



***City of Warrenton  
Building Department***

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***RESIDENTIAL  
CONSTRUCTION  
GUIDELINES***

***References: “Municipal Code - City of Warrenton”  
“International Residential Code, 2015  
“National Electric Code, 2014***

**These guidelines have been prepared to assist in planning and construction of residential dwellings which are in compliance with city codes. Nothing contained in these guidelines is intended to replace or supersede the regulations contained in the “Municipal Code - City of Warrenton.”**

# RESIDENTIAL GUIDELINES

The information contained herein is intended to be used as guidance only and does not cover every requirement governing residential construction. Residential includes one-family, both detached and attached (townhouse), and two-family dwellings, no more than three stories high, where each has independent means of egress and are separated by two hour fire separation assemblies (walls). Should questions arise please refer to the appropriate sections in “*The Municipal Code - City of Warrenton*” (hereafter referred to as the “**City Code**”) and the City Building Department.

**1. Zoning Requirements** - Before submitting an application to build, it is imperative that you determine the zoning requirements for the piece of property on which you plan to build. The Planning and Zoning Officer at City Hall can help you with this. Zoning requirements may be modified by subdivision indentures which have been approved by the City. For example the front yard or setback requirements are sometimes increased for a subdivision and must be considered when developing a site plan to be submitted with the permit application. The City will consider subdivision covenants where possible when issuing a building permit but has no authority or responsibility for enforcing these covenants. The responsibility for meeting subdivision covenants falls on the builder and/or owner or to whomever the building permit is issued.

**2. Floodplain Requirements** - Some areas within the City limits of Warrenton fall within floodplains as defined by the Federal Emergency Management Agency (FEMA). If the proposed construction site falls in one of these areas a Floodplain Development Permit Application must be submitted with the application for a building permit. (See **Sections 415.140 of the City Code**) A FEMA Flood Insurance Rate Map (FIRM) for the City of Warrenton is available at City Hall for use in determining if these requirements apply to your project. The Building Commissioner has been designated as the Floodplain Administrator for the City and is available to assist you in this process.

**3. Building Codes** - Residential construction in the City of Warrenton is governed by the code requirements contained in the “*International Residential Code, 2015, Warrenton City Code* (Section 500.510). Please contact the Building Department at (636)-456-3535 if you have questions.

**4. Building Permit Application** - Once the design is complete it’s time to fill out and submit an application for plan review and building permit. (See Appendix A) Supporting documentation and information to be submitted with the application include the following:

- Site Plan** - This plan must show the lot dimensions. All setback and easements existing utilities and structure easement requirements for the property on which construction is to take place. The proposed location of the structure must be clearly shown and should consider potential drainage conditions including proposed elevations, structure design, subdivision restrictions, and vehicle and accessibility requirements. Site plans should be drawn to scale, 1" = 20'-0" (min) and show the name, address and phone number of the person(s) who prepared the document.
- Soils Report** - A soils report, prepared by a geotechnical engineer, is required for each new or modified structure. Submittal of this report may be delayed until after the geotechnical engineer has inspected the site soil conditions and submitted the soils report. A copy of the soils report must be forwarded to the Building Department prior to the placement of any concrete. Per section 500.320, 20., R401.4.3 you have the option of over excavate approximately two (2) feet below sub grade elevations and backfill and compact the area with 1-inch clean, crushed limestone. In addition provisions must be made to collect and remove water entering the clean, crushed limestone. If you choose to over excavate, a permanent site bench mark set equal to proposed top of foundation elevation must be set prior to the start of excavation and maintained throughout the project. Erosion control (silt fence or straw bales) needs to be in place prior to excavation and through the entire project.
- Design Drawings** –

SECTION 500.320: AMENDMENTS TO INTERNATIONAL RESIDENTIAL CODE

106.1 Submittal documents. Construction documents, special inspection and structural

observation programs and other data shall be submitted in one (1) or more sets with each application for a permit. The construction documents shall be prepared, signed and sealed by a registered design professional licensed and registered in the State of Missouri to render this service. Where special conditions exist, the Building Commissioner is authorized to require additional construction documents to be prepared by a registered design professional.

**EXCEPTION:** The building official is authorized to waive the submission of construction documents and other data not required to be prepared by a registered design professional if it is found that the nature of the work applied for is such that reviewing of construction documents is not necessary to obtain compliance with this code.

- A. **Floor Plan** - The plan for all floors, including the basement and garage, must show the arrangement and features of all areas as well as the dimensions for each, including ceiling height on all levels. Header, door, and window sizes must be clearly shown.
- B. **Elevations** - Elevation views of all sides, showing the location of all windows, doors, decks, etc. and showing the type of exterior treatment to be used.
- C. **Foundation** - The foundation plan must show footing size and reinforcement (8" deep by 24" wide with 2 @ #4 reinforcing rods, unless specified otherwise by a licensed design professional), placement of all foundation walls, height and reinforcement of all foundation walls, and location and reinforcement of all openings in foundation walls. Reinforcement of foundation walls must meet the codes listed above and must consider unbalanced load requirements resulting from back filling. Although vertical members are not required they are recommended to both secure the foundation wall to the footing and to reduce damage that can result from earthquake loads. As a minimum, all foundation walls must be keyed to the footing. All footings must be at least 30" below grade to prevent heaving due to freezing. Piers must be of sufficient size to support the load they are to carry and extend to at least 30" below grade. The sill plate or floor system must be anchored to the foundation with ½" x 8" x 3" hook bolts, or equivalent, 6 feet on center (max) and not more than 12 inches from corners and sill plate splices. Foundation walls that retain earth and enclose interior spaces must be waterproofed prior to back filling.
- D. **Floors** - Floor designs must show what materials will be used for both the floor and floor joist system. Designs should assume a live load of 30 pounds/ft<sup>2</sup> for sleeping rooms and 40 pounds/ft<sup>2</sup> for all other living spaces. Your design must show how the span and load support requirements of IRC 2015 will be met. This is particularly important around stairways or other openings. For engineered floor joist systems please provide a copy of the design provided with the joist package.
- E. **Walls** - Plans must show sufficient detail to evaluate the construction of all walls, particularly those that are load bearing. This is usually accomplished by showing cross-sectional views of key walls. Fireplace and stairway cross sections must be included.
- F. **Roof Support** - Roof support or truss system can either be shown on your design drawings or in a separate roof truss design package. It is preferred that this separate roof truss package design be supplied with your drawings at the time of application. If they are not they must be submitted at least two business days before you call for the "open wall" inspection. Any structural support deficiencies discovered during the open wall inspection must be corrected before the project can proceed further.
- G. **Roofing** - Design drawings must show what kind of roof decking and roofing will be applied, including the weight of the underlayment to be used. All roofs applied during residential construction within the city must use 15 pound roofing felt as a minimum.
- H. **Attic Ventilation** - All closed attic spaces must be vented properly to insure that moisture buildup does not occur. Total area of ventilation provisions must be equal to or greater than the area of the attic space divided by 150. This area must be divided roughly equally between the top and bottom of the attic space.
- I. **HVAC** - Plans must show the type of heating and cooling system that will be used (forced air, radiant, etc.) and the fuel source (electric, gas, oil, etc.). For systems using combustible fuels the size flue must also be specified.
- J. **Utilities** - Plans must also clearly show the size electric service specified, water source (city or well), sewage disposal system (city, septic, etc.), and gas service (natural, propane, etc.). Sewer and water services must have a 5 ft vertical or 10 ft horizontal separation. Minimum water piping requirements for residential connections is ¾" copper or 200 psi plastic. When plastic or PVC piping is used a tracer wire must be included from the main to the water shut

off. Sewer connections must be piped with a minimum of schedule 35 4" PVC pipe. Contact the Warrenton Water Department at 636-456-3535 for further details on requirements, tap fees, rates, and inspections.

- K. **Smoke Detectors** - U.L. listed smoke detectors are required on each floor in the vicinity of all sleeping room doors and within each sleeping room. Floor levels that do not have sleeping rooms must have a smoke detector at the ceiling near the stairway. Smoke detectors must be interconnected so that activation of one alarm will activate all alarms throughout the dwelling.
- L. **Fire-stopping/Draft-stopping** - Care must be taken to insure the spread of fire through concealed spaces is prevented. Placement of fire-stopping and/or draft-stopping should be considered during design and called out on the drawings to avoid surprises during construction.
- M. **Attic Access** - A 22" x 30" minimum access opening is required for attic areas which have a clear height of over 30".
- N. **Safety Glazing** - Glazing in storm doors, exterior or interior doors, guards and railings, patio doors, shower and bathtub enclosure walls, panels and doors must be fully tempered, laminated safety, or approved shatter resistant plastic.
- O. **Attached Garage** - Partitions separating the garage from the dwelling must have a one-hour fire rating. (Usually  $\frac{5}{8}$ " fire resistant gypsum board on one side of wall studs.) The gypsum board on garage side of the separating wall may extend up to the underside of the roof sheathing or up to the gypsum board garage ceiling. The door between the house and garage must be a 1  $\frac{3}{4}$ " solid core wood door or a 1  $\frac{3}{4}$ " solid or honeycomb core steel door. Living spaces over a garage must be separated by a floor/ceiling combination with a one-hour fire rating.
- P. **Stairways and Exits** - House entry doors must have a 32" clear width. Doors leading to stairways must have a clear width of 29  $\frac{3}{4}$ " while other interior egress doors must have a clear width of 28". The minimum clear width of stairways, above the handrail(s) must be 36". The minimum clear width at or below handrail height must be 32" where one handrail is installed and 28" where two handrails are installed. Maximum riser height is 7  $\frac{3}{4}$ " while minimum tread depth is 10". Minimum headroom is 6' 8", measured vertically from the tread nose line. Stairways with three or more risers require at least one handrail mounted parallel to the tread nose line and 30-38" (measured vertically) above that line. IRC 2015 for more details.
- Q. **Fireplaces** - A wide variety of both factory-built and masonry fireplaces are available today. Installation of these units should follow closely the manufacturer's requirements and IRC 2009. Care should be taken to insure that proper fire stopping is applied between the chase and the remainder of the house. Fire stopping must extend to the roof deck level or above on the inside of chase walls separating the chase from the rest of the dwelling.
- R. **Room Sizes** - Every dwelling unit must have at least one habitable room of at least 150 ft<sup>2</sup> with other habitable rooms being at least 70 ft<sup>2</sup>. Every kitchen must have at least 50 ft<sup>2</sup> of floor space. Minimum ceiling height is 7' 6", IRC 2015 for further details on allowed variations.
- S. **Electrical** - Show the location and size of electrical service panel and location of all receptacles, lights, ceiling fans, exhaust fans, and switches on the plan for each floor. Identify all 240 volt receptacles/circuits. Note which receptacles are ground fault circuit-interrupt (GFCI) protected. Note: GFCI receptacles are required in bathrooms, garages, outdoors, unfinished basements, and over counter tops in kitchens and wet bars. Sump pumps not on a GFCI outlet must be supplied from a single plug outlet. Arc-fault protection of bedroom circuits is optional in the City of Warrenton. See IRC 2015 and NEC 2014 for more detailed and specific requirements.
- T. **Plumbing** - Show the location of sinks, dishwasher(s), lavatories, water closets, bathtubs, showers, water heaters, floor drains, hose bibs, other plumbing fixtures, and plumbing chases on the plan for each floor. Note: Solder with a maximum of 0.2% lead is required on all copper water supply piping. See IRC 2015 for answers to more specific questions.
- U. **Foundation Drainage** - Plans must show the provisions to be made for conducting groundwater away from the foundation. Such provisions may be provided by drain tile, perforated pipe, or another approved foundation drainage system inside and/or outside of the foundation. This system must either drain to daylight or be connected to an approved sump and may not discharge into the sanitary sewer system.

- V. **Roof Drainage** - In areas where expansive or collapsible soils are known to exist (which is in most of the City of Warrenton), all dwellings must have a controlled method of water disposal from roofs that will collect and discharge all roof drainage to the ground surface at least 5 feet from foundation walls or to an approved drainage system. Roof drainage **must not** be piped into the sanitary sewer system.
- W. **Fire Separation** - In single-family attached and two-family dwellings, where each unit has independent egress, a two-hour fire separation assembly must be installed between units.

- Subcontractor List** - A list containing the business name, address, phone number, and contact name for each subcontractor to be used to perform work on the project shall be submitted with the application. In cases where selections or changes are made after the application is submitted please provide the subcontractor information to the Building Department as soon as possible. Please notify your subcontractors to obtain a business license from City Hall before commencing work on the project. [See “City Code” Chapter 605 further information.] A City of Warrenton Occupational License is required for all contractors. Call Judi Bayne at (636)-456-3535.

**5. Plan Review/Permit Issuance** - Upon receipt of the completed application and supporting documentation the Building Department will review and evaluate the plans to determine if they will result in a dwelling that will meet all City Codes. Incomplete submittals may delay the process and issuance of a building permit. This process consists of three parts as follows:

- Storm Water Review** - Each building lot is evaluated by city officials for proper storm water drainage using the site plan submitted with the application or as part of the subdivision review process. This review is to determine the requirements for erosion control provisions during construction and final grading requirements prior to project completion. Please be advised that work on the building site may not commence until a building permit is issued.
- Design Review** - All drawings and other design information provided will be examined with respect to currently enacted building codes and city ordinances for compliance and completeness.
- Issue Permit** - Once the review process is complete, a permit will be issued, and you will be notified to pick up the permit from the cashier in city hall. The fees will be collected at the time of pick-up. Construction must begin within 180 days of the permit issue date or it becomes void and a new application must be submitted.

**6. Fees** - The fee schedule for single-family residence construction is as follows:

|                               |                     |
|-------------------------------|---------------------|
| <i>Basic Permit Fee</i>       | \$ 0.0040           |
| (based on construction costs) |                     |
| <i>Plan Review Fee</i>        | \$ 0.0015           |
| (based on construction costs) |                     |
| <i>Storm Water Fees</i>       | SEE SECTION 405.400 |

**7. Inspections** - There are minimum of seven (7) planned inspections made during construction. The Building Department will make every effort to respond to short notice requests for inspections on those occasions when unanticipated changes occur. A 24 hour notice is required to schedule an inspection.

- Excavation** - A soils report, prepared by a geotechnical engineer, is required for each new or modified structure. Submittal of this report may be delayed until after the geotechnical engineer has inspected the site soil conditions and submitted the soils report. A copy of the soils report must be forwarded to the Building Department prior to the placement of any concrete. Per section 500..320, 20., R401.4.3 you have the option of over excavate approximately two (2) feet below sub grade elevations and backfill and compact the area with 1-inch clean, crushed limestone. In addition provisions must be made to collect and remove water entering the clean, crushed limestone. If you choose to over excavate, a permanent site bench mark set equal to proposed top of foundation elevation must be set prior to the start of excavation and maintained throughout the project. Erosion control (silt fence or straw bales) needs to be in place prior to excavation and through the entire project.
- Footing** - This inspection will be made when the footings have been formed and the reinforcing steel has been laid out and ready for placement. The city understands the effect

weather has on this process and will endeavor to be as flexible as commitments permit in meeting your schedule requirements. A call the day before alerting us to your needs will help a great deal. Footings should be keyed and/or vertical steel placed in the footing to secure the foundation walls to the footings. Steel verticals are not required by code in this area but are strongly recommended.

- **Plumbing Ground Rough** - This inspection will be made prior to placing the concrete floor in a basement or bottom floor. Sanitary sewer lines, water lines, drain lines, sump pits, and any other below floor facilities will be inspected.
- **Open Wall** - This inspection will be made prior to insulating and closing up walls and ceilings. Plumbing, electrical, HVAC, exhaust venting (dryers, vent fans, etc.) to the outside, fire blocking, framing, attic ventilation, and any other special provisions will be inspected at this time. Note: Truss plans not delivered with the application submittal are due two days before this inspection.
- **Electrical Meter Base** - This inspection is required before AmerenUE will connect active service to a building. Note, a disconnect at the meter base is required for installations where the inside circuit breaker panel is located more than 15 (fifteen) feet (service entry cable run length) from the meter base.
- **Final** - A final inspection is required before a conditional or final occupancy certificate will be issued. All electrical, plumbing, smoke detection, exhaust vent, and HVAC systems will be examined for proper operation. Gutters, down spouts, sump drains, and lot grading will be examined for proper drainage from the property to insure conditions on neighboring properties will not be changed or affected by placement of this dwelling. Exterior finish, including siding, windows, doors, masonry, roofs, soffits, sidewalks, driveways, painting, electrical fixtures and outlets, plumbing fixtures, decks, steps, porches, etc. will be examined. Interior finish, including painting, wall treatments, floor coverings, doors, windows, cabinets, shelving, etc. will also be examined. Doors to future decks must be blocked on the outside or securely blocked on the inside to prevent opening. The Water Department will also do their final inspection at this time to insure that all water shut offs, sewer clean outs, and manholes (if applicable) are in proper working order. Finally, each dwelling must have the correct address displayed clearly on the front of the building.
- **Sidewalk** – Sidewalks must be built in accordance with WMC 410.140. An inspection by City Staff is required prior to placing concrete.

**8. Occupancy Certificate** - Once the Final inspection has been completed the Building Commissioner will issue a “Certificate of Occupancy” A “Temporary Certificate of Occupancy” may be issued if there is no structural, health or safety related conditions existing and the owners wish to occupy the dwelling before all open items, such as incomplete grading due to weather conditions, have been completed. The person(s) to whom the permit is issued is responsible for arranging access to the building and scheduling the specific time for a re-inspection upon full completion of the Permit requirements. A final Certificate of Occupancy is required by the City of Warrenton to complete the Building permit.

**9. Stop Work Notices** - A stop work notice may be issued when unsafe conditions are discovered, unauthorized work is being performed, or work is being performed by contractors or subcontractors that are not registered with the city. [See “City Code” Chapter 500 section 500.060] The Building Department will make every effort to avoid “stop work” action by working with all contractors and subcontractors to avoid these conditions.