



CODE SPECIFICATIONS FOR RESIDENTIAL BASEMENT FINISHING

PLANS: A basic plan is req'd when submitting for a basement finish permit. The plan should be labeled to identify each room to be finished, electrical, doors and windows, furnace and water heater.

All inspection requests must be submitted to buildinginspections@emcity.org

PLEASE READ THROUGH THE FOLLOWING INFORMATION CAREFULLY. The following are the *basic* minimum code requirements. This list is not all inclusive and other code requirements may be applicable. The owner and/or the contractor are responsible to comply w/ all codes and city ordinances.

Current code: **2021 INTERNATIONAL RESIDENTIAL CODE.**

MINIMUM ROOM AND SPACE SIZES

- Habitable Rooms: 70 sq. ft. minimum, with a minimum 7' horizontal dimension.
- Ceiling height 7' minimum. **EXCEPTION:** Beam and girders spaced not less than 4' O.C. may project not more than 6" below the required ceiling height.
- Water closet: 21" clear space in front and 15" side to side, measured from the center of the toilet.
- Showers: 900 sq. inches of interior cross-sectional area with a min. compartment of not less than 30" inside to inside measurement excluding valves, soap dishes, shower heads and grab bars.
- Hallways & Stairways: 36" minimum finished width.
- Headroom: Stairways shall have finished 6'8" minimum headroom. (Measure from nose of treads)

WINDOW REQUIREMENTS

- All habitable rooms shall be provided with 8% natural light 50% to be operable for ventilation.
- **Bedroom windows:** Minimum size shall be 5.7 sq. ft. of net opening with a minimum 24" height & 20" width. The sill height shall not be more than 44" maximum.
- Window wells for bedrooms must extend outward a minimum of 36" and be provided with a permanent ladder for egress whenever the depth of the window well exceeds 44".
- Tempered glass required when glazing is less than 18" to the floor or when less than 24" to a door.

FRAMING REQUIREMENTS

- All wood placed on the concrete slab shall be redwood or pressure treated wood.
- Fire blocking shall be installed as per IRC
- All framing shall be plumb and true.
- Bearing walls shall be framed true and plumb using materials as required by the IRC.
- Non-bearing walls shall not exceed 24" o.c.
- Sheetrock backing required for all wall and ceiling corners.
- Holes shall not be drilled in the top or bottom 2" of floor joists.
- Holes in I-joists shall comply with manufacturer guidelines.
- Do not notch the bottom edge or the top edge of any joist or beam.
- Holes drilled in framing for electrical when less than 1¼" to edge must be protected w/ nail plates.
- Holes drilled in framing for plumbing when less than 1½" to edge must be protected w/ nail plates.
- Holes shall not exceed 40% of the stud for bearing walls.
- Holes shall not exceed 60% of the stud for non-bearing walls.
- Doors shall be framed with a trimmer and a king stud. These studs shall be nailed together with 10d, 24" o.c. maximum.
- Fire stop all vertical to horizontal spaces per code
- All beams shall be properly sized, installed and supported.

INSULATION REQUIREMENTS

- **R-13 minimum** insulation shall be installed on all basement exterior walls.
- Insulation shall be neatly fit between the framing members with minimal compression of the insulation. Seal all penetrations and cut insulation to fit around and behind all boxes and wiring.

PLUMBING REQUIREMENTS

- All fixtures shall be plumbed as required by current code and manufacturer's specs.
- Approved type, plastic water lines shall be supported installed as per manufacturer specs.
- All tubs, showers, sinks, & lavatories shall have approved P-traps.
- Provide proper fixture venting as required by current code.
- Toilets shall be low flush type maximum 1.6 per gallons per flush.
- Shower heads shall be maximum 2.5 gallons per minute output.
- Shower & tub valves shall be anti-scald type.
- Jetted tubs shall have access provided to the circulation pump, 12"x12" minimum opening. (Where pump is located more than 24" from access opening, an 18"x18" min. opening is req'd.)

MECHANICAL REQUIREMENTS

- Furnaces and water heaters **shall not** be located in bedrooms, bathrooms or similar spaces.
- Access to furnace & water heater **shall not** be through a bedroom or a bathroom.
- Mechanical room must be isolated and insulated. Must have sealed door.
- Water heaters & furnaces must be removable without moving the other appliances.
- Furnaces must have 30" minimum front clearance of working space, and 6" front clearance to any combustible material. Side & rear clearances shall comply with manufacturer listings.
- Mechanical equipment shall be provided with outside combustion air as per current code.
- All bathrooms that do not have a window must be mechanically ventilated with exhaust fan **(80 cfm. With 4" minimum duct)**

ELECTRICAL REQUIREMENTS

- Tamper Resistant receptacles must be installed so that no point along a wall line exceeds 12' measured from outlet to outlet. Walls broken by a door opening shall have an outlet within 6' maximum from the door opening. Walls wider than 2' between openings must have an outlet.
- All 125 volt 15 and 20 amp receptacles must be tamper resistant.
- All bathrooms must have at least one outlet. All bathroom outlets must be GFCI protected. No other rooms can be wired with the bathroom (except other bathrooms), 20 Amp circuit req'd.
- Kitchen countertops shall have an outlet every 4' and any countertop 12" or more in width shall have an outlet. All countertop outlets in the kitchen must be GFCI protected on separate circuit.
- Wire gauge size for kitchens shall be 12-2 with ground.
- Label all circuits in panel box prior to the final inspection.
- Jetted tubs must be GFCI protected.
- All laundry outlets must be GFCI on separate dedicated circuit. Must be accessible for inspection.
- Outlets in unfinished basement rooms with concrete flooring must be GFCI protected.
- Panel boxes **shall not** be located in closets or spaces where ignitable materials may be present.
- Wiring shall be protected with nail plates when holes are drilled less than 1 1/4" to edge of framing.
- A switch controlled light must be provided for all hallways, stairways, and habitable rooms.

SHEETROCK REQUIREMENTS

- All sheetrock shall be properly backed at all joints.
- Sheetrock installed in tub and shower enclosures shall be of the water resistant type.
- Screws shall be placed not to exceed 12" maximum spacing with 5/8" min. penetration into the framing member.
- Enclosed useable space under stairs must have 1/2" sheetrock (min.) installed on the inside of the walls and ceiling of the enclosed useable space with all joints fire taped.

WOOD STOVES & FIREPLACES

- All wood stoves and fireplaces must be listed & labeled. Installation of these units must be in accordance with the manufacturer minimum requirements and specifications. These specifications must be provided for the inspector at the time of the inspection. Consult with the building department for special circumstances and/or code requirements.

These specifications become part of the plans and permit approval for this basement permit.

The above requirements are not all inclusive. It is the full responsibility of the owner/builder to comply with all minimum codes.

Contact the Building Department if you have any questions at buildinginspections@emcity.org