James River Bridge Restoration

**LOCATION**
I-95 Corridor
Richmond, Virginia

**STRUCTURAL ENGINEER**
Parsons Technology Group - Bridge and Tunnel Division *(formerly Finley-McNary Engineers)*

**LIGHTWEIGHT PRODUCER**
Solite Corporation

**CONTRACTOR & PRECASTER**
Archer Western Contractors, Ltd.

**READY MIX SUPPLIER**
Tidewater Materials

**OWNER**
Virginia Department of Transportation (VDOT)

**SPAN SPECIFICATIONS**
102 Spans
Typical: 88’ x 22’ 6”

**LIGHTWEIGHT CONCRETE SPECIFICATIONS**
Cube Strength
Span: 4300 psi (30 Mpa)
Filled Grid Panels: 5100 psi (35 Mpa)
Density: 115 lb/ft³ (1850 kg/m³)

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**Featured Project**
James River Bridge, Richmond, VA, view looking south

**VDOT’S BRIDGE RESTORATION ON I-95 CORRIDOR**
The Virginia Department of Transportation is restoring 13 bridges along the I-95 corridor in the Richmond area during the next few years. The concrete driving surface and steel that supports it is being replaced. The bridges are located between the Maury Street interchange, just south of the James River, and Upham Brook in Henrico County.
WHY REPAIR IS NEEDED
The bridges were built in the late 1950’s as part of the Richmond-Petersburg Turnpike. They have experienced heavy usage over the years, carrying three times the traffic at weights double that expected. Current traffic counts indicate more than 110,000 vehicles use the James River Bridge every day. Many of those vehicles are trucks carrying 40-ton loads. Weather has also deteriorated the tops of the bridges. The bridges are safe now, but the concrete and steel surfaces need to be replaced to maintain long-term safety.

CONSTRUCTION SCHEDULE
On-site construction began in June 2000. Crews are replacing a large section of the bridge surface each night (Monday through Thursday). The work is expected to be completed by late Spring 2002. Crews gradually divert traffic from one side of the bridge to the other. At night, one lane of the bridge is open in each direction on one side of the bridge, while crews work on the other side. All lanes are open to traffic by 6 a.m. the following morning.
Construction crews cut and remove sections of the bridge surface creating a gap in the bridge surface that is prepared for the new segment. The old sections are hauled off the bridge. New, pre-constructed sections, fabricated in a nearby casting yard, are hauled onto the bridge and set in place. Because the durable, structural lightweight concrete precast sections are fully cured at the time of placement, the bridge can be reopened to traffic each day.

For Additional Information About Structural Lightweight Concrete

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Visit our website – www.SOLITECORP.COM

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