Basement Finishing

2020 Residential Building and Energy Code requirements

1. Minimum ceiling height when altering ***existing*** basements = 6 feet 4 inches, R305.2.1.
2. Heat in all habitable rooms sustainable at 68 degrees 3-feet above the floor, 2-feet from exterior walls, R303.10. System must be balanced after installing heat ducts and cold air returns.
3. Smoke alarms shall be provided throughout the home on each level, in each bedroom and in the immediate vicinity outside of bedrooms. They must be hardwired and interconnected if access can be provided without removal of interior wall or ceiling finishes, R314.
4. Carbon monoxide alarm shall be installed within 10-feet outside of bedrooms, R315.
5. Basements and every sleeping room require an emergency escape and rescue opening that opens directly into a public way or to a yard or court that opens to a public way, R310.
6. Egress window minimum net clear openings are: 5.7 total square feet (5 square feet at grade level) 24-inch height, 20-inch width R310.2.1, and 44-inches maximum sill height, R310.2.2. *Replacement windows are exempt from these requirements when it is not smaller in size with the same operating style that provides equal or greater opening of the existing window, R310.2.5.*
7. Window wells require at least 9 square feet of net clear area with a minimum horizontal projection and width of 36-inches, R310.2.3. An attached ladder or steps is required when the vertical depth below grade exceeds 44-inches. The ladder or rungs shall be at least 12-inches wide, project at least 3-inches from the wall and spaced not more than 18-inches apart, R310.2.3.1. *A window well drainage system is required when not in well drained soils, R310.2.3.2.*
8. Bathroom with no openable window requires an exhaust fan with duct insulated to minimum R-3.3 with vapor retarder for first 3-feet from exterior wall, R303.3 and Energy Code Table R403.2.1.
9. Stairs with four or more risers require a continuous full-length handrail with no sharp edges on one side with a minimum 1 ½-inch space between the handrail and wall or guard, R311.7.8.
10. Enclosed accessible space under stairs shall be protected on the enclosed side with ½-inch gypsum board, R302.7.
11. The basement ceiling shall be fire protected on the underside of floor framing with ½-inch gypsum board or equivalent. **Exception:** floor joists 2x10 or larger and 80 square feet of utility room area. Fire blocking is required around the perimeter of this unprotected space, R302.13.
12. Wood in contact with concrete or masonry that is in direct contact with the ground must be treated or separated from the concrete or masonry by an impervious moisture barrier, R317.
13. Minimum insulation requirements: exterior above ground walls R-20 for zone 6 and R-21 zone 7, foundation walls R15 (R-10 with exception) rim R-10, Energy Code Table R402.1.1 and R402.2.8.
14. All new plumbing shall be inspected, tested and approved prior to being covered. Refer to the Plumbing Checklist for requirements that may apply to your project.

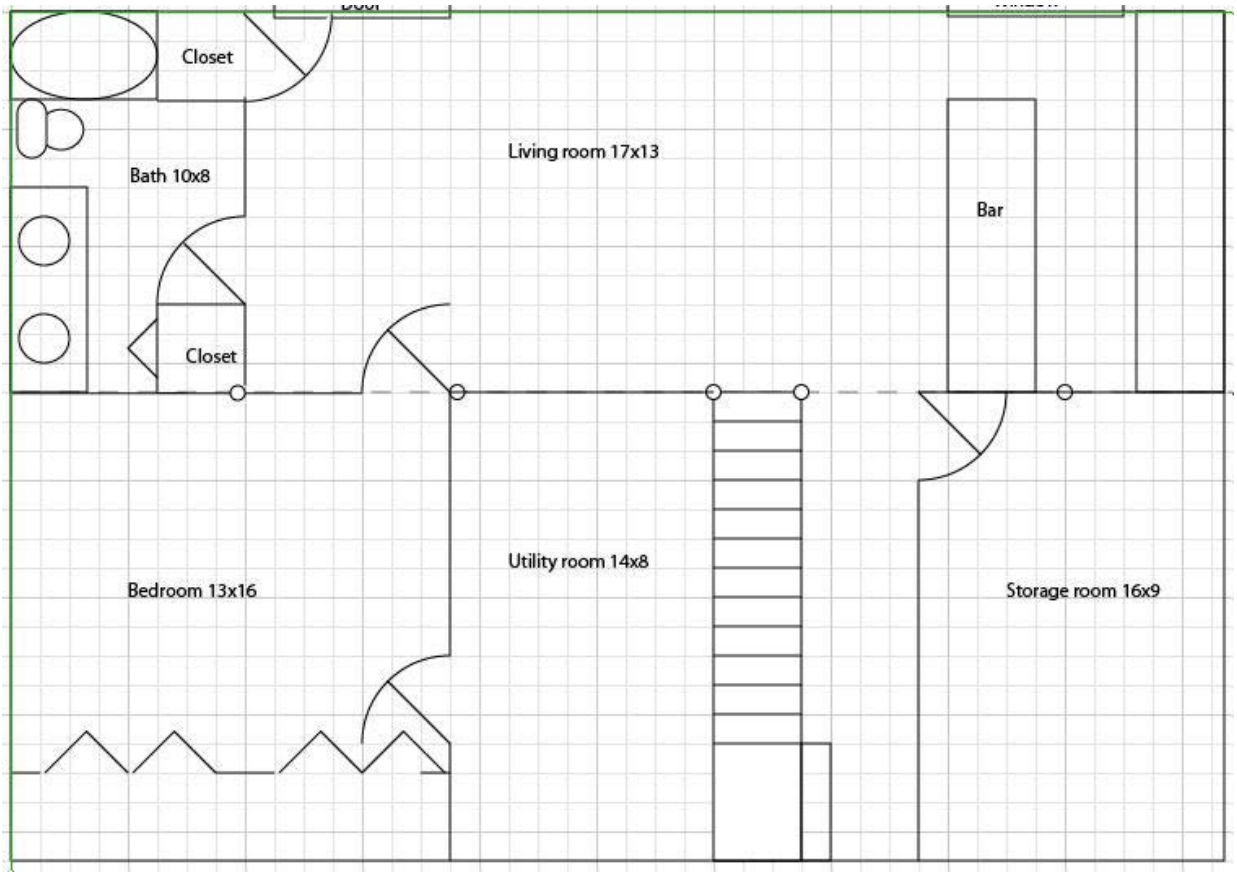
Inspections Required: *Schedule all inspections that apply to your project*.

1. Plumbing rough-in (DWV + water lines)
2. Mechanical rough-in (may include fireplace)
3. Electrical rough-in by electrical inspector (sticker in light switch box)
4. Framing, (can be done with plumbing and heating rough-in *after electrical rough-in is passed*)
5. Insulation, (*after framing is passed*)
6. Plumbing final
7. Mechanical final (may include fireplace) (diffusers installed in all duct openings)
8. Electrical final (sticker in or on electrical panel)
9. Building Final, (can be done with plumbing and heating final *after electrical final is passed*)

Note: Plumbing and Heating work may be done by the homeowner without obtaining separate permits. Separate Plumbing and Heating permits are required when contractors do the work.

Sample Sketch

Label use and dimensions of all rooms and total square feet of finished space.



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