



Deep Rock Tunnel Connector

The Deep Rock Tunnel Connector project — Citizens Water's largest combined sewer overflow project to date — will improve quality of life in Indianapolis neighborhoods by reducing the amount and frequency of raw sewage overflows years ahead of schedule.

The Deep Rock Tunnel Connector, formerly known as the Interplant Connection project, is part of Citizens Water's federally mandated plan to curb the overflow of raw sewage into our rivers and streams. The \$1.6 billion Long Term Control Plan is required to be completed by 2025 under a consent decree with the U.S. Environmental Protection Agency (EPA) and the Indiana Department of Environmental Management (IDEM).

Currently, when as little as a quarter inch of rain falls, combined sewers reach capacity, and raw sewage overflows into local rivers and streams. The Deep Rock Tunnel Connector will address three of those Combined Sewer Overflow (CSO) locations: CSO 008 near Harding Street and the White River; CSO 117 near Southern Avenue and the White River; and CSO 118 near West Street and White River Parkway East Drive.

The original Interplant Connection project would have only addressed CSO 117. Now, in addition to capturing the sewage from CSO 117, the Deep Rock Tunnel Connector will also capture CSOs 008 and 118, two of the largest overflow points in the city, years ahead of the original consent decree schedule. An additional 3.5 billion gallons of raw sewage will be captured and treated through 2025 when compared to the original project design.



The completed tunnel will be 18 feet in diameter and stretch more than seven miles underground.

The \$179.3 million Deep Rock Tunnel Connector project is funded through sanitary sewer user fees. Construction began in December 2011, and the project will be complete and in operation by late 2017.

Deep Rock Tunnel Connector Concept

The new Deep Rock Tunnel Connector will be the first phase of Citizens Water's overall tunnel storage and transport system. From the Deep Rock Tunnel Connector, additional

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Project Status

Project Status: In Construction

Anticipated Construction Period: December 2011 to late 2017

Design Engineer: AECOM

Construction Contractor: Shea-Kiewit (joint venture)

Construction Inspector: AECOM

Estimated Project Costs: \$179.3 million

Anticipated Project Benefits:

- Capture and treat an additional 3.5 billion gallons of raw sewage through 2025 when compared to the original design
- Improve management of flows between the Citizens Water's two wastewater treatment plants
- Minimize inconveniences to local residents

Sustainable and Green Concepts:

- Eliminate one of two previously planned pumping stations, saving ratepayers millions of dollars in upfront capital costs and long-term operating costs
- Improve energy efficiency of operations for long-term reduced environmental impacts
- Limit utility disruptions, resulting in further savings

storage tunnels will be extended along White River, Fall Creek, Pleasant Run and Lower Pogues Run to create a collective, underground storage facility for sewage. Sewage transported and stored underground in the tunnel system is sewage that otherwise could have gone directly into our waterways.

Utilizing the “storage and transport concept” of the Deep Rock Tunnel Connector, raw sewage captured at CSOs 008, 117 and 118 will be stored in the tunnel and then transported to the wastewater treatment plant. The enhanced tunnel will have the capacity to store raw sewage during large storm events, and when the project is complete, sewage overflows into Indianapolis waterways will be significantly reduced.

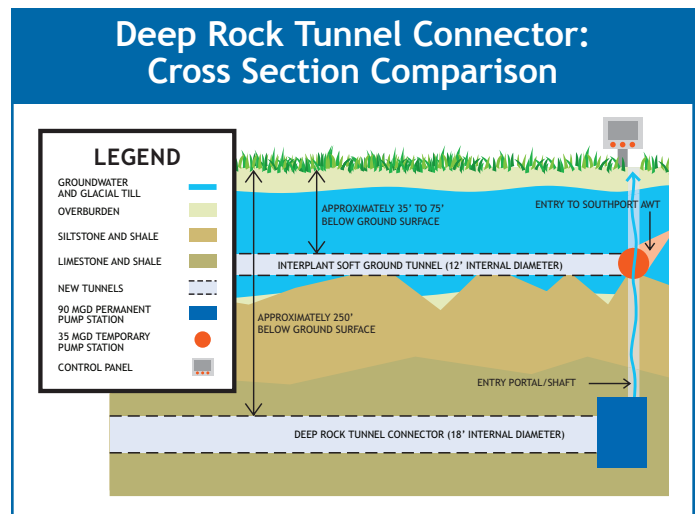
Citizens Water has worked to incorporate sustainable concepts into the design of the Deep Rock Tunnel Connector as well. Most notably, one of the project’s two previously planned pumping stations will now be eliminated, resulting in energy savings as a result of simplified operations and reduced energy needs. This savings will be applied to future projects associated with the CSO consent decree. The project’s limited disruptions to utilities will also result in further savings.

Neighborhood Impacts

More than seven miles long, the Deep Rock Tunnel Connector will extend from the Southport Advanced Wastewater Treatment Plant located at Southport Road and Tibbs Avenue to the 1700 block of South West Street.

In the initial concept, the project would have been constructed in soft ground under high groundwater conditions at depths of 35 to 75 feet below ground surface with an internal diameter of 12 feet. Now, the Deep Rock Tunnel Connector will be constructed more than 250 feet below ground surface in bedrock, with an internal diameter of 18 feet.

Contaminated areas discovered along the initial project route will now be avoided, which will ease environmental concerns. Since the Deep Rock Tunnel Connector will be constructed deep below ground, impacts to area wells, gas lines, electrical lines, existing sewers and other utilities will be significantly reduced. Traffic disruptions and property easements needed to construct the project will also be minimized.



The Interplant Connection Tunnel would have been constructed 35 to 75 feet below ground surface under high groundwater conditions. The Deep Rock Tunnel Connector will be constructed approximately 250 feet below ground surface and contaminated areas will be avoided.

