



# Black River Tunnel

**LOCATION:** Lorain, Ohio

**OWNER:** The City of Lorain  
Attn: William Donohue, Director of Utilities  
(440) 204-2500  
200 W. Erie Avenue, Lorain, OH 44052

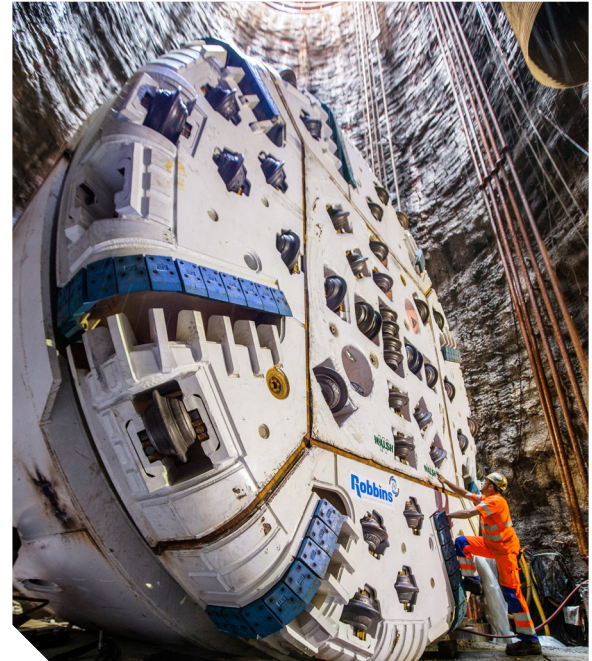
**ARCHITECT/ ENGINEER:** Arcadis  
Attn: Scott Pearson (614) 888-4953  
1900 Polaris Parkway, Suite 200  
Columbus, OH 43240

## PROJECT PROFILE

On January 17th, 2012, the Lorain City Council approved a \$53,635,243 contract with Walsh/Super Excavators, Inc., Joint Venture, for the Black River Conveyance & Storage Tunnel Phase 1 (Contract 12.28). The Lorain Black River Tunnel was the result of an Ohio EPA order to address overflows that violated the City's discharge permit. As a solution, City planners developed a "deep tunnel approach" to eliminate sanitary overflows to the Black River and Lake Erie.

For this project, Super Excavators, Inc. teamed up with Walsh Construction as a Joint Venture (Super Excavators was responsible for completing the tunneling work - \$20,732,954 of the total contract of \$52,000,243). Electrical work bid under a separate contract which brings the total construction bid price to \$55.4 Million. Walsh/ Super Excavators constructed approximately 5,500 linear feet of 23-ft diameter rib and bored, two-pass, TBM Rock Tunnel. The final tunnel is a 19-ft ID, monolithic poured, cast-in-place, concrete lined, storage tunnel that extends approximately 120-feet below ground and along the bank of the Black River. The TBM was launched from a 36-ft ID, 175-ft deep shaft which will serve as home to the future Pump Station. The machine reached the 30-ft ID, 115-ft deep receiving shaft on April 29th, 2014.

For the first phase of the project, which was completed in early July 2013, Super Excavators constructed 200 LF of wood lagging / steel ring mechanically excavated starter tunnel. The starter tunnel, which has a 25'x25' arch, was constructed with an Alpine Road Header attached to an excavator, through hard shale rock.



# PROJECT PROFILE

---

The tunnel alignment extends alongside existing active CSX rail lines, active marine shipping terminals, and high tension power transmission lines; it extends beneath active Norfolk and Southern rail lines, and beneath the Lorain Port Authority Boat Launch, Black River Landing Park, and beneath the Erie Avenue Bridge.

The ground conditions consisted of shale rock, with a valley of soft-ground material expected at the end of the drive. Because of the potentially gassy shale and the rib-and-board initial liner, Trolex gas monitors were installed every 500-feet to ensure the safety of the workers. A continuous conveyor with a space-saving J-type vertical conveyor was used to transport the muck to the surface.

In addition to the permanent shafts and concrete lined tunneling work, the contract also includes:  
Construction of vortex drop structure located at the Westside of the Black River, across from the City of Lorain Black River Wastewater Treatment Plant; A tunnel dewatering pump station located at the existing Lorain Port Authority Public Boat Launch property (built inside the 178-ft deep x 36' diameter launch shaft – "shaft 1"); a screening facility at the north end; several diversion and connecting chambers; a control building at the pump station; and various connecting sewers and conduits.



---

## TOTAL VALUE OF CONTRACT:

\$ 20,732,954

## COMPLETION TIMELINE:

AUGUST 2, 2012 - SPRING 2015  
(TUNNEL COMPLETED ON MAY 1, 2014)

## PERFORMED AS:

JOINT VENTURE - WALSH/SUPER EXCAVATORS JV