



MARC BASNIGHT BRIDGE

NORTH CAROLINA

SDI Scope

Supply of Post-Tensioning Materials, Equipment, and Technical Assistance

Contractor

PCL Civil Constructors, Inc.

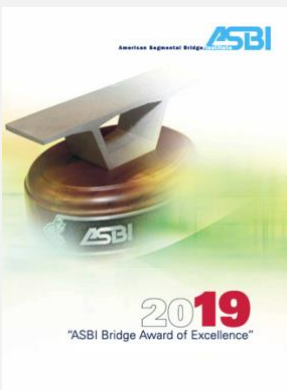
Owner

North Carolina Department of Transportation (NCDOT)



PROJECT DESCRIPTION

The Bonner Bridge was past its design life and has been replaced with the Marc Basnight Bridge that can better handle the taxing coastal environment. The new bridge boasts a 100 year life span and will cross the Oregon Inlet between North Carolina’s Hatteras and Bodie Islands on the Eastern Seaboard.



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SDI'S SCOPE OF WORK

SDI furnished all post-tensioning materials and hardware for the precast column and precast roadway segments. The columns include SDI's 1.75" High Strength Bar and 2.5" High Strength Bar Systems. The columns also incorporate stainless steel anchorages and high strength bars for corrosion control. The precast roadway segments incorporate SDI's 4.6A, 12.6-PC, and 22.6-PC Anchorage Systems, requiring roughly 6,000 of SDI's Segmental Duct Couplers for the complete project.



PROJECT HIGHLIGHTS AND FACTS

Due to the highly corrosive environment of Coastal North Carolina, SDI is utilizing an uncommon post-tension material—stainless steel high strength bars—to increase the life span of the structure. SDI developed and executed a tailored testing program to prove that the stainless steel bars and anchorage systems were equivalent, if not better, than standard high strength bars systems from the day of installation. The test included AASHTO, tensile, ductility, and pull-out tests.

In 2019, the American Segmental Bridge Institute (ASBI) awarded Marc Basnight Bridge a [Bridge Award of Excellence](#) in its "Bridge Over Water" category due to its innovation of design to suit the challenging inlet environment, rapid construction, cost competitiveness, and minimized impact on the traveling public during construction.

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