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# Polk County Utilities NERWWTF Surge Tank Modification

Davenport, Florida



*Working with the FDEP, Matthew Johnson, PE assisted in the design of a surge tank to the existing WWTF to buffer, or suppress, excessive peak-hour hydraulic loading at the existing plant.*

The County's NERWWTF is located in unincorporated Polk County north of Davenport and Haines City near the intersection of I-4 and U.S. Highway 27. During construction of the plant's expansion Matthew Johnson, PE helped to permit a modification of the existing plant with the Florida Department of Environmental Protection to construct a surge tank for the plant.

The purpose of the project was to address solids washing out of the clarifiers of the existing NERWWTF due to excessive peak-hour hydraulic loadings. The problem experienced by the facility stemmed from the shallow side water depth of approximately eight feet in the clarifiers and an elevated solids loading rate during these periods. These physical and operational characteristics caused the facility to have a tendency for solids washing out of the clarifiers during peak-hour periods when the flow is slightly above the design ADF.

