



DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY
BIANNUAL REPORT APRIL 2018

COMBINED SEWER OVERFLOW (CSO) CONTROL ACTIVITIES

CLEAN RIVERS PROJECT NEWS

DC Water delivers on a cleaner Anacostia

March 23, 2018 marked a major milestone for DC Water, as the first phase of the DC Clean Rivers Project tunnel system for controlling combined sewer overflows (CSOs) to the Anacostia River was placed into operation. This achievement was the culmination of two decades of planning, design, and construction, and an investment of more than \$1.4 billion by DC Water's ratepayers, Clean Water Act Revolving Funds and Congressional appropriations. The project was delivered on time and in accordance with the consent decree executed in 2005 between DC Water and the Federal and District governments.

The new system consists of a series of underground storage and conveyance tunnels, which deliver the captured flow to the Blue Plains Advanced Wastewater Treatment Plant. At Blue Plains, new high rate treatment facilities have been constructed to help manage the additional flow. All of these combined with previously completed work will drastically reduce CSO discharges. The portion of the system recently placed into operation will provide control for all of the CSO outfalls along the Anacostia River, reducing CSO discharge volume by approximately 80 percent in an average year of rainfall.

However, DC Water is far from finished with projects that protect and improve the District's waterways. The \$580 million Northeast Boundary Tunnel segment, scheduled for completion in 2023, will connect to the current Anacostia River Tunnel and raise the capture rate to 98 percent of CSOs to the Anacostia River.

Additionally, there are tunnel and green infrastructure projects being planned, designed and built to protect the Potomac River and Rock Creek. Upon completion of the entire DC Clean Rivers Project in 2030, average-year discharges to the three major District waterways (Anacostia and Potomac rivers and Rock Creek) will be reduced by 96 percent overall, putting DC Water at the forefront of nationwide efforts to reduce CSOs and improve water quality. For more information on the DC Clean Rivers Project, visit dcwater.com/cleanrivers.



Top: At Blue Plains, a new pumping station and a high rate treatment facility were constructed to manage and recycle the additional flow delivered by the tunnel system.

Bottom: Deep underground tunnels convey captured sewage to the Blue Plains Advanced Wastewater Treatment Plant.

Clean Rivers tunnel in service

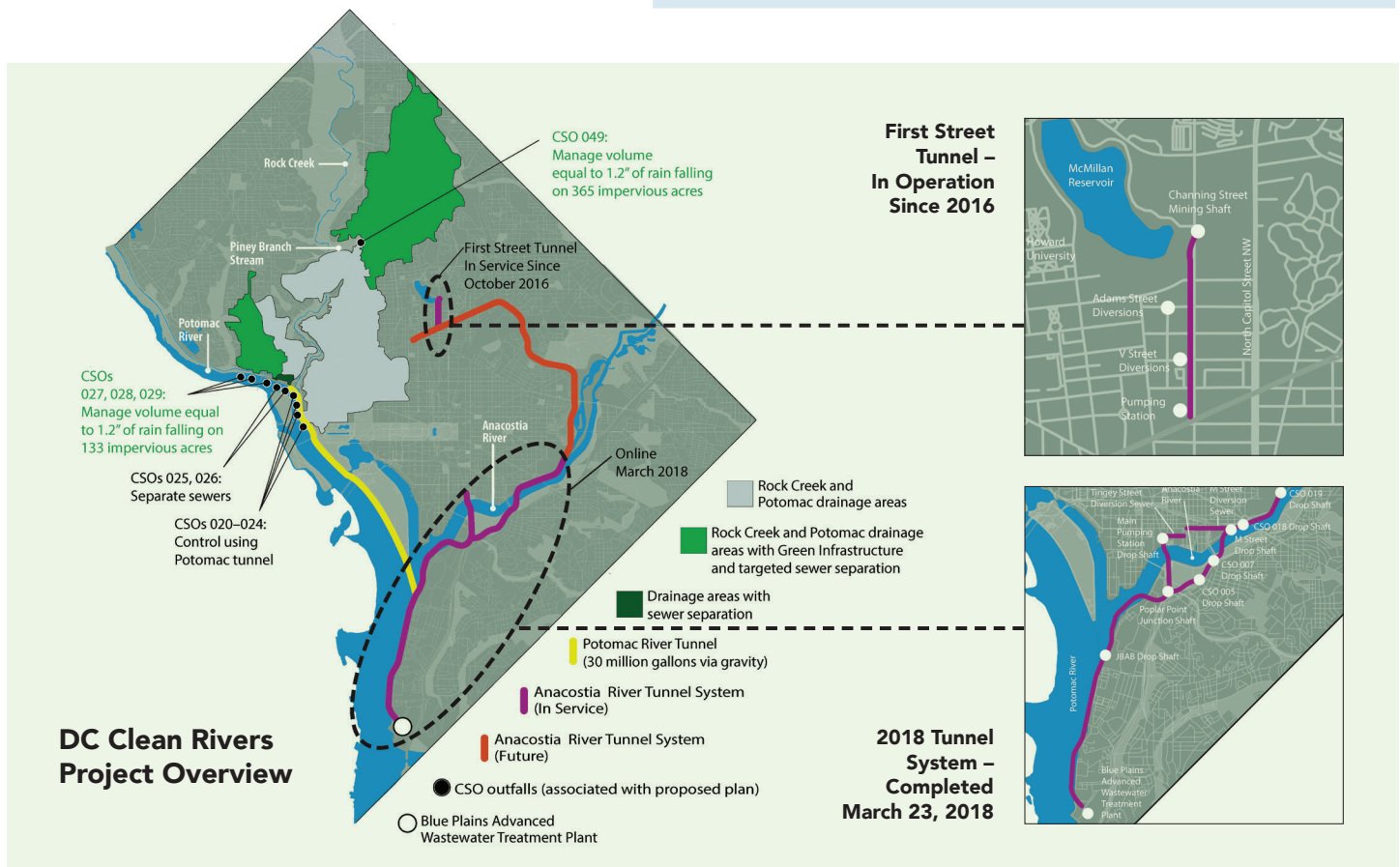
The portion of the tunnel system placed into operation in March consists of the following, as shown in the maps below:

- Tunnels from Blue Plains to Main Pumping Station and RFK Stadium
- Drop shafts for each of the outfalls along the Anacostia River that direct combined sewage into the tunnel
- Two tunnel overflow structures
- Tunnel dewatering pumping station and enhanced clarification facility at Blue Plains
- Replacement of sewer pumping station at Poplar Point

Completion of this program phase would not have been possible without the combined collaborative efforts of numerous DC Water departments, contractors, District and Federal agencies, and numerous other community stakeholders. DC Water is extremely grateful for all who contributed to the success of the project, and we look forward to continued collaboration as the remaining phases are completed. Thank You!

2018 CSO TUNNEL SYSTEM COMPONENTS

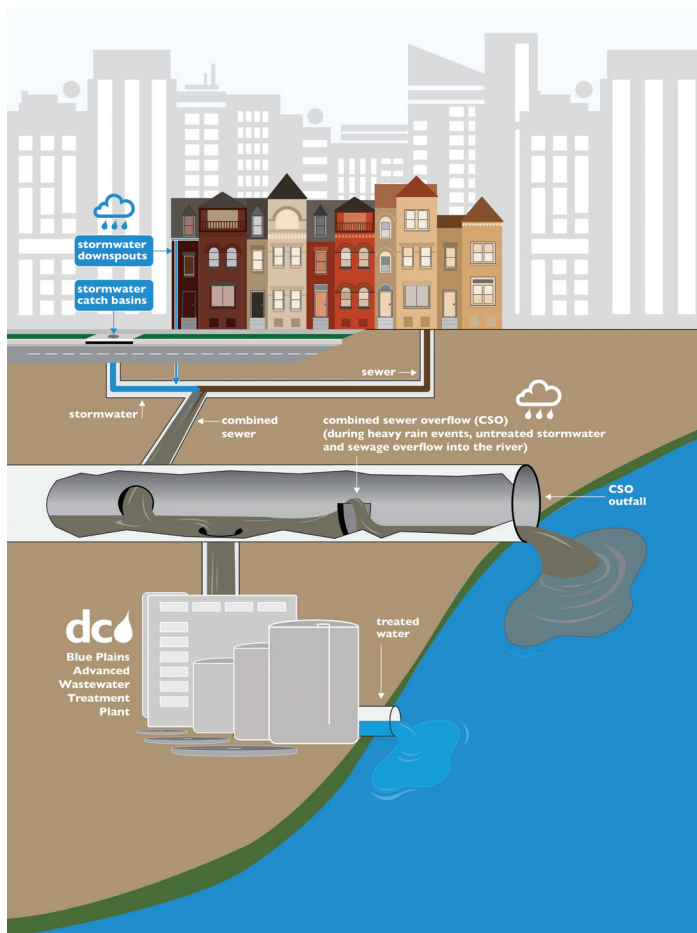
Division	Name	Design Builder / Contractor	Construction Completion Date
A	Blue Plains Tunnel	Traylor / Skanska / Jay Dee JV	2016
B	Tingey Street Diversion Sewer	Forest City / Northeast Remsko Construction	2014
C	CSO 019 Overflow Structure	Ulliman Schutte Construction	2013
D	JBAB Overflow and Diversion Structures	Corman Construction	2018
E	M Street Diversion Sewer	Corman Construction	2015
G	CSO 007 Diversion Structure	Skanska Facchina JV / DDOT	2013
H	Anacostia River Tunnel	Impregilo Healy Parsons JV	2018
I	Main Pumping Station Diversion Structures	Corman Construction	2018
Z	Poplar Point Pumping Station and MOS-DC	EE Cruz	2018
TDPS / ECF	Tunnel Dewatering Pumping Station and Enhanced Clarification Facility	PC Construction / CDM Smith JV	2018



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 U.S. 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 47 potentially active CSO outfalls listed in DC Water's existing discharge permit from the EPA.

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 Water estimates that combined sewers overflow into the Anacostia and Potomac rivers about 75 times annually, spilling nearly 1.3 billion gallons into the Anacostia and 640 million gallons into the Potomac. Rock Creek averages 30 CSO events and 49 million gallons of overflow a year.

Where are CSO Outfalls?

There are 10 CSO outfall locations on the Potomac River, 14 on the Anacostia River and 23 along Rock Creek and its tributaries. DC Water has posted signs for each outfall location.

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 are 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 Water has an intensive maintenance and inspection program to prevent DWOs from occurring. If you see a CSO outfall discharging during dry weather, call DC Water at (202) 612-3400.

Where can you get more information?

You can learn more by visiting DC Water's website at dcwater.com/cleanrivers. You may also contact DC Water's Office of External Affairs at (202) 787-2200.

The complete text of the Long Term Control Plan for Combined Sewer Overflows can also be found on DC Water's web site at dcwater.com/FinalLTCP.

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CONTROL ACTIVITIES
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The Metropolitan Washington region celebrates the Anacostia River

The year 2018 has been dubbed the Year of the Anacostia, and organizations across the region have come together to plan events and celebrations up and down the Anacostia Watershed. Water bodies in Prince George's and Montgomery counties are tributary to the Anacostia River and are part of this celebration of life and activity along the Anacostia River.



Along the Anacostia River, before and after the 2017 clean up event

The Anacostia Watershed Society (AWS) is just one of the organizations involved in the planning. AWS was founded in 1989 to protect and restore the Anacostia River and its watershed communities by reducing pollution,

restoring natural systems, and reconnecting the community to the river. Over the years, the Anacostia Watershed Society has advocated for the river and those who enjoy it. The Society works with legislators to advance public policy across the District of Columbia, Prince George's County, and Montgomery County that pioneer protections of the Anacostia River.

The Anacostia Watershed Society's largest volunteer event is an Earth Day Clean-up. On the Saturday after Earth Day, nearly 2,000 people volunteer at 30 different sites around the watershed, picking up trash to serve their communities and to enjoy the Anacostia River. The event is scheduled for April 21, 2018. Every year, DC Water fields a large team of volunteers to assist in this important clean up.

Many other non-profit and governmental organizations are supporting the Anacostia festivities. For more information about the Year of the Anacostia, please visit yearoftheanacostia.com.



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