

August 3 “No-Dig” Ceremony at the Overland Park Arboretum and Botanical Gardens Is a “Boring” Event

***JCW to Drill 88-Inch Diameter, 3,330 If Tunnel Under the Arboretum,
Protecting the Environment of this Special Asset for All in the Kansas City Area to Enjoy***



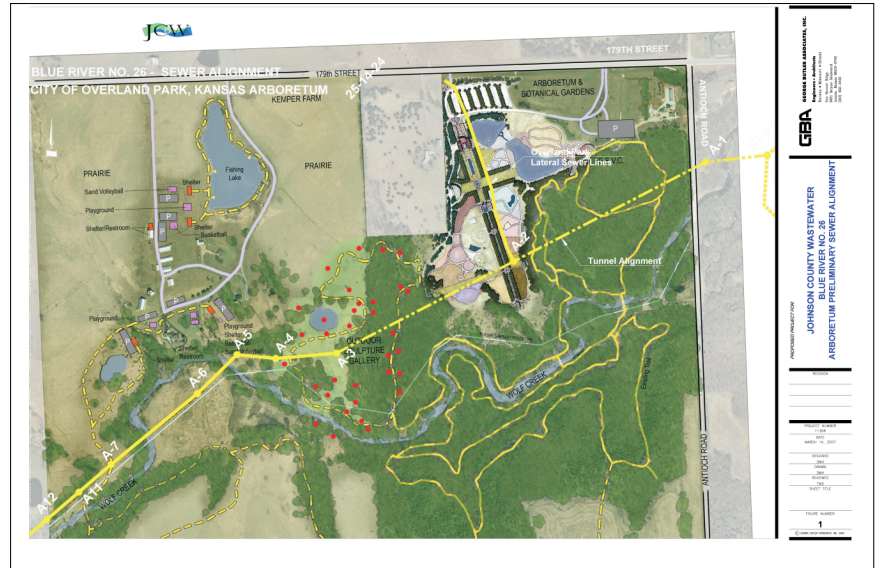
Protecting our environment
Serving our customers
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Fast Facts



What: **Un-Groundbreaking Ceremony to Celebrate Construction of 3,300 If of 60-inch diameter sewer under the Arboretum grounds.**

When the best route for Johnson County Wastewater’s (JCW’s) new 37,000 If Blue River 26 gravity sewer cut a swath directly through the Arboretum & Botanical Gardens, open cut trenching, taking with it mature trees, plants, and other features of the site, was no longer the preferred method of construction. Instead, the team of JCW, GBA Architects and Engineer, and PB Americas, Inc. decided to go underground to protect this important public amenity.

Who: Johnson County Wastewater, in conjunction with the Overland Park Arboretum & Botanical Gardens, Overland Park Parks and Recreation, GBA Architects and Engineers, PB Americas, Inc, and Southland Contracting, Inc.

When: 10:30 am, Monday, August 3, 2009

Where: Picnic Pavilion, Overland Park Arboretum & Botanical Gardens
179th and Antioch

Why: **See the specially fabricated tunnel boring machine 88 inches in diameter and 20 feet long,** which will excavate at a maximum depth of 74’ feet below the surface. Total estimated time to excavate the tunnel is 106 days, at an average rate of 31 feet per day.

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Celebrate the environmental savings. While more costly than open-cut trenching, the savings in terms of both the natural and built environment are numerous, from reduced stormwater runoff, improved air quality, reduced carbon dioxide, and noise reduction to preserving the beauty of this important asset for all in the Kansas City area to enjoy. The resulting intangible personal and social benefits are significant.

Celebrate JCW's Mission. Protecting our environment; Serving our customers; Enhancing our communities. With construction of the new Blue River 26 relief sewer, JCW is also serving customers by opening up the area roughly from Pflumm Road to Switzer Road and 175th Street to 183rd Street for development. As additional sewer line is built, drainage will flow to the Blue River 26 line, ultimately serving a 25-square-mile area bounded approximately by 175th Street to 199th Street and Antioch Road to Spring Hill.

Sewer Facts: Diameter: 60 inches
Material: Fiberglass reinforced polymer pipe
Peak Flow Rate: 158 cubic feet per second

Design Facts: Geotechnical Boreholes: 7
Geotechnical Investigations: Field testing of rock samples, permeability testing, groundwater monitoring, geophysical testing, and laboratory testing of rock samples
Materials to be Excavated: Limestone and shale

Tunnel Boring Machine (TBM) Facts:
Diameter: 88 inches
Length: 20 feet
Thrust Pressure: 120 tons (this is the force exerted by the machine against the rock being excavated)
Power: Two Caterpillar 200 hp diesel engines
Guidance: Laser targeting system

Tunnel Facts: Diameter: 88 inches
Length: 3,330 feet
Maximum Depth: 74 feet
Initial Support of Tunnel Excavation: Steel Ribs with Wood Lagging
Number of Shafts from Ground Surface: 3 (middle shaft provides a connection point for planned Arboretum Facilities)
Volume of Concrete Grout to Complete Tunnel: 1,500 cubic yards

Schedule Facts:
Total Estimated Time to Complete Tunnel: 106 days
Estimated Average Rate of Tunneling: 31 Feet per day
Installation of sewer line within the tunnel: Scheduled for completion in mid-April of 2010.

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Facts About the Overland Park Arboretum and Botanical Gardens

Annual Visitors: More than 104,000 in 2008

From How Far Away: Visitors come from all over the globe. In just one morning, the Arboretum had two different groups from California, two groups from upstate New York, a group from Korea, and later in the day, a group from Vietnam. Visitors have come from as far away as Australia, New Zealand, Germany, Denmark, Portugal, Mexico, Switzerland, and Japan, and as close to home as Nebraska, Colorado, Florida, and many more.

Events Held Annually: Approximately six major events: Spring Plant Sale, Stems: Garden soiree Fundraiser, Arts for Kids, Sculpture Exhibit, Luminary Walk, Art Exhibit. Hundreds of smaller events.

Trees Protected by Tunneling versus Open-Cut: The open-cut area would have covered approximately 7.6 acres. The area is habited by an oak/hickory forest that is showing healthy growth. Other trees on the site include walnut, pignut, American elm, mulberry, and redbud.

Environmental Impact: A single tree produces approximately 260 pounds of oxygen per year. Two mature trees can supply enough oxygen for a family of four. One tree can absorb as much carbon in a year as a car produces while driving 26,000 miles. One acre of forest absorbs six tons of carbon dioxide and puts out four tons of oxygen.

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