In construction, as in so many walks of life, good planning and good communication can be critical factors in good performance. An ounce of preparation can prevent a ton of trouble — and that's doubly true if you're aiming for extreme high performance. This summer, JLC's Coastal Contractor is following an ambitious Passive House project in Brewer, Maine. The goals are tough: Passive House performance in an affordable package, and on a large scale (the project is one of the largest — if not the largest — Passive House projects in the United States to date).

This week, JLC talked with Pat Skall, project manager for Portland, Maine-based Wright-Ryan Construction, about the status of the project. Crews on site have finished the foundation work and are framing floors and setting wall panels, Skall told us. But the management groundwork was laid well before the concrete started flowing.

At the foundation stage, the Brewer Passive House multifamily building looks much like any other apartment building. But implementing good air-sealing details now will be key to the building’s final performance and certification.

Wright-Ryan, the general contractor, has played an unusually active part in design discussions. "It was important to the Owner and the entire project team to engage a Construction Manager in the earliest possible stage of the project so design could be
a collaborative process," Wright-Ryan Marketing Manager Jim Giberson told JLC in an email. "CWS is the architect," says Skall. "Thornton Tomasetti and Horizon Maine are the Passive House folks working the model. So it’s kind of a collaborative effort between all three entities and the owner (Community Housing of Maine), to sit down, look at the drawings, look at the details, and come up with how we're gonna do it. And that happened before even the drawings were finalized. That’s the key to this — having us there sitting through the meetings, as the GC and as the builders, eliminates them building in a vacuum."

With Passive House construction, success depends on eliminating thermal bridging and air leakage at intersections between building components such as floors and walls. "So if you're going over the plans and you're taking a finger touching every detail," says Skall, "your finger should never leave the page as you’re walking through the details all the way around the building — thermally as well as air barrier. We had to think about it before now. Now would be too late. We have a plan. We’re in execution mode now."

The process has been challenging, but satisfying, says Skall. "When we build, things are always changing," he says. "Every year, every other year, there's a different way to do it. And this is a particularly difficult project, because what we’re finding is, we're the first ones figuring it out. There’s no set way to say, 'This is how you build Passive House.' There's a few guidelines, and other than that, you're free to be creative. Which is great — but it’s also difficult."

[Editor’s Note: An earlier version of this story referred to the project process as "design-build." Wright-Ryan Marketing Manager Jim Giberson informed JLC that "the project delivery method is not Design-Build," although Wright-Ryan, serving as Construction Manager on the project, has been involved in the collaborative design process since early in the project planning phase.]

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