Running Springs
Running Springs, CA

OVIVO® MBR
ONE SYSTEM, MANY SOLUTIONS

PROJECT HIGHLIGHTS

- Commissioned April, 2003
- Domestic WW, CAS Retrofit
- Permit(s); Reuse
- 10/NA/2 (TN/TP/Turbidity)
- Municipal Fire Suppression
- MMF Capacity: 0.8 MGD
- $5.5/gal
- 4 FTE (Full-Time Employees)

"In operation for over a decade, this retrofit was the first EBPR MBR in the US."

PROJECT OVERVIEW

System Type(s):	Ovivo® MBR
Previous Facility Type:	CAS
Owner:	City of Running Springs
Engineer:	Engineering Resources
Contractor:	Gierlich Mitchell, Inc.
Operations:	City of Running Springs
Delivery Method:	DB
Time To Retrofit:	18 months
Total Installed Project Cost:	$4,400,000

DESCRIPTION

In 1999, the Forest Service advised The District of the need to upgrade the existing (CAS) WWTP. The District selected the Ovivo MBR System to upgrade the old plant in 2003. The plant was converted from a BOD only treatment process to the first enhanced biological phosphorus removal (EBPR) MBR in the US. The System includes a patented design integrating simultaneous nitrification and denitrification (SNdN) into the MBR zones. Since startup, the District has upgraded the plant by installing turbo fans and more efficient membrane units. Energy bills dropped off substantially following these upgrades. Waste biosolids are thickened, digested and dewatered before recycling in Mecca, California.

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PLANT DESIGN INFORMATION

Fine Screen Type :	Bar Screen
Aperture or Slot Size :	2 mm
Supplemental Aeration Technology :	Fine Bubble, Tubes
MBR Blower Type :	Turbo
Solids Management Data :	Aerobic Digestion, Belt Press
SCADA System :	RSView32
Disinfection Method :	UV
# Process Stages :	3

MBR (MEMBRANE ZONE) DESIGN

Filtration Mode:	Gravity
# of Reactors:	2
Submerged Membrane Unit (SMU):	RW300
# SMU:	8
Design Flux (MMF):	10.16 gfd
Minimum Temperature:	7°C
Peak Factor:	2.7
# of Maintenance Cleans:	10