Q I'm remodeling a client's unfinished basement, which has just two small windows. Are windows required in a basement that is converted to living space, and if so, how many are needed and what size do they need to be?

A *Mike Whalen, a project manager (CRPM) with DBS Remodel in Poughkeepsie, N.Y., responds:* Most building codes not only require windows for egress, but also enforce criteria as to their size and placement. Natural light and ventilation requirements based on the square footage of the converted living space also typically have to be met.

In Dutchess County, N.Y., where I work, we're governed by the Residential Code of New York State (RCNYS), although a handful of municipalities, including the City of Poughkeepsie, tend to be more strict. We make it a point to stay on top of any changes or additions to the codes because some towns may have fine-tuned the requirements for basement conversions. In general, though, the requirements we adhere to regarding basements converted to living space are the following.

Emergency egress. The first priority is to provide egress or an "emergency escape and rescue opening" for the basement. All basement areas larger than 200 square feet and any habitable space must have a second means of egress with a minimum open area of 5.7 square feet. Where basements contain one or more sleeping rooms, an egress opening is required in each sleeping room. The RCNYS code mandates that "the egress openings are required to open directly into a public way, or to a yard or court that opens to a public way."

When a home or townhouse is equipped with an automatic sprinkler system, however, it may not be required to have emergency escape and rescue openings. I have yet to encounter that scenario; be sure to check with your local code officials regarding that exception.

Minimum opening area. The basement egress opening must have a net clear opening of not less than 5.7 square feet, a minimum net clear height of 24 inches, and a minimum net clear width of 20 inches. For basement conversion projects, we almost always install casement egress windows because they are the most efficient way to comply with this requirement. Double-hung egress windows can be used, but they require a much bigger opening, usually making them impractical for this application.

Window sill height. While the sill

Photos by Mike Whalen

Habitable basement space larger than 200 square feet needs to have a second means of egress with a minimum open area of 5.7 square feet, a minimum net height of 24 inches, a minimum net width of 20 inches, and a sill that is no more than 44 inches off the floor **(1)**. Window wells deeper than 44 inches require a ladder or steps **(2)**. This Wellcraft (wellcraftwells.com) prefab unit comes with a polycarbonate lid **(3)**.

cannot be more than 44 inches off the finish floor, we like to err on side of being lower when we install basement egress windows, so we plan for a maximum sill height of 42 inches off the finish floor. Having the concrete-cutting sub cut holes in an existing foundation is expensive and invasive, and we want to get it right the first time.

Below-grade window wells. According to the RCNYS, "the horizontal area of the window well shall be not less than 9 square feet, with a horizontal projection and width of not less than 36 inches. The area of the window well shall allow the emergency escape and rescue opening to be fully opened."

Back when we used to make the window wells out of railroad ties or landscape pavers, we took pains to coordinate the horizontal area of a well with the casement egress windows (the outswing of the casement had the potential to cut into the area of the escape well). But today's prefab polyethylene window wells take the guesswork out of meeting code. They are sized to meet nationwide International Residential Code (IRC) requirements related to horizontal area and are configured for any ladder-and-step stipulations that may be required due to the depth of the well (deeper prefab polyethylene well units have integral ladders and steps that conform to code).

Drainage. Window wells need to have proper drainage, either with a connection to the building's foundation drainage system or by a code-approved alternative method. A drainage system is not required where the foundation is on well-drained soil or sand-gravel-mixture soils. When we install a window well where the soils do not drain particularly well, we over-excavate the hole 2 feet on either side and in front of the prefab well, insert 4-inch drain that's ready to go to daylight, and backfill with washed stone. If the well still shows signs of slow percolation, we bring the pipe to daylight. That is often challenging, but it has to be done to prevent water from backing up and draining into the egress window.

Grade floor openings. A "grade floor opening" also qualifies. This means the sill height of the opening or window is not more than 44 inches above or below the adjacent grade. If this is confirmed, the opening can be reduced to 5 square feet. We run into this often on basement conversion projects where the grade allows for knee walls to be framed on half-height foundations. These walls typically have existing basement windows, but in almost every case, they do not meet minimum opening area specifications, so they need to be enlarged (see photos, below).

Light and ventilation. Under the RCNYS, habitable basement rooms are required to have an aggregate glazing area of not less than 8% of the floor area to provide natural lighting. The RCNYS also has a natural ventilation requirement that the window opening area has to be equal to at least 4% of the floor area. We typically comply with these natural lighting and ventilation requirements with the installation of an egress window, although there are exceptions.

Under certain circumstances, artificial lighting capable of providing an average of 6 foot-candles 30 inches above the floor is allowed in lieu of natural lighting, and a mechanical ventilation system capable of providing a 0.35 air exchange per hour is allowed. Of course, the requirements in your jurisdiction may be different, so always check with your local building official regarding these exceptions.

A typical occurrence at "grade floor openings" is that an existing window doesn't meet minimum opening area requirements. Here, an existing double-hung window was removed and the opening enlarged **(4)**. The author recommends erring on the side of caution when going to the expense of cutting concrete, with a maximum sill height of 42 inches off the finish floor **(5, 6)**.

Q When I'm trimming the junction between a wall and ceiling with crown, cove, or bed molding, what kind of paint finish should I apply to the trim? Complicating matters a bit, what if the ceiling is not drywall but is painted T&G beadboard?

A *Scott Burt, owner of Topcoat Finishes in Jericho, Vt., and a presenter at JLC Live, responds:* In most cases, molding profiles are painted to match the rest of the trim package in a room, not the ceiling. Think of situations where the trim is not white, but the ceiling is. So, for example, when door and window casings are finished with a light gray paint, you'd use the same color on any crown molding as well. In the case of a beadboard ceiling, both the crown molding and the beadboard would typically be painted to match the trim scheme in the rest of the room.

We typically paint moldings and other wood trim with a satin (rather than semi-gloss) finish to match the door and window casings. We find it to be the most forgiving finish, and pleasing to the eye and touch. In the case of a ceiling finished with a flat white ceiling paint, it might be tempting to use the paint on the crown as well, but it's rare to see wood features painted with flat paint.

Crown molding is typically painted to match a room's door and window casings and other trim, not the ceiling … unless the ceiling is wood. Save the flat white paint for drywall ceilings.

Photo: Andrew Wormer