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## A Guide and Checklist for Finishing Basements



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*The following information is intended to assist both homeowners and contractors with the process and requirements for finishing a basement in Waterford. Please review the following information to see what items are applicable to your specific project. The information provided is not intended to address every aspect of the construction process and is by no means all inclusive. Your project may have unique conditions that will have to be dealt with on a case by case basis with one of our building officials.*

## **Building Permit Application Requirements**

   A building permit is required. Building permit application forms are available in permitting office or can be downloaded from the building department website.

*Note: Please keep in mind that a complete application with all required information will help expedite the application review process.*

- Zoning approval is required prior to issuance of the building permit.
- Building permit application(s) will not be accepted if taxes or utility commission fees are owed on the property.
- A certificate of insurance for workers' compensation coverage and general liability insurance must be provided by contractors or a sworn notarized affidavit provided, if the contractor is a sole proprietor.
- All contractors that perform remodeling must have a Connecticut Home Improvement Contractor registration.
- Mechanical (HVAC), Electrical, Plumbing and other trades are required to be licensed in Connecticut. A copy of their license will be required prior to issuance of trade permits. Homeowners may do their own mechanical, plumbing and electrical work in a single family dwelling provided they live there.
- Provide plans drawn to scale (1/4" per ft. preferred). Plans shall include the following:
  - Proposed floor plan(s)
  - Existing conditions plan(s)/Demolition plan(s)
  - Plans shall include dimensions, room labels, finishes, heights, doors, windows, etc.
  - Plans shall indicate as much of the required information noted below as it is applicable to your specific project.
  - Any other drawings that may be needed to convey the scope of work.
- A cost estimate for the entire build-out should be provided.

## **Special Requirements**

   If the existing property is serviced by a private septic system and a bedroom is being added, the plans will need to be reviewed by [Ledge Light Health District](#). The plans will be forwarded to Ledge Light by this office prior to building department review.

## **Other Requirements**

- \_\_\_ Contractor / Owner shall keep one set of the approved plans readily available on the job site at all times during the construction.
- \_\_\_ All rough in work shall be inspected prior to covering with insulation or sheetrock.
- \_\_\_ A final inspection is required prior to occupancy of the renovated space(s)
- \_\_\_ A condition of permit is that the ENTIRE house be equipped with code compliant smoke and CO detectors. Each bedroom requires a smoke detector. A smoke detector is required in the area just outside the door(s) to sleeping rooms. A smoke detector is required on each level of the house. A carbon monoxide (CO) detector is required on the main floor level if fossil fuels are used for heating. Battery operated units are acceptable at existing construction. Areas of new construction will require hard wired units with a battery backup. Interconnect new devices with existing devices whenever possible.
- \_\_\_ All wood in contact with concrete or masonry shall be treated lumber or wood that is naturally resistant to decay and termites.
- \_\_\_ All constructed walls and partitions shall be adequately secured/anchored to the existing walls and floors.
- \_\_\_ A vapor retarder is required to be installed on the warm-in-winter side of the wall insulation.
- \_\_\_ Any foam plastic insulation shall be covered with a thermal barrier. (typically  $\frac{1}{2}$ " sheetrock)
- \_\_\_ Any gypsum board used as a backer or base for tile shall be the water resistant type. Water resistant gypsum board shall not be installed over a vapor barrier.
- \_\_\_ If removing any load- bearing elements, verification from a structural engineer or the building department is required to determine what will replace the removed item.
- \_\_\_ Junction boxes, clean-outs, valves, etc. must not be concealed by walls or ceiling construction. Access panels may be provided.
- \_\_\_ Unfinished portions of the basement must have GFCI protected receptacles.
- \_\_\_ Any new electrical circuits are to be properly labeled in the panel.
- \_\_\_ Hallways shall be no less than 36" wide. An electrical receptacle is required in hallways greater than 10'-0" in length.

## **Family Room / Den / Play Room / Office / Similar Spaces**

- \_\_\_ Illumination shall be provided to the room(s). Any artificial lighting shall be switched.
- \_\_\_ Receptacles shall be installed so that they are no greater than 6'-0" from any door or wall opening and 12'-0" on center thereafter. Any wall length greater than 24" between doors or wall openings shall have at least one receptacle.
- \_\_\_ Heating must be provided to the room capable of maintaining at least 68 degrees at a point 3 feet above the floor and 2 feet from the wall. Portable heaters are not viewed as meeting this requirement.
- \_\_\_ The minimum ceiling height from the finished floor to finished ceiling in existing basements being converted to habitable space shall be no less than 6'-10" except under beams, girders, pipes, ducts and other obstructions where the clear height shall be a minimum of 6'-4".
- \_\_\_ The minimum room size shall be 7' long x 7' wide and be at least 70 SF (without closets).

## **Bedrooms**

- \_\_\_ Any room with a built-in closet, whether with a door or not, is considered a bedroom.
- \_\_\_ Any room considered a bedroom must have a code compliant window for emergency escape and rescue. The maximum sill height from finished floor shall be 44".
- \_\_\_ A smoke detector is required in each bedroom as well a smoke/CO detector outside of each bedroom door as noted above in the Other Requirements" section.
- \_\_\_ Electrical circuits serving new bedrooms shall be AFCI protected. This includes all lighting, receptacles, smoke detectors and electrical baseboard heaters if applicable.
- \_\_\_ Illumination shall be provided to the room(s). Any artificial lighting shall be switched.
- \_\_\_ Receptacles shall be installed so that they are no greater than 6'-0" from any door or wall opening and 12'-0" on center thereafter. Any wall length greater than 24" between doors or wall openings shall have at least one receptacle.
- \_\_\_ Heating must be provided to the room capable of maintaining at least 68 degrees at a point 3 feet above the floor and 2 feet from the wall. Portable heaters are not viewed as meeting this requirement.
- \_\_\_ The minimum ceiling height from the finished floor to finished ceiling is 6'-10" except under beams, girders, pipes, ducts and other obstructions where the clear height shall be a minimum of 6'-4".
- \_\_\_ The minimum room size shall be 7' long x 7' wide and be at least 70 SF (without closets).

## **Bathrooms**

- \_\_\_ Electrical receptacles serving new bathrooms shall be GFCI protected. A receptacle is required within 36" of the sink/lavatory.
- \_\_\_ Illumination shall be provided. Any artificial lighting shall be switched.
- \_\_\_ An operable window OR and exhaust fan with a hose to an outside flapper shall be provided.
- \_\_\_ All framing, plumbing and electrical work shall be inspected prior to concealment. This includes any sub-slab plumbing. Plumbing work will require pressure testing.
- \_\_\_ The minimum ceiling height from the finished floor to finished ceiling is 6'-10" except under beams, girders, pipes, ducts and other obstructions where the clear height shall be a minimum of 6'-4". The minimum height at all plumbing fixtures shall be 6'-8". The shower head shall be 6'-8" above the finished surface of the tub/stall floor for an area of 30" x 30".
- \_\_\_ Showers shall have a minimum area of 24" clearance in front of the stall opening.
- \_\_\_ Tubs shall have a minimum clearance of 21" in front of the tub.
- \_\_\_ Sinks/lavatories shall have a minimum clearance of 21" in front of the sink/lavatory.
- \_\_\_ Any glass installed above the tub/shower floor surface that is less than 60" above such surface shall have safety glazing.

## **Stairways**

\_\_\_ Landings at the bottom of stairways shall be a minimum of 36" in travel distance and at least as wide as the stair but in no case less than 36".

\_\_\_ Headroom shall be a minimum of 6'-6" at all parts of stairways. The height shall be measured from the leading edge of the tread. A handrail is required on at least one side of the stair. The handrail shall be mounted between 34" and 38" measured from the leading edge of the tread. Handrails shall be continuous for the length of the stair and shall return to a wall the walking surface or to a newel post.

\_\_\_ Handrails shall be graspable per code and each end shall return to a wall or post. Please contact the building department if you have any questions regarding graspable requirements.

\_\_\_ Any stairs over 30" in height from finished floor to landing or finished floor will require a guardrail. Required guards along a stair shall not be less than the minimum handrail height of 34". Guards along landing and walking surfaces at floor levels shall not be less than 36". At no point in a guardrail system shall a sphere of 4" pass through the guardrail.

\_\_\_ Handrails and guardrails shall be designed to withstand 200 lbs. of force in any direction at any point along the top rail of the system.

\_\_\_ Any enclosed accessible space under a stair shall have the walls and underside of landings and stairs covered with a minimum of 1/2" gypsum wall board.

\_\_\_ Illumination shall be provided to the stair. Any artificial lighting on a stair shall have a three-way switch at the top and bottom landings.

\_\_\_ The maximum allowable riser height shall be 9". The minimum riser height shall be 4".  
**The greatest riser height shall not exceed the smallest riser height by more than 3/8" within any given flight of stairs.**

\_\_\_ The minimum tread depth shall be 8". **The greatest tread depth shall not exceed the smallest tread depth by more than 3/8" within any given flight of stairs.**

\_\_\_ Stair tread nosings are required on treads less than 11". Nosing radii shall not exceed 9/16". Nosings shall be a minimum of 3/4" and a maximum of 1 1/4" for stairs with solid risers. Open risers are permitted, provided that the opening between treads does not permit the passage of a 4" sphere.

## **Mechanical Rooms**

\_\_\_ Proper combustion air shall be provided. Hi / Low grilles may need to be added between the mechanical room and a permitted space if the space is deemed to be confined. Hi / Low grilles may not be added between the mechanical room and a bedroom, kitchen, bathroom or laundry room. Fully louvered door may also be used instead of hi / low grilles. The need for combustion air shall be based on manufacturer's recommendations for the size and type of equipment or that of a licensed HVAC installer.

\_\_\_ Illumination shall be provided to the room.

\_\_\_ One GFCI receptacle is required within 25' of the appliance.

\_\_\_ All mechanical room appliances and equipment shall be installed in strict compliance with manufacturers written specifications. No improvements shall adversely affect the operation and performance of the equipment. Written instructions shall be provided.

\_\_\_ All working clearances, as required by the manufacturer for any piece of equipment/appliance shall be maintained.

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