

PRESSURE VESSEL WINNER Entry #2 – Kennedy Tanks & Mfg.



Product / project title:	(12) Vessels - Savannah Georgia Harbor ReOxygenation Project
Product / project owner:	Army Corps of Engineers
Product / project location:	Savannah, GA
Date completed:	October 2016
Construction standard (if any):	ASME
Overall height / length (feet, inches):	22' -0"
Column height (feet, inches):	-
Diameter (feet, inches):	12' -0"
Capacity (US gallons):	6,000
Steel tonnage used (US tons):	120
Steel thickness (inches):	½"

PRODUCT/PROJECT DESCRIPTION AND SPECIAL FEATURES:

The Savannah River drains a basin of over 10,000 square miles, touching the states of Georgia, South Carolina and North Carolina, and is a bustling industrial port.

A partnership, which includes the Georgia Ports Authority, EPA, U.S. Fish and Wildlife Service, National Marine Fisheries Service and the Army Corps of Engineers, is installing twelve aeration ASME pressure vessels along the Savannah Harbor to mitigate oxygenation capacity loss due to the deepening of the Harbor. Deepening the channel by up to six feet allowed passage of deep-draft vessels in the Port of Savannah.

The oxygenation system includes twelve coned 316L stainless steel pressure vessels, which will dissolve 15,000 pounds per day of bulk pure liquid oxygen from each vessel into the harbor to help equalize the ecological system. The aeration vessels were designed for +100/-6 psig at 150 degrees F. according to ASME Sec. VIII, Div. 1, with spot radiography performed per code. Water quality monitoring is conducted at specific points in the river at different locations and water depths. Monitoring includes dissolve oxygen, pH, specific conductivity, temperature and salinity.

SPECIAL FABRICATION WINNER Entry #2 – Kennedy Tanks & Mfg.



Product / project title:	(6) Monoscour Gravity Water Treatment Filter Tanks Graver Water Systems - Arizona Public Svc. Palo Verde
Product / project owner:	Nuclear Station
Product / project location:	Tonopah, AZ
Date completed:	October 2016
Construction standard (if any):	API 650
Overall height / length (feet, inches):	20' -8"
Column height (feet, inches):	-
Diameter (feet, inches):	15' -0"
Capacity (US gallons):	14,000
Steel tonnage used (US tons):	500
Steel thickness (inches):	¼"

PRODUCT/PROJECT DESCRIPTION AND SPECIAL FEATURES:

Six Monoscour Filter Water Treatment tanks were fabricated from 2205 duplex stainless steel. Each set of three tanks incorporated a split box on top feeding the tanks. The tank dimensions were 12' diameter x 20' high. Overall dimensions are 15' diameter x 20'-8" height. The tanks incorporated three separate compartments for filtration and cleaning, and included internal and external piping, handrails and caged ladders.

The operation Monoscour filter tanks consist of two major operations: filtration and cleaning (commonly called backwashing). The two operations occur sequentially, with the cleaning phase made of up discrete steps. The particulate matter is removed by passing the feed stream through a multimedia filter bed, consisting of sand and anthracite during the service operation. The depth and types of media are selected based on the individual characteristics of the water being treated. The suspended particles are removed through various mechanisms, which include straining, adsorption, interception, impaction, sedimentation, and flocculation.