Although prefabrication has existed for centuries, building information modeling (BIM) and virtual design and construction (VDC) have given the construction method a boost, saving contractors time and money.

“BIM is the driver of prefabrication,” says Walter Benoit, senior vice president of operations for Skanska USA Building 10n Durham, NorarousD 6 9.1 (W)41 (alt)13.1s Rors time and f operations 1information modeling28 Caroor Skanska USA1construction (f pr

the prefabricated component should be installed at the job. It also allows managers to track the item's progress and understand the cost to budget or schedule if changes are made.

"The essential component in the success of prefabrication during design is bringing critical trade contractors on board early to lay all potential opportunities on the table and start incorporating those decisions into the model," Wells says. "By making early decisions around prefabrication components, the team has more time to coordinate and produce a design for production."

Architects provide the construction frm the model. The contractor builds the project in the model, assuring everything will come together properly, Abbott explains. The model also allows the contractor to know the assembly can be moved to the site and ft under bridges and state how much each component weighs, so the contractor can ensure its crane capacity will be able to lift it.

"BIM gives certainty around the assemblies," Lewis adds.

One caveat is inspections. Benoit recommends prefabricating near the jobsite for modular units such as bathroom pods and electrical rooms, so inspectors can inspect at the prefab shop.

"You have to make sure there is an agreement in place with the inspection group and that they are OK doing the inspection at the warehouse," Benoit says.

Prefab elements of a job are built in a climate-controlled warehouse or shop, and when complete and the project team is ready for the prefab assemblies, they are hauled to the jobsite, lifted into place and connected.

Harris adds QR codes to the assembly, which indicate where

“The more you can do ahead of the critical path of the project, the more you are able to accommodate for something else that might occur during a project,” Abbott says. “We also do it for supply chain optimization.”

Additionally, frms prefabricate, because it reduces waste, something important with high-cost items.

“If you are building something on the site, you will throw away the tails before taking them to the next level,” Abbott says. “But