

Suman Sorg Designs State-of-the-Art Biosolids Treatment Facility

Sorg and Associates, Washington D.C., has designed a new \$311 million biosolids treatment process facility at the Blue Plains Advanced Wastewater Treatment Plant in the Southwest quadrant of the nation's capital—the largest treatment facility of its kind in the world. Suman Sorg's design of eight giant egg-shaped digester tanks transforms the landscape into a futuristic plane of animate forms, on eight acres on the shores of the Anacostia River. The facility, a major public initiative of the District of Columbia Water and Sewer Authority, serves more than 2 million customers daily and will process about 350 tons of sludge each day.

The project includes two silo-like storage tanks of similar height, two gas equalization tanks, four waste-gas flares, and a 34,000-square-foot operations building. Sorg adorned each of the additional buildings with brick and metal cladding to complement the pre-existing 1930s structures.

The architect says the tanks resemble "otherworldly cocoons" and highlight the importance of sustainable urban infrastructure. Sorg notes that the anaerobic system to treat sewage results in more recoverable materials and reduces the output of sludge, resulting in less truck traffic and pollution. She also says the methane captured in the digesters can be used to generate power for the plant. Nestled in two orderly rows of four, the digester tanks measure up to 93 feet at their widest point and rise 108 feet from the ground, with sleek elevator towers reaching up to 120 feet. The digesters take their egg-shape form in part



because they are submerged 20 feet into the ground.

Delicate forms connect with modern technologies

To make access more convenient for workers, Sorg connected the digester tanks via elemental and elegant stainless steel inverted trusses that "take their form from the gentle curve of the egg." The dipping profiles of the trusses complement the tanks' soft, rounded forms, while ribbed anodized cladding in the form of a "closed blossom" adds a contrasting note of lightness. At night, towering over the river, where the Anacostia meets the Potomac, the architect notes the massive digester tanks will "impact the city skyline quite a bit," and appear almost magical.

The architect says she is drawn to diverse projects that "keep the design muscles in tone." "The delicate, organic exteriors of the digester tanks provide a necessary balance to the structures' inherent industrial character," Sorg says. "For the first time, a digester tank facility, commonly disguised by cheap sheathing, fuses aesthetic concerns with practical realities, thereby creating a refined,

precedent-setting model for the future of treatment plant facilities."

Reference:

Since 1989, Sorg and Associates [www.sorgandassociates.com] has won 19 AIA awards, most recently receiving a 2005 national AIA Honor Award for Urban Design.

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