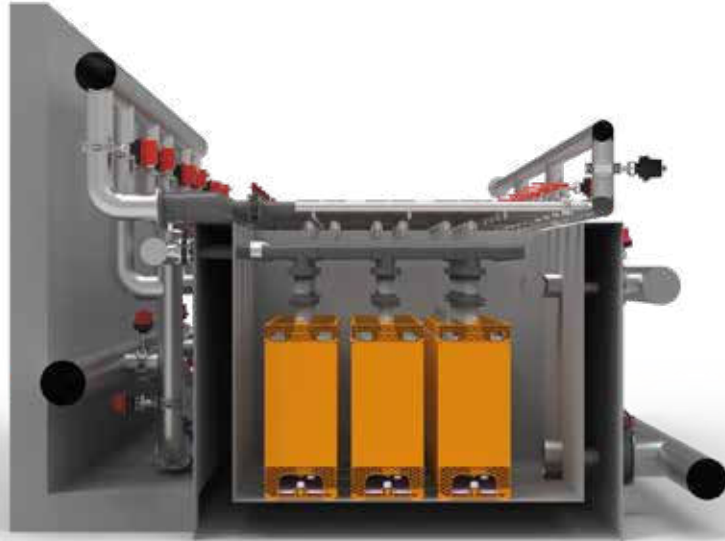


SiC | Drinking Water

SIC PRE-TREATMENT TO RO FOR PFAS REMOVAL FROM DRINKING WATER

— GADSDEN, AL



MADE IN USA

THE ONLY BABA
COMPLIANT UF/MF
MEMBRANE

Certified to
NSF/ANSI 419

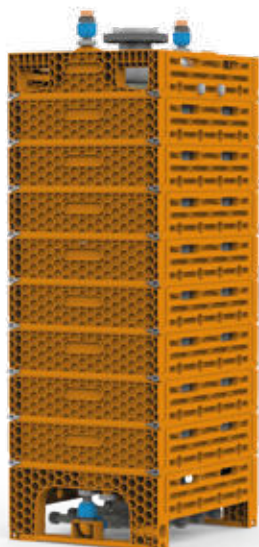
Certified to
NSF/ANSI 61

Contamination from PFAS and other forever chemicals has severely impacted drinking water sources throughout the world. Drinking water utilities are faced with the difficult task of protecting the community against a chemical that is extremely difficult to treat.



THE CHALLENGE

Gadsden Water Works in Gadsden, AL, is one of many communities in the southeastern US that has unsafe levels of PFAS in its drinking water source. Faced with the task of ensuring safety for its residents, Gadsden Water needed to develop a solution to remove PFAS from their source water, the Coosa River, to provide safe, clean drinking water to the community. Any potential solution Gadsden selected to deal with their PFAS issue also had to fit in a very tight footprint. Bound by a river on one side and a road on the other, the Gadsden WTP had little room for physical expansion so a solution with a small footprint was a must.



THE SOLUTION

InSite Engineering was hired by Gadsden Water to design and construct a 26.0 MGD expansion to their existing treatment facility, adding reverse osmosis (RO) to remove PFAS from their drinking water. One of the keys to a successful RO facility operation is the pre-treatment processes upstream. RO systems operate best when the feed water is very clean and free of any type of particulate matter. A pre-treatment process that can reliably remove turbidity and other suspended

solids was a must. Since the existing Gadsden Water facility uses conventional treatment (clarification, gravity filtration), it was decided that pre-treatment processes should be upgraded to ultrafiltration (UF) to remove finer particulates. After a thorough evaluation, InSite selected Ovivo's silicon carbide (SiC) UF membranes to serve as pre-treatment to Gadsden's RO system. SiC clearBLOX drinking water filtration systems provide an extremely robust treatment system in a very small space.

RESULTS AND BENEFITS

Ovivo was able to demonstrate a silt density index (SDI) of less than 1.0, with SiC membranes, which was critical to Gadsden when selecting a pre-treatment technology. SiC was also able to fit within their facility design, which was extremely space constrained. Gadsden can be assured that their RO system will be well protected with SiC ensuring reliable operation of their PFAS removal system.

THE OVIVO DIFFERENCE

Ovivo was able to deploy and commission an SiC UF pilot very quickly to demonstrate the water quality the technology can provide prior to RO. This pilot demonstration confirmed to Gadsden that SiC was the best possible pre-treatment option prior to RO.



GADSDEN WATER TREATMENT PLANT



SiC MEMBRANE BASIN DESIGN

GADSDEN SiC DESIGN SUMMARY

Plant Design Flow	26.0 MGD
No. Trains	6.0
Water Source	River water
SiC Module Type	FX
Membrane Flux	129 gfd
SDI from SiC	<1.0

SDI VALUES SUMMARY

Location	Average SDI
Clarifier Effluent	17.04
Gravity Filter Effluent	13.44
SiC Effluent	0.44



SiCBLOX.com

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Bringing water to life