

DESALINATION IN THE EVERGLADES

Eden Excel Filter Vessels - Case Study

THE SITUATION

Each year, over one million tourists venture to Everglades National Park, one of the most unique and spectacular parks in the United States. The park is the largest subtropical wilderness in the US Park System. An unparalleled landscape that is a World Heritage Site, International Biosphere Reserve, Wetland of International Importance and a protected under the Cartagena Treaty.

The Department of the Interior has the important task of maintaining the park and ensuring everyone's safety. To that end, providing clean, potable water to visitors and campers within a vast and remote wilderness is critically important. Tremendous care and effort is put into water treatment, making water quality for those enjoying the park a priority issue. The primary recreation and camping area is situated 38 miles from the main entrance of the park, so park-goers are dependent on park services and utilities during their visit.

THE SOLUTION

In 2006 the US Park Service constructed the Flamingo Water Treatment Plant to supply water to park facilities and campgrounds. The desalination system that was installed works by using two Eden Excel filter vessels for prefiltration to remove harmful sand, organic matter and other solids from water before it passes through reverse osmosis (RO) membranes, creating fresh drinkable water. The prefiltration process is essential, removing debris down to 5 microns that would otherwise damage the RO membranes, increasing the life of the system and minimizing operating costs. Each vessel contains ten 40" cartridge filters and are rated for continuous service at 150 psi and 200 gpm. Eden vessels require no specialized tools or expertise to open, change the filters or perform routine maintenance: reducing maintenance costs and minimizing down time during filter changes – meaning a consistent supply of fresh water at the park.

Another factor that is strongly considered when any purchase is made by the US Park Service is the environmental impact. The Everglades are a sensitive area and conserving the ecosystem and the native plant and animal species is top priority. Eden Excel vessels minimize power usage and their reliability and longevity avoid disruptive repair crews or heavy construction equipment from impacting the environment.

RESULTS

The Eden Excel vessels installed in the Everglades continue to run to this day. All Eden vessels are designed for 25-year useful life and their FRP construction resists the wear and tear associated with remote environments. Further augmented by Eden's high quality cartridge filters, they offer better flow efficiency: resulting in less power used, less frequent filter changes and have lower operating costs. Filter cartridge changes are the only maintenance that has been required in 15+ years of trouble free, low impact operation.

National parks pride themselves on the one-of-a-kind, immersive experience their ecosystems offer visitors. The safety and comfort of their guests is equally important, especially with how remote these locations can be. Government agencies and system designers working with parks should view their filtration systems as an investment in the quality of their visitor's experience. Eden vessels are the standard for desalination prefiltration, ensuring one of the park's critical processes runs efficiently for years to come.

