Client:
Town of Phillipsburg, NJ

Project Completed:
2016

Client References:
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Project Funding:
New Jersey Environmental Infrastructure Trust Fund (NJEIT)

The Town of Phillipsburg operates a 3.5 MGD wastewater treatment plant that receives wastewater from the Town of Phillipsburg and four sending districts (municipalities). To accommodate build-out including redevelopment of the Ingersol Rand property, the Town needed to be prepared to add an additional treatment capacity. The challenges were the existing plant was land-locked with minimal area outside of the flood plain to expand and future more stringent loads which will be enacted upon the expansion based on Delaware River Basin Commission declaring the portion of the River north of the City of Trenton under the Special Water Protection Act.

To achieve more treatment, an additional SBR Tank #7 was added and the BioMag treatment process was implemented. Because of the ballasted flow, better settling during the settle and decant cycles allows the MLSS to be increased to 5500-6000 mg/l.

One of the project design challenges was how to best re-suspend to BioMag for the react cycle after it is settled. Since the SBR basin diffusers were at the end of their useful life, this posed an opportunity to replace the ceramic diffusers with higher oxygen efficiency transfer diffusers. The diffuser configuration was also altered to create a rolling action within the SBR basins to promote mixing. Floating mixers were also installed but the run time is now significantly altered to the initial start of the react phase. Again, reduced miner run time in conjunction with more efficient aeration has reduced the CFM output from the blowers.

This project is in the final start-up performance testing, but the results to date have been very encouraging and will contribute to a future rerate of the treatment plant capacity.

Aeration Basin Diffuser & Blower Replacement

Town of Phillipsburg, New Jersey

WASTEWATER ENGINEERING SUPPORT SERVICES