Dutchland INCORPORATED
Engineered Concrete Environmental Solutions

Patuxent Water Reclamation Facility
Howard County, MD

Description: In order to meet the needs of a growing community, the Patuxent WRF began an expansion project to increase the capacity of the plant from 7.5 MGD to 11.6 MGD. The project scope included a new headworks facility, influent pumping station, third oxidation ditch, fourth clarifier, and denitrification filters. The commissioning for the project was required by October 2018 so that developers could tie-in to the Patuxent Sewershed.

Upon receipt of a NTP in October 2016, the project team comprised of Atkins Global (design engineer), Arcadis (construction manager), and Ulliman Schutte Construction (general contractor) expressed concern about completing the upgrade in 730 days given the magnitude of the project. The project team immediately began investigating alternative methods of construction for the oxidation ditch to avoid potential financial penalties from potential project delays. After an extensive technical design review, the project team elected to switch from cast-in-place concrete to precast post-tensioned concrete for the oxidation ditch for the following benefits: schedule savings, minimized site, traffic & environmental impact, enhanced safety, improved quality and technical features, and cost savings.

Dutchland successfully constructed the 4.5 MG oxidation ditch in 8 weeks on-site, in contrast to the 24 weeks scheduled for cast-in-place concrete. The ox ditch contains 302 precast pieces and measures 335’-6” long by 104’-2” wide with 17’-6” tall wall panels.