

Large North American Juice Processor Installs ADI-MBR/RO System at Its New Florida Facility

In 2004 ADI Systems contracted with a large juice and fortified juice drink producer to supply an ADI-MBR (membrane biological reactor)/RO (reverse osmosis) advanced wastewater facility on a design-build basis. A year earlier, ADI provided a patented¹ anaerobic ADI-BVF[®] reactor for this same greenfield juice plant--also on a design-build basis. The BVF[®] reactor pretreats the concentrated raw juice plant wastewater flow, and the MBR/RO polishes the anaerobic effluent so that it complies with TDS and other limits imposed by the local municipality.

A preaeration tank, two MBR tanks, and a two-stage reverse osmosis system comprise the facility provided. It is designed to handle 250,000 gpd of anaerobic effluent having BOD, TSS, and TDS concentrations of 450 mg/l, 450 mg/l, and 2,400 mg/l, respectively.

The size of the preaeration tank is 200,000 gal (sized for future expansion), and the two MBR tanks each hold 23,000 gal. The ADI-MBR system employs Kubota flat-plate membranes.



A two-stage RO system was used to minimize the volume of the brine produced, which is approximately six percent of the first-stage RO influent flow.

The resulting brine will be hauled to a large municipality, which has an ocean outfall, for final disposal.

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¹ US Patent Nos. 5,505,848; 5,587,080; Canada Patent Nos. 1253266; 2,096,852