## **CONCRETE CONNECTIONS**

Concrete Connections is an annotated list of websites where information is available about concrete bridges. Links and other information are provided at www.aspirebridge.com.

#### IN THIS ISSUE

### https://www.hdrinc.com/portfolio/los-angeles -international-airport-automated-people-mover

The 2.25-mile-long elevated guideway for the Los Angeles World Airports' automated people mover (APM) at Los Angeles International Airport is the subject of the Project article on page 16. The APM guideway is a concrete segmental box-girder structure and is designed for seismic resiliency. This is a link to HDR's webpage for the project, which features photos, articles, and additional information.

#### https://www.ncdot.gov/projects/harkers-island/Pages /default.aspx

This is a link to the North Carolina Department of Transportation's project webpage for the Harkers Island Bridge, which includes links to project photos and videos. The bridge replacement project is the subject of the Project article on page 24 and is also discussed in the Professor's Perspective on page 54. The new Harkers Island Bridge is the first concrete bridge in North Carolina to be reinforced exclusively with glass-fiber-reinforced polymer and carbonfiber-reinforced polymer composite reinforcement.

#### https://www.bimforbridgesus.com

The Transportation Pooled Fund project TPF-5(372) is a collaborative effort by more than 20 state departments of transportation, the Federal Highway Administration, and the American Association of State Highway and Transportation Officials Committee on Bridges and Structures to develop an open, national standard for building information modeling (BIM) for bridges and structures. This is a link to the TPF-5(372) website, which has links to case studies and other resources. BIM for bridges is the subject of the Perspective article on page 10.

#### https://www.fhwa.dot.gov/bridge/preservation/docs /hif22052.pdf

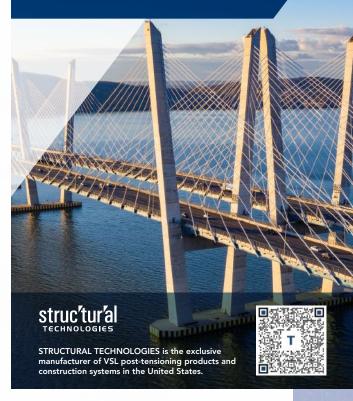
The service-life design of bridges is the topic of the Concrete Bridge Stewardship article on page 12 and the FHWA article on page 62. Much research has been conducted on the durability and service-life design of bridges in recent years, and the resulting guide publications include the Federal Highway Administration's Service Life Design Reference Guide, which is available at this link.

#### https://rosap.ntl.bts.gov/view/dot/35429 https://rosap.ntl.bts.gov/view/dot/35430

These are links to Precast, Prestressed Concrete Bent Cap, volumes 1 and 2. A research project conducted by the Texas A&M Transportation Institute studied the behavior of precast, prestressed bent caps and developed design and connection details, including examples. Designing efficient cross sections for precast concrete pier cap beams is the subject of the Concrete Bridge Technology article on page 38.

INNOVATIVE, PROVEN, DURABLE

# **POST-TENSIONING & STAY CABLE SOLUTIONS**



#### https://oasis.pci.org/Public/Catalog/Home.aspx ?Search=piles&tab=2

The Perspective article about precast, prestressed concrete piles on page 34 mentions the free, on-demand webinar "Precast, Prestressed Concrete Piles" as a resource. That webinar is available on the PCI eLearning website at this link. Two new eLearning modules, T624: Overview of PCI's Recommended Practice for Prestressed Concrete Piles and T626: Application of PCI's Recommended Practice to Building Piles, can also be accessed at this same link.

#### https://fdotwww.blob.core.windows.net/sitefinity /docs/default-source/research/reports/fdot-bdv30-977 -22-a.pdf?sfvrsn=c51de6aa 2

This is a link to the report for the Florida Department of Transportation-sponsored research project that investigated the use of 0.6-in.-diameter stainless steel strands in prestressed concrete I-girders. In addition to experimental findings, the report presents design guidelines for flexure. The flexural design of prestressed concrete girders using stainless steel strands is the topic of the Concrete Bridge Technology article on page 40.

#### https://www.scdotcarolinacrossroads.com

This website for the Carolina Crossroads project, which is mentioned in the State article featuring South Carolina on page 50, provides information and resources such as design visualization videos and construction photos. The Carolina Crossroads project is the largest design-build project in South Carolina to date.