

Single Family Residential Basement Finish

Building Guides
Building Inspection
385 Kimbark St
303-651-8332



How to Use this Guide

Provide two sets of plans and complete the following:

- 1 Review this Building Guide
- 2 Provide 2 floor plans.
Drawn to scale. See example on page 5.
- 3 Fill out a Building Permit Application.
The majority of permit applications are processed with little delay. The submitted documents will help determine if the project is in compliance with building safety codes, zoning ordinances and other applicable laws.
Plans are reviewed in the order in which they are received. One set of the approved plans will be returned to you with any corrections noted, when the permit is issued. Inspections will not be done without approved plans on site at time of inspection

Smoke alarms. Smoke alarms are required to be hardwired and interconnected in new and existing bedrooms, halls and one each level unless removal of interior wall or ceiling finishes would be required. In this case, battery operated devices are acceptable



Based on graphics and information developed by the Colorado Chapter of the International Code Council.

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General Permit Information

A building permit is required anytime there is new construction or addition, alteration, repair or demolition to the main structure or accessory structure on a lot or parcel.

If you have questions about whether or not a permit is required, contact the Building Inspection Division, Civic Center Complex, Longmont, Colorado, 80501, (303) 651-8332.

The issuance of permits and subsequent inspections of the work performed ensures that all construction in the city is safe and in compliance with the City of Longmont Zoning and Building Codes. The primary purpose of these codes is to ensure a safe and healthy environment for the citizens of Longmont.

Permits are reviewed and issued at the Building Inspection Division office located at the Civic Center Complex, 350 Kimbark St. The office is open from 8:00 AM to 5:00 PM Monday, Wednesday and Friday. It is also open from 7:45 AM to 6:00 PM on Tuesday and Thursday. Call (303) 651-8332 for information.

As a homeowner you can act as your own contractor and work on the property where you reside without a contractor's license. You may subcontract parts of a project. Anyone you hire, however, must be insured and licensed with the City of Longmont. In additions, you are responsible for obtaining inspections and written approvals on the permit card. *Exception: electricians and plumbers are also licensed with the state and electricians must pull a permits for all work they do.*

CAUTION: If you do work, or have any work done without obtaining a permit, you could be incurring liability in the event of a fire or accident related to the work. In some circumstances, your insurance could be invalidated.

REMINDER: If a remodel is 300 square feet or more it is required to comply with Longmont's Green Points Program.

Please Note:

- ⇒ **NOISE:** Section 10.20.100 of the Longmont Municipal Code prohibits making unreasonable noise which would cause a person of ordinary sensitivities significant annoyance and irritation.
- ⇒ **CONSTRUCTION DEBRIS & TRASH:** Section 9.04.100 of the Longmont Municipal Code requires debris and trash be contained on the job site.
- ⇒ **BEFORE DIGGING:** ALWAYS call the Utility Information Center at 1-800-922-1987 to locate underground utility lines. Allow 3 working days for the lines to be located and marked.

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Calling for Inspections

Requests for inspection may be made on the Building Inspection automated phone system by calling (303) 774-4595 or through the Internet (<https://safariweb.ci.longmont.co.us/building/default.asp>). You will need your permit number and inspection card. Follow the voice mail prompts. Inspections are usually made on the following day, it is wise to anticipate when they need to be made to prevent delays.

No inspection will be made on subcontracted work done by an unlicensed subcontractor.

Your site address and permit card must be posted on-site throughout the project.

You should not proceed to cover-up any work that has not been inspected. Although you may request either morning or afternoon inspection times, it may not be possible to schedule a specific time for the inspector to be there. You SHOULD NOT schedule any concrete or other major work for the same day as the inspection to avoid costly problems. Inspections must be called in the day before needed in order to allow for efficient scheduling and routing the Field Inspectors so all inspection requests can be accommodated.

Please have all animals including dogs under control and not in the areas to be inspected. Inspections may not be made if there are animals running loose and a re-inspection fee may be required if this occurs.

Most basement finishes require two-three inspections (rough plumbing/mechanical/electric and framing, insulation, and final), please use the following information to plan for these:

FRAMING and ROUGH PLUMBING/MECHANICAL/ELECTRIC

- ⇒ Inspection Record Card posted on site.
- ⇒ Approved Plans posted on site.
- ⇒ Underground Plumbing, Gas Line, Rough Plumbing, Mechanical and Electrical roughed in.
- ⇒ Approved plans on site.
- ⇒ Plumbing, Mechanical and Electrical (including low voltage) roughed in (if any).
- ⇒ All Framing, fire blocking and bracing has been done.

INSULATION (if necessary)

FINAL INSPECTION

- ⇒ Inspection Record Card posted in window.
- ⇒ All Plumbing, Mechanical, Electrical (including low voltage), flooring installed, and Framing work done and approved.

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⌋ **Note:** Separate framing, insulation and dry- ⌋
⌋ wall inspections may be necessary if the ⌋
⌋ interior walls and/or ceiling are covered ⌋
⌋ and the structural framing and supports ⌋
⌋ cannot be viewed at the final inspection. ⌋
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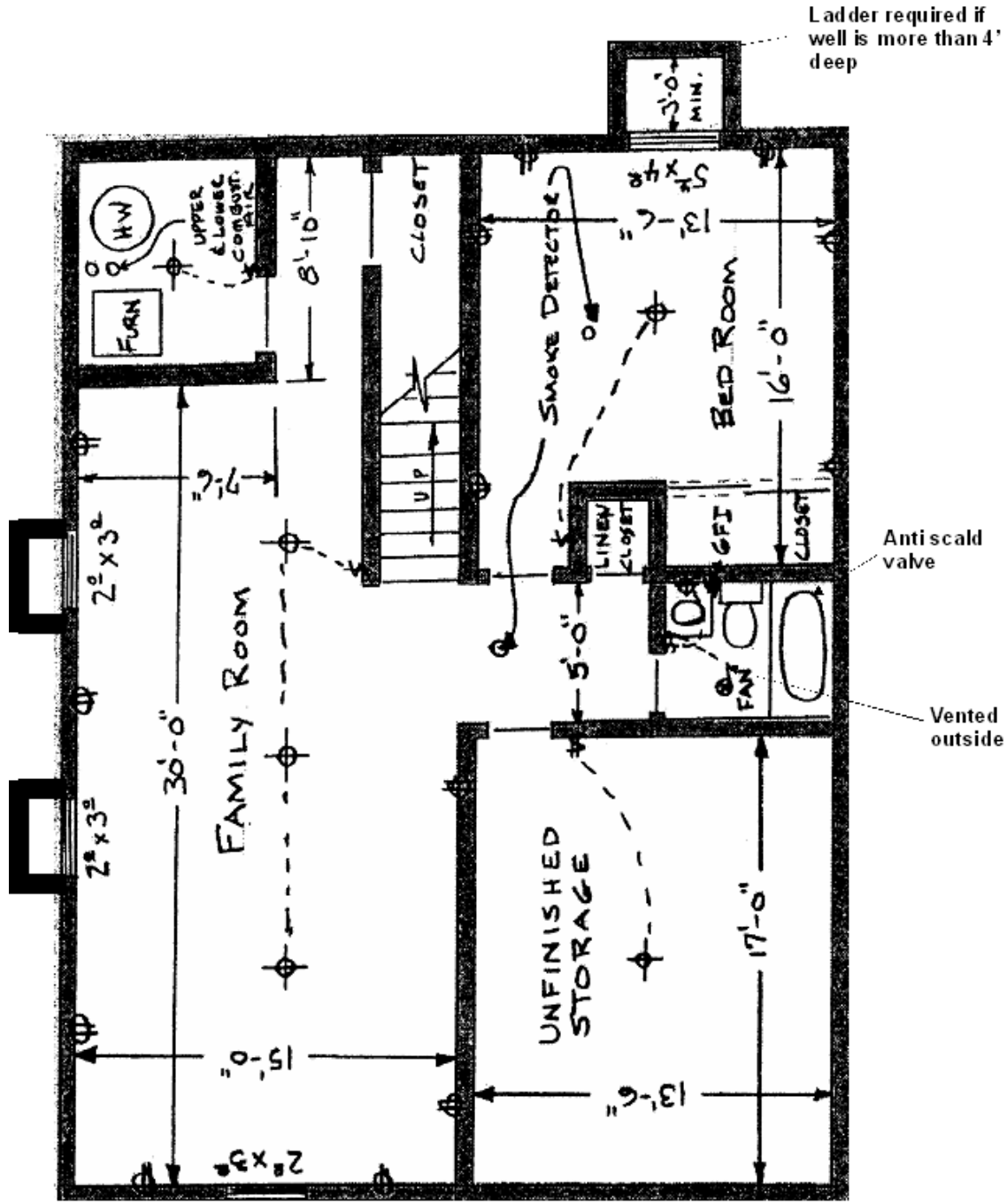
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Directions

- 1 Submit one permit application.
- 2 Draw a floor plan with dimensions drawn to scale, showing the layout of the entire basement. Label the use for all of the rooms. **Submit two complete sets of floor plans.** See example page 5.
- 3 Show electrical outlets, smoke detectors, lighting, fans, plumbing modifications, cleanouts, furnace, and water heater.
- 4 Show location and size of windows, doors, stairs and window wells. Identify emergency escape and rescue windows, and egress window wells with ladder.
- 5 Indicate locations of plumbing fixtures, water heater, furnace, boiler, air conditioner and any cooking appliances. (A no rent agreement may be required if a kitchen is installed).
- 6 List window sizes and types, and window well dimensions.
- 7 Identify modifications to the existing structure such as posts, beams and floor joists.
- 8 Indicate height of dropped ceiling areas less than 7 feet.
- 9 Letter from an engineer (if cutting new windows or widening existing windows in concrete). This letter shall address lintel/header over window if structural modifications are being made.
- 10 Type, size R-value of insulation in walls and ceiling. Also the floor if applicable. (if installing door to exterior).
- 11 Fireplace or stove location, type and installation details.
- 12 Show location and size of exhaust fans and combustion air ducts.
- 13 Provide location of smoke detectors.

NOTE: IF YOUR BASEMENT IS
EQUIPPED WITH FIRE SPRINKLERS
YOU MUST OBTAIN A FORM FROM
THE BUILDING INSPECTION DIVISION
FOR THE FIRE SPRINKLER CON-
TRACTOR TO FILL OUT AND THAT
FORM MUST BE SUBMITTED WITH
PLANS FOR PLAN REVIEW.

Sample Floor Plan – Residential Basement Finish



Basement Finish Requirements

- 1 Ceiling Height. Habitable rooms may have a ceiling height of not less than 7'-0" as measured from the finished floor to the ceiling. Beams, pipes, and ducts may project from the ceiling not less than 6'-6" from the finished floor.
- 2 Stairway Fire Protection. If space under the stairs is enclosed accessible space, a minimum of one layer of 1/2" gypsum board is required to be installed on the inside of walls, and under stair.
- 3 Heating And Return Air. All habitable rooms are to be provided with heat. Return air is required for forced air heating systems in all habitable rooms. Storage areas need not be heated.
- 4 Smoke Detectors. Smoke detectors shall be installed throughout the entire house, located as required for new buildings. Smoke detectors shall be installed in each bedroom and at a point centrally located in the hall or area giving access to each separate bedroom. Smoke detectors must also be installed on each story, basement and at any change in ceiling height of more than 24". Additional detectors may need to be installed dependant upon the configuration of the house as verified by the Building Inspector during inspection.
- 5 Combustion Air. Fuel burning furnaces and water heaters are required to be provided with combustion air obtained from outside. The required size and placement of combustion air ducts is determined by using Section G2407 of the *International Residential Code*.
- 6 Emergency Egress Windows. *Every* basement and each bedroom is required to have at least one operable window or door approved for emergency escape or rescue which shall open directly to the exterior. The door or window shall be operable from the inside without the use of special tools. All escape or rescue windows shall have a minimum clear openable area of 5.7 square feet. The minimum net clear openable height shall be 24 inches. The minimum net clear openable width shall be 20 inches. The maximum finished sill height shall be 44 inches above the finished floor. Exterior window areaways (window wells) provided for escape or rescue windows shall be at least as wide as the window and at least 36 inches out from the house. ("Existing" wells installed on houses built between 3-30-86 and 01-01-96 may be 30" and wells installed on houses built prior to 3-30-86 may be 24") All window wells with a vertical depth of more than 44" shall be equipped with a permanently affixed ladder.
See page 8 for diagrams and details.
- 7 Light, Ventilation And Sanitation. All habitable rooms are to be provided with natural light and ventilation by means of exterior glazed openings with an area of not less than (8%) of the floor area or artificial light as approved by the building official. Natural ventilation is required with minimum openable area of (4%) of the floor area being ventilated. Habitable rooms are any space used for living, eating, sleeping or cooking. Bathrooms, toilet compartments, closets, halls, storage or utility space, and similar areas are not considered habitable space.
- 8 Bathrooms. Water closets must be provided with a minimum of 21 inches in front of the water closet and 15 inches between the center of the water closet and any sidewall or other obstruction. Showers shall have a minimum inside dimension of 900 square inches, capable of encompassing a 30 inch circle and be finished 70 inches above the drain with non-absorbent materials. A ventilation fan is required in bathrooms with unopenable windows and bathrooms with a tub or shower. The fan must be vented to the exterior of the building using listed vent pipe.
- 9 Insulation. All perimeter below grade walls require R-10 Insulation.

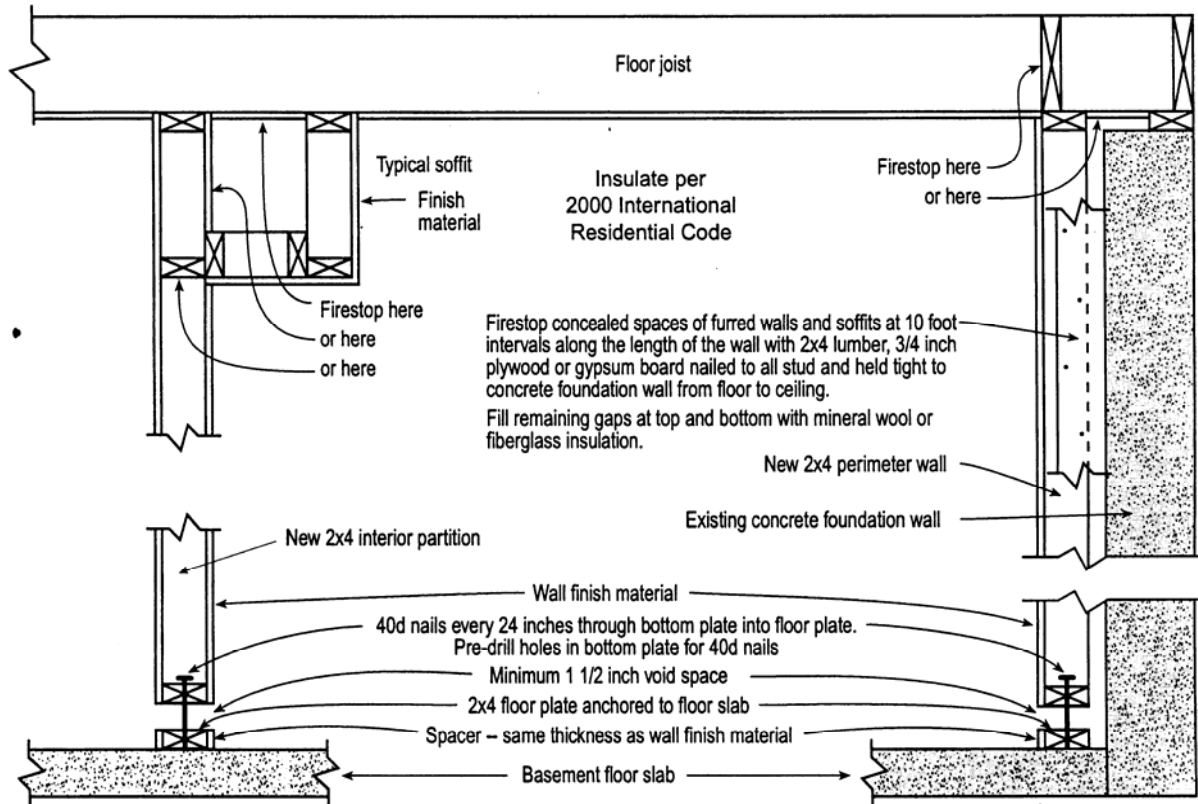
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The Building Department staff can help you determine what is necessary to meet minimum safety requirements.

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- 10 Floated Walls. In areas with expansive soil, non-bearing walls on basement floor slabs should be built to accommodate not less than 1-1/2 inches of floor movement. A detail of a typical floated wall is shown below. Drywall should be held to a minimum of 1 inch above the slab to allow for movement.
- 11 Fireblocking. Fireblocking must be installed in concealed spaces of wood-furred walls at the ceiling level, at 10-foot intervals along the length of the wall and at all interconnections of concealed vertical and horizontal spaces such as intersection of stud walls and soffits or dropped ceilings. A detail of typical firestopping is included below. Fireblocks may be constructed of 1-1/2 inch lumber, 3/4 inch plywood or particle board, gypsum board or fiberglass insulation, securely fastened.
- 12 Fuel Burning Appliances. Furnaces and water heaters cannot be located in a bedroom or bathroom unless appliances are installed in a dedicated enclosure in which all combustion air is taken directly from outdoors, and a weather stripped solid door equipped with an approved self closing device is installed. If the furnace and water heater are being enclosed, adequate combustion air must be provided for these appliances to operate properly. For maintenance purposes, a minimum of 30 inches clear working space must be provided in front of furnaces and water heaters. Maintenance or removal of each appliance must be possible without removing the other or disturbing walls, piping, valves, wiring and junction boxes.

Basement Finish Details



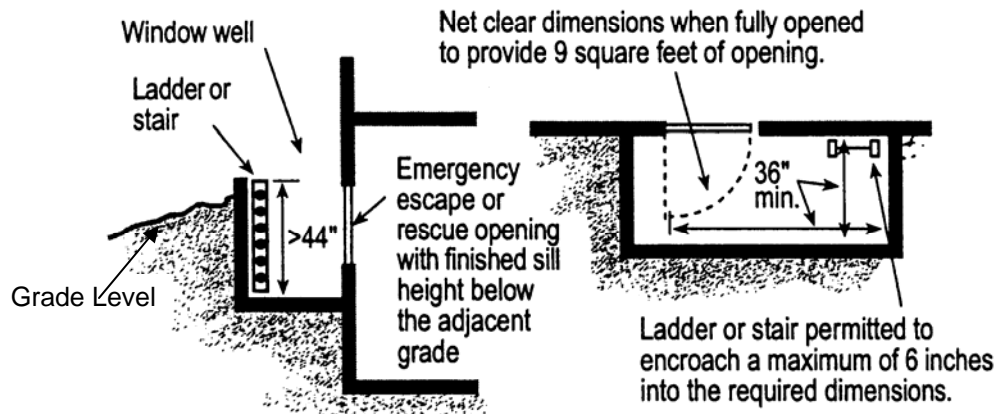
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Basement Finish Windows

Emergency Escape & Rescue Window Well

Emergency Escape and Rescue Window Clearances

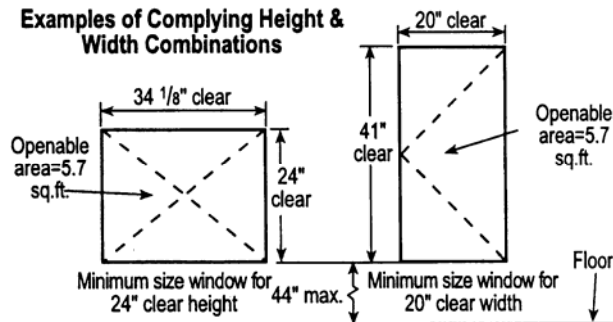
Emergency Escape And Rescue window wells must provide a minimum area of 9 square feet with a minimum dimension of 36 inches and shall enable the window to open fully. If the depth of the window well exceeds 44 inches, a permanently affixed ladder must be provided. The ladder must not interfere with the operation of the window.



Emergency Escape And Rescue Windows must meet the following criteria:

- A minimum total openable area of not less than 5.7 square feet
- A minimum clear openable height of not less than 24 inches
- A minimum clear openable width of not less than 20 inches.
- A finished sill height of not more than 44 inches above the floor and should be openable from the inside without the use of separate tools, knowledge or effort.

Examples of Complying Height & Width Combinations



Emergency Escape and Rescue Window Area

Note: cutting into any existing foundation wall requires a letter from a licensed Colorado engineer.