



City of Urbandale  
3600 86<sup>th</sup> Street  
Urbandale, IA 50322-4057  
[www.urbandale.org](http://www.urbandale.org)  
Building Department (515) 278-3935



## Basement Finish

### Required Inspections

1. **Plumbing under slab rough-in** (if any)
2. **Framing**
3. **Plumbing rough-in** (if any), can be combined with Framing Inspection.
4. **Electrical rough-in** (if any), can be combined with Framing Inspection.
5. **Mechanical rough-in** (if any), can be combined with Framing Inspection.
6. **Final Inspection** – Please schedule once work has been completed to close permit.

### Design

- Habitable rooms must have a minimum height to ceilings of 7ft and a minimum 6ft - 4in to the bottom of beams, ducts, or other obstructions. The minimum ceiling height in a bathroom is 6ft - 8in. (R305.1)
- Hallways must have a minimum width of 36in. (R311.6)
- If the remodel affects structural elements such as removing a column, beam or support wall, the design will need to be evaluated by an engineer for specific support of imposed loads such as the number of stories supported, and the length of floor joists. (R106.1)
- For stair and handrail requirements a separate [Stairways, Handrails and Guard Handout](#) is available. (R311 & R312)
- All foam insulation must be covered with a minimum of ½ in gypsum board (or) ¾ in OSB sheeting (or) an approved material equivalent that has been fire transmission and integrity tested to NFPA 275. (R316.4)
- Wood in contact with concrete such as bottom plates or firing strips on walls must be a decay resistant material, such as treated lumber. (R317.1)
- Fire blocking is required in several areas such as when walls are framed away from the foundation or at bulkheads. (R302.11 & R302.12)
- Fire protections - In areas of work, protection must be provided for floor joists and underside of stairs. (R302.7, R302.13)
  - (a) Floor Joist – 1/2in. gypsum wallboard or 5/8 in OSB required to protect floor assemblies
  - (b) Stairs – 1/2 in gypsum wallboard for the underside of stair assemblies.
- **Separate permits** must be obtained for Electrical, Plumbing & Mechanical (Heating /Conditioning, Venting, Fireplaces)

### Emergency Escape Window

- Alterations or repairs of existing basements. An emergency escape and rescue opening are not required where existing basements undergo alterations or repairs. (R310.6)
- If a new sleeping room is planned, or what appears to be a bedroom because of a closet with the typical rod & shelf arrangement, must be provided with emergency escape and rescue openings in accordance with Section 310.1 that opens directly to the exterior. A separate [Emergency Escape Window Handout](#) is available with additional details (R310.6 & R310.1)

## Smoke Detectors & Carbon monoxide Detectors

- Smoke and CO detectors must be installed even if the area is not affected by the work. (R314.2 & 315.2)
- The code requires smoke **detectors** in all bedrooms, on all floors/levels of the house, and outside each sleeping area in the immediate vicinity of the bedrooms. Detectors must be interconnected by either wire or wireless. (R314.4 & IAC 661.210.1)
- A **carbon monoxide** detector must be installed in the immediate vicinity of the bedrooms. (R315.1)
- See [Smoke and Carbon Monoxide Detectors Handout](#) for additional information on Smoke and Carbon Monoxide devices.

## Mechanical

- Bathrooms must be provided with a mechanical ventilation system exhausted directly to the outside. (R303.3)
- Bonding is required for existing installations of Corrugated Stainless-Steel Tubing (CSST). A [CSST Bonding Handout](#) is available. (IRC G2411, IFGC 310.2 & Muni Code 150.03 (18))
- Equipment that requires access for servicing, such as sump pumps, furnaces, water heaters, etc. must remain accessible. (IRC M1305.1, IMC 306)
- All habitable rooms are required to have a heating source capable of maintaining a room temperature of 68 degrees Fahrenheit. Portable heaters may not be used to meet this requirement. (R303.10)
- Furnaces and water heaters must not be in sleeping rooms, storage closets or bathrooms. (IRC G2406.2, IFGC 303.3)
- Enclosing the space around appliances such as gas water heaters and furnaces changes the ventilation requirements for these appliances. 50 cubic feet of space is required for each 1,000 btu input of an appliance. Additional ventilation openings may be required between rooms or to the outside of the home to achieve this. (IRC G2407.5, G2407.5.3.1, IFGC 304.5.1, 304.5.3.1)
- Return air spaces that utilize stud cavities or joist bays must be isolated from adjacent concealed spaces including tub surrounds. IRC M1601.1.1
- Label gas manifold with permanent identification method. (IRC G2420.5.3, IFGC 409.5.3)

## Plumbing

- Toilets must be in a clear space not less than 30in wide, and a minimum 21in clear in front. (R307.1)
- Where air admittance valves are used, maintenance access to the device must be provided. (IPC 918.5)
- Showers must have a minimum 30in X 30in floor space and minimum headroom of 6ft - 8in. (R307.1 & 305.1)

## Electrical

- **AFCI protection** - All electrical 120volt 15 and 20amp openings must be arc-fault circuit interrupter protected (NEC 210.12) *Exception* - Bathroom and unfinished basement receptacles.
- **GFCI protection** - All 125-volt receptacles in the basement must also be GFCI protected. (NEC 210.8)
- Receptacles must also be "Tamper Resistant" (NEC 406.12)
- Non-metallic cable (Romex) must be protected from physical damage therefore it must be securely attached to the sides of studs or be inaccessible. (NEC 334.15)
- Receptacles are required to be spaced so that they are within 6ft from a door/opening and no more than 12ft apart along the wall line. At least one receptacle is required on every section of wall that is 2ft or wider and hallways 10ft or longer. (NEC 210.52)
- Stairways shall be provided with a minimum of 1-foot candle of light along the treads and at the landings. For stairways with (6) or more risers, a switch to control the stairway lights must be installed at the top and bottom of each stairway. (R303.7)
- Bathroom receptacles require to be on a separate 20amp circuit. (NEC 210.11(C)(3))
- All junction boxes must remain accessible and are not permitted to be buried in walls or ceilings. (NEC 314.29)
- Electrical panels must remain accessible and are not permitted to be in bathrooms or over stairs. A 30in wide by 36in deep by 6.5ft high working space must be provided in front of the panel. (NEC 240.24 & 110.26(A))
- Label electrical panel (NEC 408.4)