PISCATAWAY BIOENERGY PROJECT UPDATE

WINTER 2023 NEWSLETTER

WSSCWATER
DELIVERING THE ESSENTIAL


Site Progress: November 2022


Site Progress: January 2023

Alternative Plan Accelerates Gravity Thickening Rehabilitation

Thickening is an essential component of the wastewater treatment process, and crucial to the advanced processes planned for the Piscataway Bioenergy site. During the thickening process, primary and waste activated sludge is combined, then gravity separates the solids from the liquid. Separating the liquids and solids reduces volume, which means more efficient facility operation. Reduced solids volume also means less heating demand for the anaerobic digestion process.

Using gravity, the solids settle to the bottom of thickeners—circular settling tanks— while residual fluid is piped to the head of the facility for further processing. The solids are then sent to the sludge screens and then belt filter presses for further dewatering prior to thermal hydrolysis processing.

Previously, the Piscataway Water Resource Recovery Facility (WRRF) had two primary thickeners and four secondary stage gravity thickeners. The Bioenergy Project called for the demolition of the two primary thickeners, rehabilitation of three of the secondary stage thickeners and the conversion of the remaining secondary thickener to a digested sludge storage tank.

The initial plan involved modifying two of the four secondary stage thickeners for use during the Bioenergy Project start-up. To avoid any impact to plant operations, the final two secondary stage thickeners and existing first stage thickeners would remain in operation for use by existing plant operations until project completion.

The plant operations staff and construction team have proposed an alternative plan that will accelerate this work and improve plant efficiency without negatively impacting plant operations. The plan involves starting up two modified secondary stage thickeners and using existing pumps to send thickened sludge to the existing Dewatering Building. The performance of the rehabilitated thickeners eliminated the need for the primary thickeners, allowing for demolition prior to project start-up.

NEW THICKENING REHABILITATION PLAN HAS MULTIPLE BENEFITS:

- Maintaining plant operations while reducing the impact on plant staff
- Allowing the construction team to fabricate the cover for the digested sludge storage tank sooner
- Increasing available capacity during project startup

Progress Since Last Update (Fall 2022)

- Installed three 1.5-megawatt generators
- Completed pipeline between the Washington Gas mini-gate (which connects the Bioenergy Project to the Washington Gas pipeline) and the Bioenergy Project
- Installed odor control system

CHP Generators and Gas Cleaning Facility

Odor Control Facility and Cake Receiving

Upcoming Work

- Install three 5,000 lb/hr steam boilers
- Complete installation of the Gas Treatment System
- Install Gas Storage

PROJECT TIMELINE

PLANNING
Completed June 2018

DESIGN
Completed February 2020

DEMOLITION AND UTILITY RELOCATION
Completed December 2020

CONSTRUCTION
Underway
Began June 2020

TESTING
Spring 2022

COMPLETION
Late 2024

The Piscataway Bioenergy Team

Your WSSC Water Piscataway Bioenergy Team includes:

OWNER	DESIGN-BUILDER	LEAD ENGINEER	PROGRAM MANAGER
www.wsscwater.com	www.pcconstruction.com	www.stantec.com www.hazenandsawyer.com	www.hdrinc.com

www.wsscwater.com/bioenergy