

1937

WHAT'S ON TAP?

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General
Manager's
Message

The people, processes and facilities at Blue Plains do this region the great service of treating the water that we all use on a daily basis—that is, taking the city's and region's dirty water and making it clean again.

Sewer pipelines and wastewater treatment 75 years ago, though basic, were heralded for cleaning up the waterways and providing protection from disease. Over time, the need for better treatment became evident, and Blue Plains added processes and capacity. Today, our plant is nothing short of a remarkable technical marvel.

It is a green factory, where we can pull off nutrients and recycle them back to the land, and where we cleanse the water and return it to the Potomac River. In a couple of years, we'll be able to generate heat and electricity through processing the solids.

Blue Plains is an original, successful and efficient recycling facility and I am proud of the work that we do.

George A. Hawkins

Blue Plains Turns 75!



In July 2012, Blue Plains celebrated 75 years of providing the region with the highest levels of wastewater treatment and bringing the world innovative research that influences treatment solutions around the globe.

In July 1937, the Blue Plains Sewage Disposal Plant opened for limited operations, ushering in a new era in sanitation. Previously, open sewers ran through the city and discharged to the waterways without treatment, carrying with them the potential for infectious disease outbreaks. The federal government commissioned the construction of Blue Plains, under the Public Works Administration as part of FDR's New Deal and funded the \$4 million construction. There was heavy debate about whether the plant should offer secondary treatment or just primary.

In the end, Blue Plains began with just 12 primary clarification tanks and acres of unused land. Through massive upgrades over the

last 75 years, today's Blue Plains has primary, secondary, tertiary and filtration wastewater treatment processes. These take up almost all of the 153-acre site -- and more facilities are being built to protect the environment. Blue Plains is held to some of the strictest discharge permit levels in the world, requiring cutting-edge scientific research to achieve. DC Water's research team operates on Blue Plains and in collaboration with highly regarded researchers around the world.

For more information—and to see the timeline—please visit dcwater.com/bp75

Through the Years

Prior to 1937 The federal government created separate Water and Sewer Departments

1953 Chlorination facilities added for disinfection

1955-1960 Capacity was expanded to 240 MGD and secondary treatment added

1982 Advanced waste water treatment added

1983 Became WASUA

1996 Became DC WASA

1997 Biological Nitrogen Removal pilot begins

2000 Nitrogen removal implemented

2009 George Hawkins appointed GM

2010 Became DC Water

2011 Three massive environmental projects break ground

Did You Know?

Decades ago, when Blue Plains was running out of places to put sludge (now called biosolids), they started piling it up at the south end of the plant. This was dubbed "Sludge Mountain" and someone was required to measure it every week. At its tallest, it was 90 feet high and 5 acres at the base.



Clean Rivers Project

This \$2.6 billion program will dramatically reduce combined sewer overflows in the District, helping to improve water quality in Rock Creek, the Potomac and Anacostia rivers and ultimately the Chesapeake Bay. The first part of the project is building a shaft on Blue Plains where a massive tunnel boring machine will be lowered, assembled and will make its way—100+ feet underground—along and under the Potomac and Anacostia Rivers! Additional shafts are being constructed along the tunnel alignment including Poplar Point near I-295 and South Capitol Street.

Latest news: DC Water would like to pilot a \$10 to \$30 million Green Infrastructure (GI) project for the Rock Creek and Potomac portions of the plan. The Anacostia River tunnel solution is moving along as planned, but DC Water wants to test the viability of using GI to reduce runoff enough to reduce the size or eliminate the other two tunnels while greening the city and creating sustainable jobs.



Work on the Enhanced Nutrient Removal Facilities (ENRF) began in 2011 and is due to be completed in 2014. It is just one of three massive construction projects on Blue Plains.

What's New at Blue Plains —All that Construction!

Just driving by the Blue Plains facility anyone can see the flurry of construction activity—20 cranes, hundreds of construction workers

and a steady stream of vehicles in and out of the plant. There are three major projects underway, totaling almost \$4 billion.

Enhanced Nutrient Removal Facilities

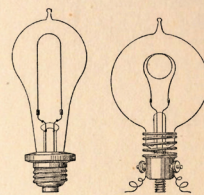
This \$950 million project will reduce nitrogen in the treated wastewater from 8.5 million pounds per year to 4.4 million pounds per year. The solution includes modifying the existing nitrification / denitrification tanks and building additional large denitrification tanks that use microbes to transfer nitrogen in the liquid to a gaseous form, releasing it from the wastewater.

Nitrogen can cause algae blooms that deplete oxygen in the water that marine life needs to survive. Nitrogen is found in agricultural runoff and suburban and urban runoff, as well as wastewater



treatment plants. DC Water was the first to meet the Chesapeake Bay Agreement goals for nutrient reduction and is on target to meet the new requirements in 2015.

Latest news: This project is already halfway complete, on time and on budget, and should be operational by late 2014.



Thermal Hydrolysis/ Anaerobic Digestion

This is the only one of the three big projects that is not mandated by the federal government—this project makes economical sense as it allows DC Water to create energy (heat and electricity) from the wastewater treatment process.

Latest news: The base slabs for the digesters are down and construction is on track for a 2014 ribbon-cutting.

Did You Know?

From 1969-1974, the U.S. EPA and the District piloted a large, national research center at Blue Plains, investigating all major wastewater treatment technologies. It later moved to Cincinnati, Ohio.

