



JOSEPH P. RILEY, JR.  
MAYOR

*City of Charleston*  
*South Carolina*

BARBARA W. VAUGHN  
DIRECTOR  
PUBLIC INFORMATION

*For Release: October 5, 2012*

## **MARKET STREET DRAINAGE IMPROVEMENT PROJECT DIVISION II - TUNNELS & SHAFTS**

*Charleston, SC* – Today, ground was broken at a ceremony on the site of the second of three divisions of the Market Street Drainage Improvement Project by Mayor Joseph P. Riley, Jr., members of City Council, representatives from the engineering and contracting firms, and city staff.

Division II of the Market Street project, the current phase, consists of excavating a 25-ft diameter 80 foot deep main working shaft near the intersection of Market and Concord Streets on State Ports Authority property; a series of 54-inch drop shafts between the Market buildings on State, Anson, and Church Streets; an emergency outfall adjacent to the existing brick arch outfall on Concord Street; a 10-ft diameter tunnel that runs under Market Street from the working shaft to Church Street (approximately 1,200 ft); and another 10-ft diameter tunnel that runs under Concord Street from the working shaft to the existing pump station (approximately 2,800 ft) for a total of 4,000 linear feet.

The existing storm water pump station was constructed on Concord Street, approximately 15 years ago, with 3 pumps, each capable of pumping water in excess of 30,000 gallons per minute as part of the Calhoun Street East Drainage Improvement Project. In 2006, as part of Division I of the Market Street Drainage Improvement Project, the City installed an additional pump to give the pump station a total pumping capacity in excess of 120,000 gallons per minute in anticipation of connecting the Market Street system to the existing pump station.

The working shaft will be about 80 feet deep with each tunnel connecting to the main working shaft at that elevation. The Concord Street tunnel will be connected to the existing deep system about 140 feet below the surface. The tunnels need to be this deep because the material immediately below the surface contains a lot of silt and sand and is poor for tunneling and structural support. Below the silt and sand, however, is the Cooper marl, a material very conducive to tunneling. It is in the Cooper marl that these tunnels will be constructed.

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The general public will be largely unaffected by the construction. The first feature to be constructed will be the main working shaft. This will be constructed on State Ports Authority property on a very small work site directly adjacent to Concord Street. There is a small loading/unloading area for trucks parallel to Concord Street which is separated from traffic with concrete barriers and a fence. At all times, 2-way traffic will be maintained on Concord Street. Once the main working shaft is complete, construction of the tunnels can commence with the use of a tunnel boring machine (TBM).

The drop shafts between the Market buildings will be constructed in a maximum of 4 weeks and construction will be confined to the months of January, February, and March, 2013.

The new tunnels and shafts will replace the existing 200 year old brick arch drains that are about 5 feet wide by 4 feet high and run the length of the Market underneath the buildings to an outfall just beyond Concord Street. Over the years, the brick arch system filled with sediment and become difficult to clean safely. The brick arches, due to their historic significance, will be left intact. The entire project is expected to be completed in January, 2014.

Mayor Riley said, "The drainage project for Market Street is yet another major project to provide efficient drainage for our coastal city. Each innovative drainage solution provides our citizens with a system which addresses the unique needs of the lowcountry."

The project design was done by Davis & Floyd and URS Corporation, the contractor is a joint venture between Triad Engineering and Midwest Mole, and the construction manager is Black & Veatch. The contract for this phase of the project is \$13.8 million.

In 2006, the City executed Division I of the Market Street Drainage Improvement Project, which involved improving surface collection on Concord Street, upgrading the controls of the pump station to allow for remote monitoring and control, and installing an additional pump to give the pump station a total pumping capacity in excess of 120,000 gallons per minute in anticipation of connecting the Market Street system to the existing pump station.

**FOR MORE INFO:**

Barbara W. Vaughn, Director  
Media Relations/Public Information  
Phone: (843) 724-3746 Fax: (843) 724-3734  
Email: [vaughnb@charleston-sc.gov](mailto:vaughnb@charleston-sc.gov)