# CONNECTICUT

#### Hartford

#### South Hartford Conveyance and Storage Tunnel

Kenny/Obayashi IV, JV

Kenny/Obayashi received NTP on this \$279.4 million project for the Hartford Metropolitan District (MDC) on Aug. 1, 2016.

To date, crews have completed 5,918 lf of 21,258 lf of 18-ft precast lined tunnel; 3 secant pile shafts have been excavated; Excavation and lining have been completed on the Launch and Pump Station shafts; Excavation is nearing completion at the Retrieval Shaft; 15 Drop/Vent shafts are complete; 8 adit/deaeration chambers will begin soon. The cast-in-place chambers will be excavated by drill-and-blast as the main line passes. Adits will be lined with spiral weld pipe.

The tunnel geology includes red siltstone with basalt encountered at fault zones during TBM excavation. After TBM extraction, an Odor Control Building will be constructed at the Retrieval Shaft Site. Recent construction activities: Drill-and-Shoot of the Retrieval Shaft (RS) and completion of surface structures (RS), Pump Station Shaft CIP liner and installation of the suction header, and TBM production mining.

Completion is scheduled for May 2022.

**Owner:** MDC; Design Engineer(s): AECOM, Black & Veatch; Construction Manager: Jacobs Project Management Company. Subcontractors – Case Foundation Company, R.E.D. Technologies and Gelly Trucking, Freeman Companies, Zuvic, Carr & Associates.

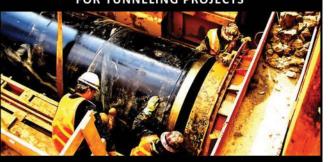
# TUNNELING SPECIALISTS

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By combining superior craftsmanship with innovative tunnel engineering and construction technology, Bradshaw Construction Corporation successfully provides cost effective tunneling solutions to the utility and transportation industries.

# PROVIDING INNOVATIVE SOLUTIONS





MICROTUNNELING TBM TUNNELING HAND TUNNELING SHAFT WORK

BRADSHAW CONSTRUCTION CORPORATION

**Project Personnel:** PM: Mike Surman: PE: Vinny Prestia; General Superintendent: Jeff Nelson; Superintendents: Ronnie Beesley, Jay Jankowski, Samora Grant, Luis Cruz; Engineers: Brett Mann, Satoshi Akai, Dan Guerette, Yuichi Kammoto, Allison Donahue, Zach Heinrich, Sanaz Dezfolin; QC: Laura Wagner; Safety Managers: Paul Lauricella, Tyler Sheehan.

# KENTUCKY

## Louisville

## I-64 & Grinstead CSO Trenchless Installation

Bradshaw Construction Corp.

Bradshaw Construction Corp. is in the process of constructing a CSO interceptor tunnel in Louisville. The 1,252-ft rib-and-board tunnel is being installed behind a 102.5-in. LOVAT ME-99RL Series 11700 TBM. 925 ft of tunnel has been installed, with mining currently progressing through an S-curve on twin 2,300-ft radius curves. Once completed, 84-in. FRP will be installed and backfilled. Bradshaw is also constructing two 24-ft ID shafts, one with liner plate and one with rib-and-board. Project geology consists predominantly of clay, with 350 ft of weathered limestone encountered in the middle of the crossing. The project members include the Louisville and Jefferson County Metropolitan Sewer District (Owner), Qk4 (Engineer) and Bradshaw Construction performing as the General Contractor. Project Information: Jordan Bradshaw – Project Manager; Jordan. bradshaw@bradshawcc.com.

# MINNESOTA

#### Minneapolis

### **10th Avenue WM River Crossing**

Bradshaw Construction Corp.

Bradshaw has will soon begin construction on a microtunnel under the Mississippi River. The microtunnel will be 896 lf and the jacking pipe will be 60-in. steel casing. Subsurface conditions are expected to be weak sandstone. Information: Mike Wanhatalo, Project Manager; mwanhatalo@bradshawcc.com.

## **MISSOURI**

#### St. Joseph

#### Black Snake Creek Stormwater Separation Improvement Project – Tunnel Package

Super Excavators, Inc.

The work for this \$26.991 million project for the City of St. Joseph Department of Public Works generally consists of the construction of 108-in. diameter concrete precast segment lined 6,648-ft long tunnel, 37-ft diameter baffle drop shaft, 48 ft of near surface reinforced concrete box culvert, 2-ft diameter vent shaft, 181 ft of 90-in. diameter open-cut steel pipe installation, 125 ft of 90-in. jacked steel pipe, an energy dissipation structure, site restoration, and performance of other associated works. Notice to proceed was issued on July 17, 2017. Scheduled completion is spring 2020.

The TBM is progressing forward, and 1,332 segment rings have been installed, which is equivalent to 5,328 lf (80% complete). All of the segments have been delivered to the project site from CSI (Concrete Systems Inc.). The TBM is expected to reach the retrieval shaft late October 2019 and begin the disassembly process soon thereafter. The drop shaft excavation (receiving shaft) is 100% complete. This is a 44-ft ID secant shaft with a depth of 60 ft. The concrete subcontractor Enerfab has finished placing all the exterior walls of the structure, leaving a block out for the retrieval of the TBM. Once the TBM is disassembled, crews will begin to finish the