



## First US RPPS STAR Screen Ready to Protect Kuna's Hollow Fiber Membranes

Kuna is just outside of Boise, the largest city in the state of Idaho. It is one of the fastest-growing areas in Idaho, having nearly tripled in population between 2000 and 2010. The area is described as the foothills of the Rocky Mountains and experiences hot and dry summers. The fairly new North Wastewater Treatment Plant went in operation in August 2009. It cost the City of Kuna \$30 Million Dollar to build. The plant has an ultimate treatment capacity of 3.5 MGD and uses a Siemens (Evoqua) Membrane Bioreactor. The economic recession in the US considerably slowed the anticipated growth of these areas so that today's flows to the WWTP are still below 1 MGD.

When the MBR plant was originally constructed JWC center feed band screens were selected to protect the hollow fiber membranes. However over the past years plant operators noticed considerable bypass of fine fibrous screenings. This screenings bypass lead to increased fouling of the membranes. As a result maintenance time and expenses went up. The plant superintendent contacted HUBER in January 2013 to discuss additional fine screenings options to better protect their membranes and reduce their maintenance time and costs. They were very interested in a tank mounted option with 0.5 or 1mm mesh openings to install after their existing 2mm band screens and the grit trap. Screenings options with our 1mm RoMem were evaluated based on their current flow requirements. However once they brought HDR (engineer) onboard it was made clear that the additional fine screen needed to be designed for the ultimate design flow of 3.5 MGD. Based on the flow and a fairly high TSS loading requirement of 500 mg/L the RoMem screen size was getting very large. Available space and costs were an issue.

At this point HUBER proposed our newly introduced RPPS STAR design which reduced both the required space as well as costs considerably. Both the engineer and the owner were quite nervous being the "first" STAR installation in the United States in particular as there were at this point no other STAR installations in operation worldwide which they could call as a reference. However based on HUBER's reputation and experience as a MBR screen supplier and seeing the huge advantages this new screen design provides they were willing to go ahead with the project. In addition HUBER agreed to guarantee performance in particular the maximum flow capacity of the unit.

Due to the City's procurement rules the project bid had to be opened to other screen suppliers. HUBER worked with the engineer to make sure that other approved suppliers were required to offer a screen size and tank to provide an equivalent screening surface area to our STAR basket. We received a purchase order for the



screen in October 2013 from the City. The contractor has almost finished the equipment installation and we are planning on starting up our first RPPS STAR installation in the US in late September/beginning of October.

#### THE NORTH WASTEWATER TREATMENT PLANT

Location: Kuna, Idaho, USA

Website:

<http://kunacity.id.gov/index.aspx?NID=135>

Facilities: 1

1 x RPPS STAR 1600/1mm, tank version

The plant treats 500,000 gallons a day and has the capacity to treat 3 million gallons a day.