



Lower Level Guide 2006 IRC

The following information was compiled as a guide for residents who wish to finish their basement into living area. In order to obtain a permit two sets of plans must be submitted for review. The plans are not required to be sealed, but should be of architectural quality. The plans must provide enough information to determine that all construction will be built to minimum code standards. The drawings must include the following information:

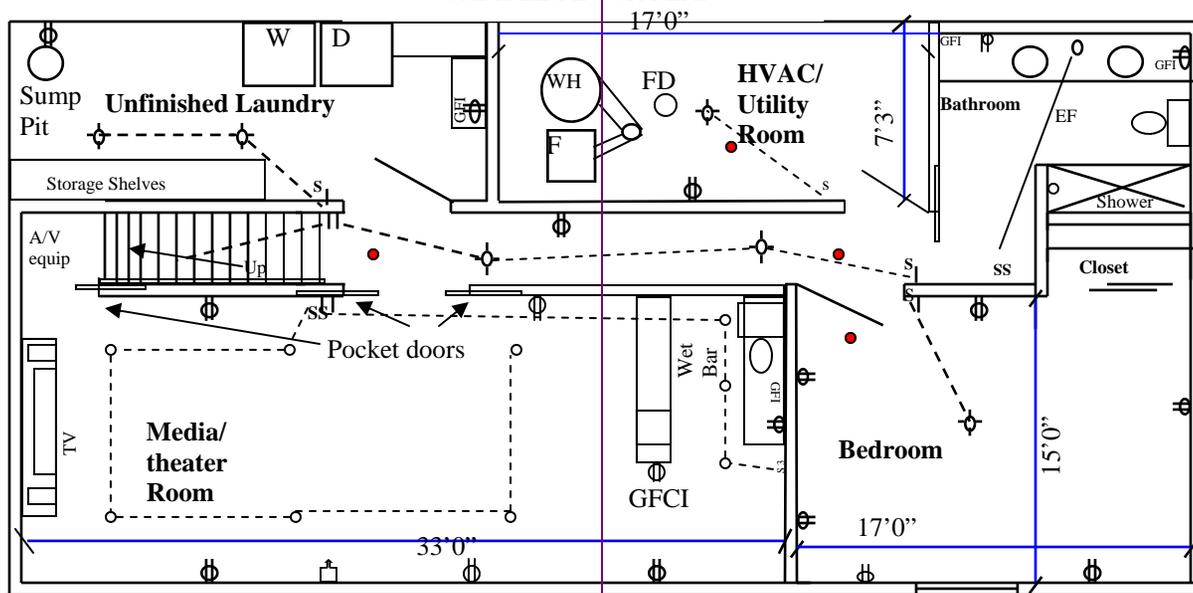
- Indicate the dimensions of existing exterior walls and new walls, existing exterior windows and doors, new interior doors, and hallways.
- Indicate type, size, and spacing of new partition studs and finish wall material. Typical wall detail, or side profile of a wall.
- Indicate the location of all receptacles, lights, switches, smoke detectors, and exhaust fans.
- Indicate the location of all plumbing fixtures.
- Indicate approximate location of HVAC systems, water heater, and floor drain.
- Label each room to indicate its use, i.e.: family room, study, bedroom.

Typically, the more detailed a plan is, the faster we can issue a permit with little or no delay. The following is a list of common code requirements to keep in mind while drawing your plans:

- Finished ceiling height must not be less than 7 feet, , except beams and duct work may project down into this required height a maximum of 6 inches

- Vertical fireblocking is required behind stud walls every ten feet where there is a gap between the furred wall and the concrete/masonry wall. Fireblocking material may be 2 inch lumber, 23/32 inch plywood, 1/2 drywall or an approved alternative. Horizontal fireblocking is required at the top plate of walls where there is a gap between the concrete/masonry wall and the top plate. Frontenac also requires midspan horizontal fireblocking in stud walls.
- The minimum width for finished hallways is 36 inches.
- An AC powered, U.L. listed smoke detector with battery backup shall be located in the vicinity of all bedroom entrance doors, inside each bedroom and, in each HVAC area. Provide a minimum of one such smoke detector at the bottom of the basement stair. All detectors in the house shall be interconnected so that the activation of any alarm will sound all alarms throughout the house.
- Receptacles are required in all habitable rooms spaced a minimum 12 feet apart so that no space measured horizontally along the floor line is more than 6 feet from a receptacle. Also a receptacle is required within six feet of each side of doors and openings and in wall sections over 24 inches in width.
- GFCI receptacles are required in bathrooms, receptacles that serve within 6'0" of a wet bar, kitchen countertops, and in unfinished basement spaces. A laundry circuit and a single receptacle dedicated to a sump pump in an unfinished area are exempt from this requirement.
- Stairways are required to have lighting and must have a switch at the top and bottom of the stairway for stairways of six or more risers.
- Stairway handrails and guardrails are to meet the current code requirements. Open side of stairs required guard that are spaced no more than 4 inches apart and 36 inches tall. Handrails are required to be continuous and shall be between 34 and 38 inches above the nose of the stair tread and must be graspable in accordance with the code requirements. A 2 by 4 is not graspable.
- If the underside of a stairway is enclosed and accessible then 1/2 inch drywall must be installed to the underside of the stairs.
- All lower level finishes and each basement bedroom must have one window or door meeting the following: a maximum floor to clear sill height of 44", minimum opening width of 20", minimum opening height of 24", and a minimum openable area of 5.7 sq ft.
- All branch circuits supplying bedroom receptacles are required to have an arc-fault interrupter.
- Bathroom exhaust fans must be a minimum of 50 cfm and exhaust to the exterior.
- If your plans include the enclosure of your furnace and water heater, ventilation at the top and bottom of the room may be required. Ventilation must equal 1 square inch for every 1,000 Btu/h of input rating of the fuel-burning appliance. A louvered door or combustion air vent through the wall can accomplish this. A door opening wide enough to repair or replace your mechanical equipment must be provided. A 12 inch clearance from the side of your furnace and a 30 inch clearance on the fuel burning side (front) is required. Please consult your HVAC manufacturers specifications for clearance requirements.
- The underside of floor truss joists is required to be dry walled in all areas with some exceptions if approved by the building department and Fire Marshal.
- A anchoring (bottom plate to floor, studs to plates, drywall, etc..) must be in accordance with the fastening schedules of the adopted International Residential Code.
- Insulation is required in the walls adjacent to the foundation walls and when used as an exterior wall. The insulation must at least equal an R value of 13.
- When suspended ceilings are used and the area of the ceiling space is over 1000 square feet then the area in the space is required to be draftstopped in accordance with the code.

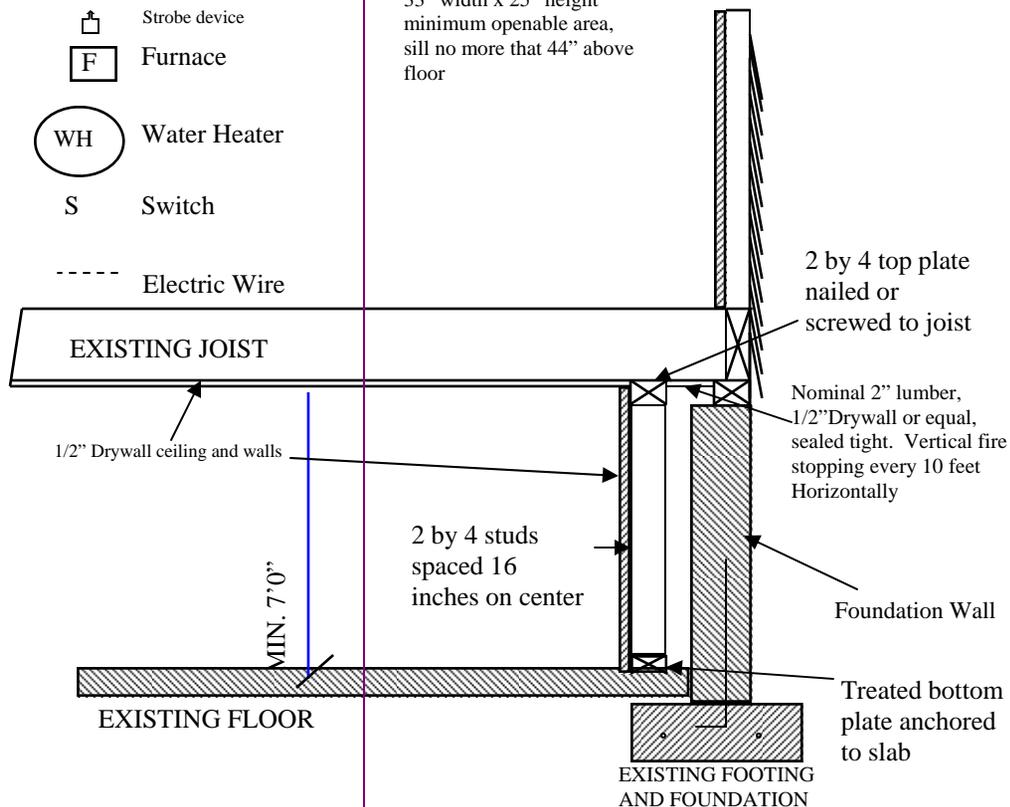
SAMPLE FLOOR PLAN



KEY

- Receptacle
- Exhaust Fan
- Smoke Detector
- Light Fixture
- Floor Drain
- Strobe device
- Furnace
- Water Heater
- Switch
- Electric Wire

Window opening
33" width x 25" height
minimum openable area,
sill no more that 44" above
floor



- The floor drain is required to be in the same area as the water heater.
- If the ceiling joist are manufactured I-joist do not install nails or screws in the side flange of the joist.
- Holes in manufactured I-Joist must be in compliance with the manufacturers recommendations. If you do not have the recommendations take the number printed on the side of the I-joist and obtain them from the manufacturer's website.

The preceding information is meant to be a helpful guide and apply to most simple residential basement finish projects. However, it does not include all of the code requirements that may apply. The plan reviewer may determine that unusual circumstances dictate the need for additional information on any particular project. In order to help you with your design a sample plan is on the reverse side. If you have any questions please contact the Building Department at 994-3200.

**ST. LOUIS COUNTY MECHANICAL,
ELECTRICAL, PLUMBING, PERMITS
ARE REQUIRED.**