

STRETCHING THE IMAGINATION

Innovative engineering and construction integrate Washington, N.C., bypass into its sensitive surroundings

BY JIM PARSONS

DESIGN AND CONSTRUCTION TEAMS have long understood the need to tread lightly when building infrastructure through sensitive environments.

But to erect a 2.8-mile, four-lane bridge across the Tar River and its delicate adjoining wetlands near Washington, N.C., the project team almost literally had to work on tiptoes.

The bridge, part of a 6.8-mile bypass for U.S. Route 17, was to be routed through densely forested wetlands bordering a relatively shallow, 1,800-ft-wide river crossing.

"Access was the whole key to the project," says Paul Newman, vice president of business development for Flatiron Construction Co., Longmont, Colo., which teamed with fellow AGC Carolinas member United Contractors, Great Falls, S.C., to lead the \$199-million design-build project for the North Carolina Dept. of Transportation. The project earned the team a 2011 Build America award from AGC of America.

Conventional construction methods would have required installing a temporary work bridge and other support structures for equipment and material deliveries along the length of the bridge. "That would have added 14 acres of clearing and grubbing, an impact the owner wanted to avoid," according to Newman.

So when NCDOT challenged project bidders to find an innovative solution, Flatiron-United responded with a top-down

Flatiron-United developed a custom-made, self-launching cantilevered gantry system to perform pile-driving operations for the Washington Bypass' 2.8-mile bridge—the first such application in the world.