fire retardant treated wood for a distance of 4' on each side of the wall or if one layer of 5/8" type X gypsum board is installed directly beneath the roof sheathing for a distance of 4' on each side of the wall.

Townhouse units are to be structurally independent unless a two hour common wall is used.

Sec. R319 Protection Against Decay

Decay resistant wood is required in the following locations: Wood joists or the bottom of a wood structural floor less than 18" from exposed ground. Wood girders closer than 12" to exposed ground. Sill plates less than 8" from exposed ground. Sills and sleepers on a concrete slab that is in direct contact with the ground, unless separated from such slab by an impervious moisture barrier. The ends of wood girders entering an exterior masonry or concrete wall having a clearance of less than 1/2" on tops, sides, and ends. Wood siding, sheathing and wall framing on the exterior of a building having a clearance of less than 6" from the ground.

Fasteners (bearing plate washers, nails that attach floor joists, nails through shear wall into treated plate and any hardware) for pressure preservative and fire retardant treated wood shall be of hot dipped galvanized steel, stainless steel, silicone bronze or copper. Exception: 1/2" diameter or greater steel bolts.

Sec. R321 Site Address

Street numbers shall be posted so as to be visible from the street.

Sec R401 Foundations

Basement slabs and interior slabs, except garage slabs, concrete shall have minimum specified compressive strength of 2500 psi.

Basement walls, foundation walls, exterior walls and other vertical concrete work exposed to the weather shall have a minimum specified compressive strength of 3000 psi and be air entrained between 5 and 7 percent.

Porches, carport slabs, steps exposed to the weather and garage floor slabs, concrete shall have a minimum specified strength of 3500 psi and be air entrained 5-7%.

Surface drainage shall be diverted to a storm sewer conveyance or other approved point of collection so as to not create a hazard. Lots shall be graded so as to drain surface water away from foundation walls. The grade away from foundation walls shall fall a minimum of 6" within the first 10'. Exception: Where lot lines, walls, slopes or other physical barriers prohibit 6" of fall within 10', drains or swales shall be provided to ensure drainage away from the structure.

Sec R403 Footings

All footings shall be at least 36" below grade. Exceptions: 1) Free-standing accessory structures with an area of 200 square feet or less and an eave height of 10' or less. 2) Decks not supported by a dwelling.

Footings shall be Civil or Structural Engineered.

All exterior footings shall be placed at least 12" below the undisturbed ground.

Except where otherwise protected from frost, foundation walls, piers and other permanent supports of buildings and structures shall be protected from frost by extending below the frost line or another accepted approved method. Decks supported by a dwelling require footings to be below the frost line.

Interior footings supporting bearing or braced walls and cast monolithically with a slab on grade shall extend to a depth of not less than 18" below the top of slab.

The top surface of footings shall be level. The bottom surface of footings shall not have a slope exceeding one unit vertical in ten units horizontal (10% slope). Footings shall be stepped where it is necessary to change the elevation of the top surface of the footings or where the slope of the bottom surface of the footings will exceed one unit vertical in ten units horizontal (10% slope).

The wood sole plate at exterior walls on monolithic slabs and wood sill plate shall be anchored to the foundation with anchor bolts spaced a maximum of 6' on center for a single story dwelling. The maximum anchor bolt spacing shall be 4' for buildings over two stories in height. There shall be a minimum of two bolts per plate section with one bolt not located more than 12" or less than seven bolts diameters from each end of the plate section. Bolts shall be at least 1/2 in diameter and shall extend a minimum of 7" into masonry or concrete. Anchor bolts shall be a minimum of 10" long and be on job site prior to stem wall or slab pour that requires foundation anchorage. 3" x 3" x 1/4" galvanized bearing plates are required to fasten treated sill plates to foundation.

On graded sites, the top of any exterior foundation shall extend above the elevation of the street gutter at point of discharge or the inlet of an approved drainage device a minimum of 12" plus 2%. Alternate elevations are permitted subject to the approval of the building official, provided it can demonstrate that required drainage to the point of discharge and away from the structure is provided at all locations on the site.

Sec. R404 Foundation Walls

All foundation walls shall be Civil or Structural Engineered.

Sec. R406 Foundation Damproofing

Foundation walls that retain earth and enclose habitable or useable spaces located below grade shall be damproofed with a bituminous coating.

Sec 408 Under-Floor Spaces

Crawl spaces are to be provided with a minimum 18" x 24" access opening. Exception: an access opening through a perimeter wall shall be 16" x 24" minimum.

The under floor grade shall be cleaned of all vegetation, organic material and construction debris. All wood concrete forms shall be removed.

Sec. R502 Floor Framing

Floor joists are to be sized in accordance with Tables R502.3.1 (1) and R502.3.1 (2), if standard lumber, or for manufactured floor systems as per the manufacturers specifications. Show the size, spacing, span, layout and type of floor joists to be used.

Cantilevers are to be sized in accordance with Tables R502.3.3 (1) and R502.3.3 (2), if standard lumber, or for manufactured floor systems as per the manufactures specifications.

Show the location, size, span, support, connections and type of all floor beams.

The ends of standard wood joists, beams or girders shall have not less than 1 ½" of bearing on wood or metal and not less than 3" of bearing on concrete or masonry. Approved joist hangers may be used as an alternative.

Floor systems having joists framing from opposite sides over a bearing support are to be tied together by lapping the joists at least 3" and face nailing with at least 3 10d nails minimum. A wood or metal splice with equal strength is also allowed.

Joists framing into the side of a wood girder are to be supported by approved framing anchors or on ledger strips not less than nominal 2" x 2".

Joists are to be supported laterally at the ends by full-depth solid blocking not less than 2" in thickness; or by attachment to a header, band or rim joist.

Joists greater than 2" x 12" (nominal) are to be supported laterally by solid blocking, diagonal bridging or a continuous 1" x 3" strip nailed across the bottom of joists perpendicular to joists at intervals not exceeding 8'.

Notches in the top or bottom of standard wood joists are not to exceed 1/6 of the depth of the joist and are not to be located in the middle 1/3 of the span. Where joists are notched on the ends for a ledger, the notch is not to exceed ¼ the joist depth. Cantilevered joists shall not be notched unless the reduced section properties and lumber defects are considered in the design.

Holes drilled or bored in joists are not to be within 2" of the top or bottom of joists and diameter is not to exceed 1/3 depth of the joist.

Cuts, notches and holes bored in trusses, laminated veneer lumber, glue-laminated members or I-joists are not permitted unless the effects of such penetrations are specifically considered in the design.

Floor framing is to be nailed in accordance with Table R602.3 (1).

Post and beam or girder construction needs to have positive connection to prevent uplift and lateral displacement.

Provide details for all floor construction including decks.

Where there is usable space above and below the concealed space of a floor/ceiling assembly draft stops are to be installed so that the area of the concealed space does not exceed 1000 square feet. The draft stopping is to divide the concealed space into approximately equal areas. Draft stopping is to be provided in floor ceiling assemblies when the ceiling is suspended under the floor framing and when the floor framing is constructed of truss type, open web or perforated members.