Frederick Douglass Memorial Bridge
Washington, D.C.

SDI Scope

Bridge stay cable and post-tensioning supply

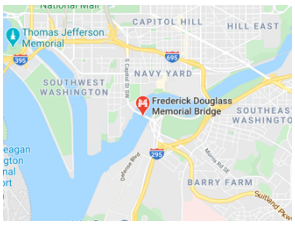
Contractor

South Capitol Bridgebuilders (SCB)

Owner

District Department of Transportation (DDOT)

Location



PROJECT DESCRIPTION

The Frederick Douglass Memorial Bridge first opened in 1950; its age meant that corrosion was advancing; add to that the increase in traffic over the decades, and a bridge replacement (rather than restorative overhaul) was the best long term solution. In 2017, SCB was chosen by the DDOT to design and build the replacement bridge. The 1600 ft. suspension bridge will feature elegant arches, six traffic lanes (the current bridge has four), as well as bicycle and pedestrian access. Groundbreaking ceremonies occurred in February of 2018. SCB contracted Schwager Davis Inc. (SDI) for stay cable and post-tensioning operations. The bridge is scheduled to be completed Dec. 2021.

Schwager Davis, Inc.
198 Hillsdale Avenue – San Jose, CA 95136
Tel: (408) 281-9300 Fax: (408) 281-9301
www.schwagerdavis.com

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SCOPE OF WORK

SDI'S scope of work includes the supply of the following stay cable and post-tensioning elements:

- 155,800 ft of Stay Strand Installation
  - 72 19-Strand Stays, each ranging from 53–117 ft
  - 12 27-Strand Stays, each ranging from 33–53 ft
  - 4 31-Strand Stays, each 31 ft
- 179,000 ft. of Bare PT Strand
- 25,700 ft. of Extruded PT Strand

ADVANCED CONSTRUCTION DESIGN AND TECHNIQUES

Prior to installation, SDI completes full scale fatigue testing in accordance with PTI's DC-45 requirements to ensure that the cables installed will operate as designed. SDI's engineering team designed the bridge stay cable system to resist vandalism (typical) as well as explosive fire blasts (not typical, but included due to sensitivity of the site).

This project features modern innovations in post-tensioning, including unbonded tie tendons (flexible filler rather than standard grouting) and full circle (360°) post-tensioning loops in bridge piers.

The original PT design called for 180° loops, but SDI's engineering team realized that 360° loops allowed for a more efficient packaging of ducts to reduce congestion in the V piers (every two 180° loops were replaced by a single 360° loop).

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