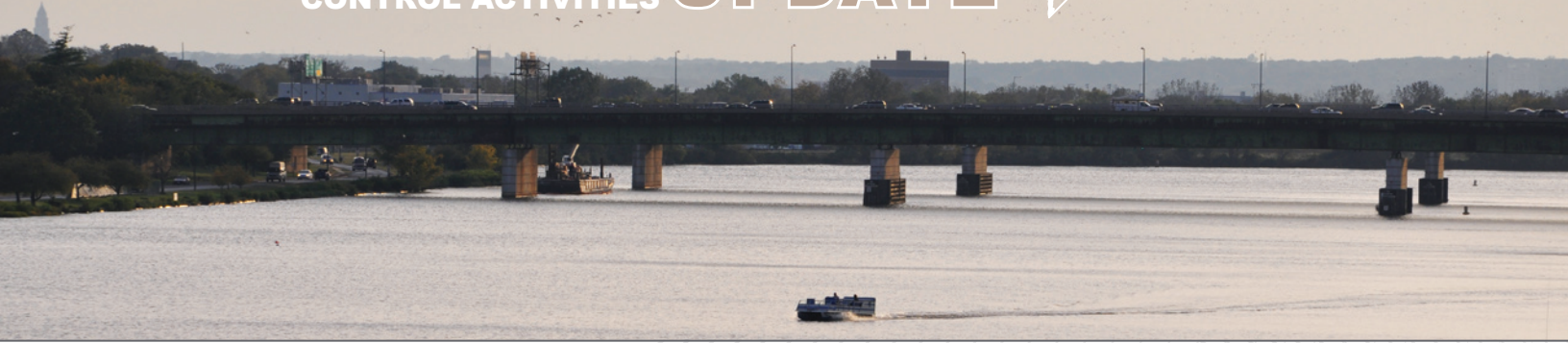


# COMBINED SEWER OVERFLOW (CSO) CONTROL ACTIVITIES UPDATE



## DC WASA's Long Term Control Plan Addresses CSOs

The District of Columbia, like many cities nationwide, has a combined sewer system in the older portions of the city. Designed in the 1800's, the combined sewer system covers about a third of the District and carries both sanitary sewage and stormwater in the same pipe. This system works well in dry weather, but during heavy rain events, the large volume can exceed the capacity of the system. Rather than having this combined sewage back up into streets and basements, the sewer system was designed so the mixture instead overflows into local waterways. This was the solution more than 100 years ago, but today we understand that these combined sewer overflows contain bacteria, chemicals and debris that can cause water pollution problems. (See FAQs about the Combined Sewer System to learn more about CSOs.)

In 2005, DC WASA entered into a consent decree with the Department of Justice, the U.S. Environmental Protection Agency (U.S. EPA), and the District Government for a 20-year, \$2.4 billion plan of action to reduce CSOs in the Anacostia and Potomac Rivers and Rock Creek by 96 percent.

The initial projects, including the Nine Minimum Controls and pump station rehabilitations, have been implemented, resulting in an approximate 40 percent reduction in CSOs to these three waterways.

Now, the largest piece of the Long Term Control Plan is fast approaching. Massive underground tunnels will store this mixture of stormwater and sanitary sewage during heavy rain events. Once the storm subsides and the volume of flows in the system abates, the mixture will be time-released so it can be treated at the Blue Plains Advanced Wastewater Treatment Plant.

There will be three distinct interconnected tunnels. The first to be built will start at Blue Plains and go northward. A construction contract has been awarded to clear the site to make way for two shafts and a future treatment facility. The first shaft will be the launching point for the first tunnel.

This contract began in February 2010 and will be completed in summer of 2011. Then, the first tunnel will be constructed from 2011 to 2015.

DC WASA is working with landowners along the path of the tunnels to secure construction permits. Meanwhile, design work is advancing on the first tunnel and hydraulic facilities in the vicinity of M Street, SE and RFK Stadium.

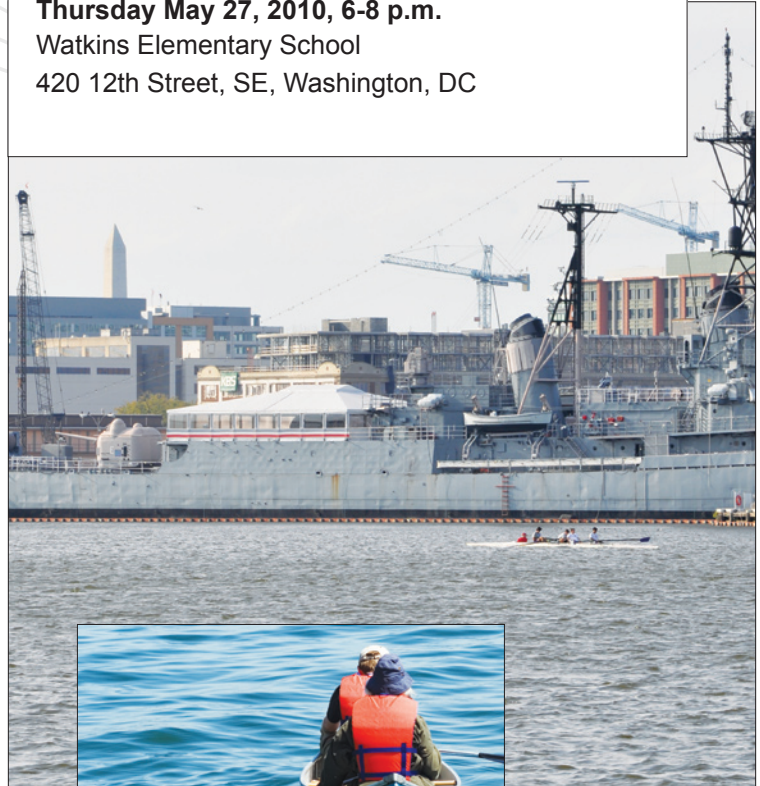
### Public Meeting

Hear more information about, and give comments on, the Draft Environmental Assessment on DC WASA's work to control CSOs to the Anacostia River.

**Thursday May 27, 2010, 6-8 p.m.**

Watkins Elementary School

420 12th Street, SE, Washington, DC



## Drilling through water, soil and rock for a cleaner Anacostia and Potomac



Drilling rigs on the Anacostia River take soil borings.

The preliminary work to construct the CSO Long Term Control Plan (LTCP) tunnel system includes taking soil samples using drill rigs through a boring process, referred to as geotechnical investigation, along the planned route of the tunnels. DC WASA first completed borings from 2007 to 2009, and began a new geotechnical investigation program during the fall of 2009 for the Blue Plains Tunnel (BPT) alignment. This tunnel is the initial segment of the CSO Tunnel Route, connecting to the Blue Plains Advanced Wastewater Treatment Plant and extending north along the Anacostia River. It is approximately 24,000 feet long, has a 23-foot inside diameter and ranges from 130 to 75 feet below the ground surface.

About 50 soil borings have been completed and 16 were conducted on water. The water boring project is unique because the borings must be performed off of a barge into the soil below our local waterways. In order to accomplish this, a drill rig was placed on a barge using a crane, and a tug boat pushed the barge to the boring locations. The depths of these water borings ranged from 140 to 170 feet below the Potomac or Anacostia riverbed. Keeping track of the sample interval elevations during the fluctuating tidal elevations, retrieval of the soft river bed (muck) deposits within the samplers and operating during freezing conditions are all added challenges to boring on the water. Additionally, the weather in DC this

*continued on page 4*

## More than just a pretty landscape—Low Impact Development helps protect the health of our waterways

Natural techniques prevent runoff from hard surfaces from entering the sewer system.

If the runoff can even be slowed down until after the peak of the rain event, the large volume will not overload the sewer system. The most obvious natural improvement is to replace pavement with grass or another permeable surface. Greening of rooftops and simply planting more trees are other options. A large canopy of trees delays some

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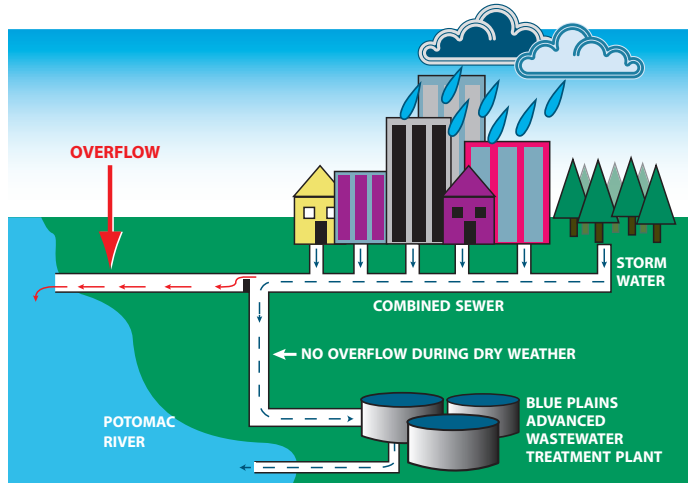
## Environmental assessments help keep project disturbances to a minimum

According to federal regulations, before any large-scale project can break ground, there must be an exhaustive study of the effects that the project may have on the environment. This study must also include mitigation measures, or ways to alleviate any impacts identified. These environmental effects can be anything from an increase in noise levels, odor emissions, disturbing protected species or ancient artifacts, to disrupting landscaping.

Fortunately in the case of the CSO LTCP Anacostia River Project, a large portion is underground and therefore has minimum effect on the ecosystem above. The project itself is an enormous environmental benefit to the Anacostia River. Nevertheless, a comprehensive environmental assessment has been underway for several months. Community outreach included a public meeting in September to explain the project and the environmental assessment process. Another public outreach meeting is set for later in the spring. This is when the public and affected stakeholders will have an additional opportunity to review the environmental assessment and any proposed mitigation measures.

# FAQs About the Combined Sewer System

**What is a Combined Sewer?** A combined sewer is a single pipe that carries both sanitary wastewater and stormwater runoff. Many older cities in the United States are served by combined sewers. In the District, the combined sewer system was designed and built by the US Army Corps of Engineers. Modern practice is to build two pipes in the street—one for stormwater runoff, and one for wastewater from homes and businesses.



**What is a CSO and why does it occur?** A CSO is a combined sewer overflow. During dry weather, sewage from homes and businesses is conveyed to the District's wastewater treatment plant at Blue Plains, where the wastewater is treated to remove pollutants before being discharged to the Potomac River. During certain rainfall conditions, the capacity of a combined sewer may be exceeded. When this occurs, the excess flow, a dilute mixture of wastewater and stormwater runoff, is discharged to the Anacostia River, Potomac River, Rock Creek and tributary waters. The Federal Clean Water Act allows CSOs, but the Environmental Protection Agency (EPA) requires communities to develop a plan to address overflows. There are 53 CSO outfalls listed in DC WASA's existing discharge permit from the EPA.

**Where are CSO Outfalls?** There are 10 CSO outfall locations on the Potomac River, 15 on the Anacostia River and 28 along Rock Creek and its tributaries. DC WASA has posted signs for each outfall location.

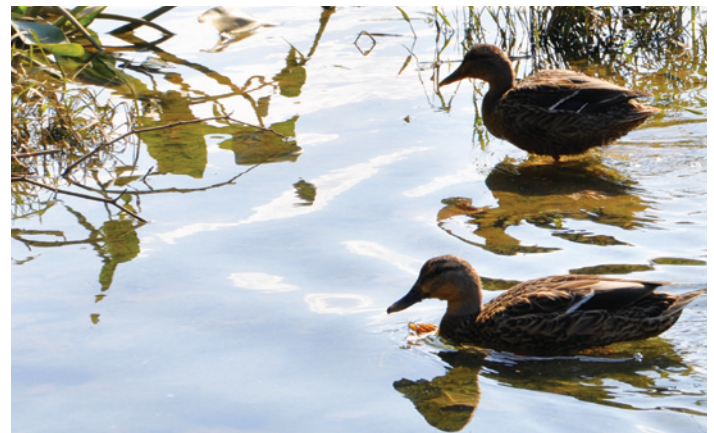


One of 15 CSO outfalls on the Anacostia River

**When do CSOs occur?** CSOs occur during wet weather and are more frequent in wet years than dry years. During years with average rainfall, DC WASA estimates that combined sewers overflow into the Anacostia and Potomac rivers about 75 times annually, spilling nearly 1.5 billion gallons into the Anacostia and 850 million gallons into the Potomac. Rock Creek averages 30 CSO events and 52 million gallons of overflow a year.

**What are the possible public health impacts of CSOs?** CSOs may pose a danger to the public because of the rapid flow of water exiting the outfalls and the potentially harmful substances it may contain. The public is advised to stay away from any sewer pipe discharge. CSOs could affect the receiving waters for up to 24 hours during small rainstorms and for up to three days when it rains one inch or more.

**What are the environmental impacts of CSOs?** CSOs can adversely affect the quality of rivers and streams by contributing to high bacterial levels and low dissolved oxygen levels, which is harmful to fish and other aquatic life.

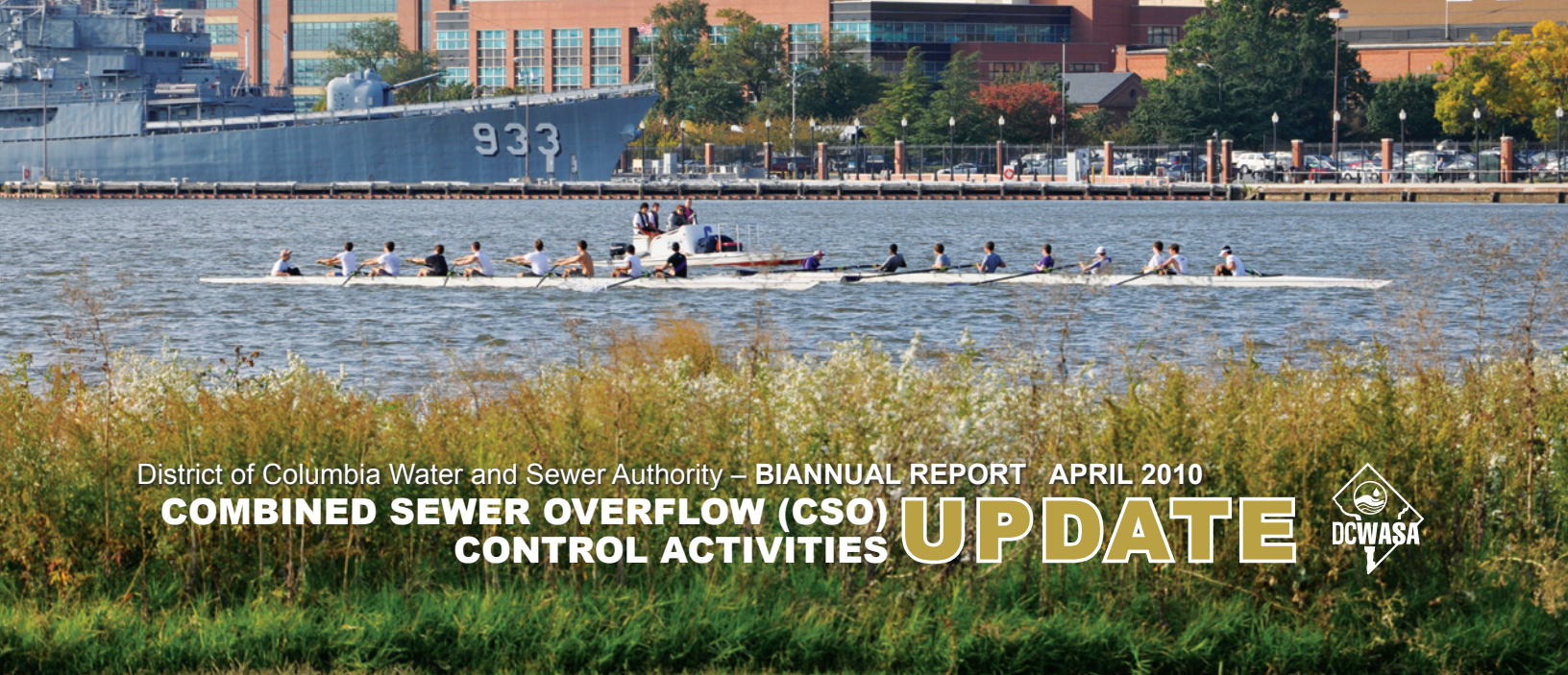


**What is a Dry Weather Overflow (DWO)?** In dry weather, sanitary wastewater normally flows to the Blue Plains Advanced Wastewater Treatment Plant through pipes with regulators. During wet weather, regulators are designed to let the excess flow discharge directly to a river or creek. If regulators become blocked by debris or trash, wastewater can also overflow during dry weather. This is called a dry weather overflow (DWO). DC WASA has an intensive maintenance and inspection program to prevent DWOs from occurring. If you see a CSO outfall discharging during dry weather, call DC WASA at (202) 612-3400.

## Where can you get more information?

You can learn more by visiting DC WASA's website at [www.dcwasa.com/cso](http://www.dcwasa.com/cso). You may also contact DC WASA Public Affairs at (202) 787-2200.

The complete text of the Long Term Control Plan for Combined Sewer Overflows can also be found at the following public libraries: Capitol View, Mount Pleasant, Northeast, Woodridge, Southeast, Shepherd Park, Tenley-Friendship and Washington Highlands.



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# COMBINED SEWER OVERFLOW (CSO) CONTROL ACTIVITIES UPDATE



## Drilling

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winter resulted in icy conditions, which made moving the barge very difficult. Ice-breaker boats were used to break up the ice so the barge could dock at the South Capitol Street pier during the snow storm in December 2009.

The water borings were completed in February 2010. Additional water borings will be needed for the Anacostia River Tunnel geotechnical investigation at the end of 2010. These soil borings are at depths ranging from approximately 325 to 140 feet, using both conventional and sonic drilling techniques.



## Low-Impact Development

*continued from page 2*

rainwater from reaching the ground surface until after the storm is over.

These natural techniques are called Low Impact Development (LID). Other such measures include:

- Installing rain barrels that collect and store the water runoff from rooftops to be used later. This is accomplished by disconnecting gutter systems and diverting the water.
- Installing pervious paving stones, rather than asphalt, for sidewalks and driveways to promote the absorption of rain water into the ground.
- Building rain gardens to collect water runoff and divert it to plants.
- Using native plants that thrive in the natural climate, absorbing rain water and requiring little, if any, additional watering.

Low impact development is an excellent approach to manage runoff and potentially reduce the size and cost of storm sewer and combined sewer overflow facilities. DC WASA plans to implement more LID, including in the Rock Creek and the Potomac River watersheds.

The District Department of the Environment is showcasing RiverSmart Homes, a pilot program encouraging low-impact development techniques in the District. For more information, please visit <http://ddoe.dc.gov/riversmarthomes> or call 202-535-2961.



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