fluence™

Global Water, Wastewater & Reuse Treatment Solutions

Ronen Barkan – N. America Business Development and Sales Directro

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New Water for New Mexico

fluence - Value from Water

Emefcy Value from Wastewater + RWL Water℠

Merging global innovators with a field-proven execution team to deliver breakthrough water technology solutions to the world

Formed in 2017

High-quality water solutions for potable and process water

Wastewater treatment for reuse in municipal, industrial and commercial sites

350 highly-trained water professionals

Experience operating in 70 countries

Offices at US, China, Argentina, Brazil, Israel, Italy and Dubai

Traded on the Australian Stock Exchange (FLC)

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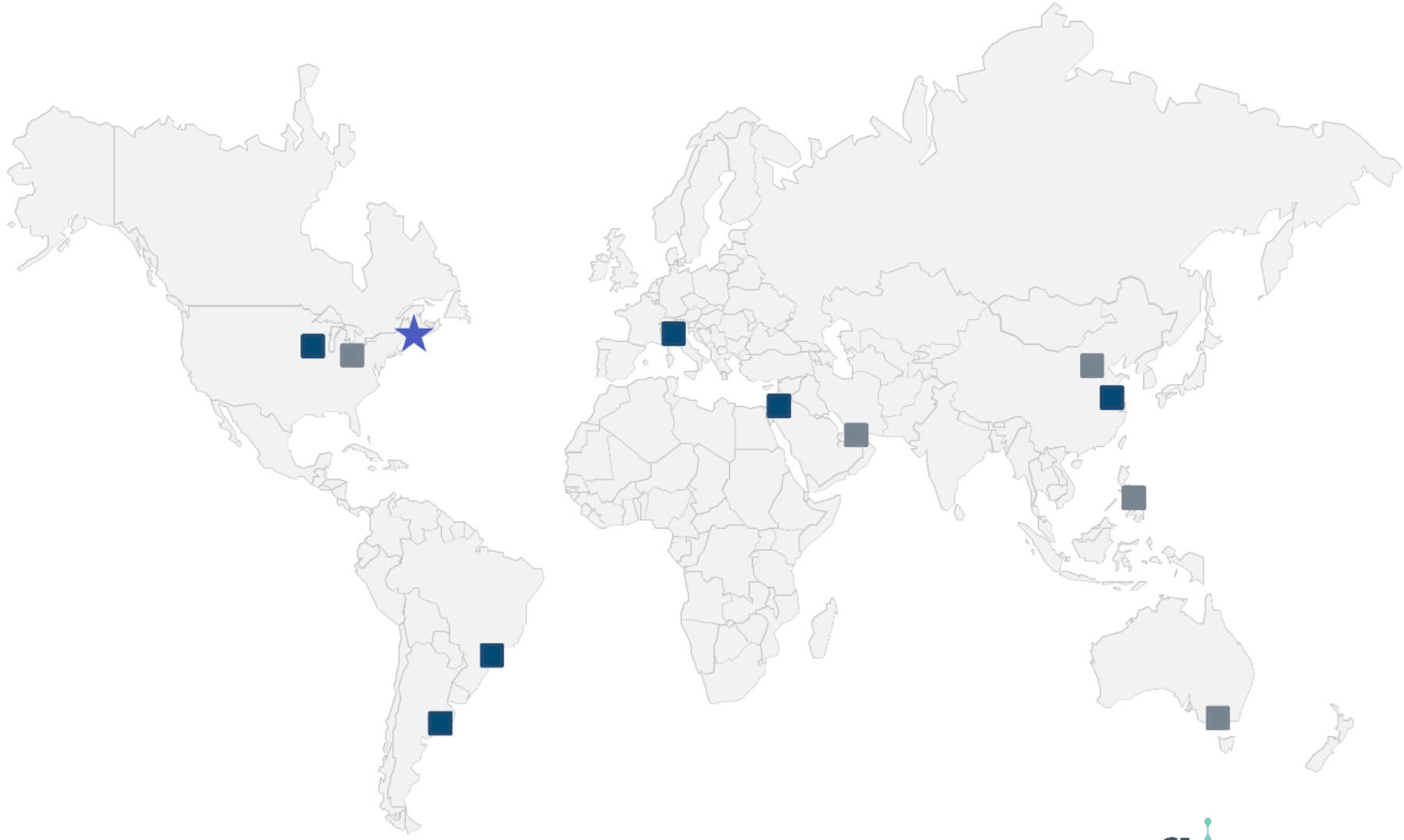
Global Presence

Headquarters
White Plains, USA

Operating Entities
Mar del Plata, Argentina
Jundíai, Brazil
Changzhou, Jiangsu, China
Caesarea, Israel
Padova, Italy
Minneapolis, USA

Regional Offices
Melbourne, Australia
Beijing, China
Shanghai, China
Karmiel, Israel
Dubai, UAE
Batavia, USA
Manila, Philippines



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Innovative Solutions

WATER TREATMENT | DESALINATION | WASTEWATER TREATMENT | WASTE-TO-ENERGY | REUSE | DECENTRALIZED TREATMENT

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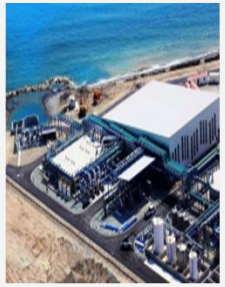
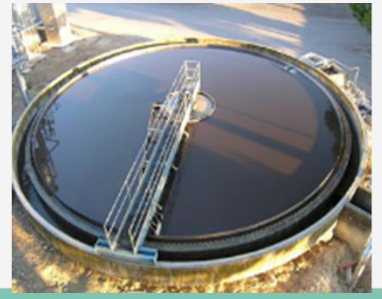
Installations Worldwide




>7,000 installations in >70 countries

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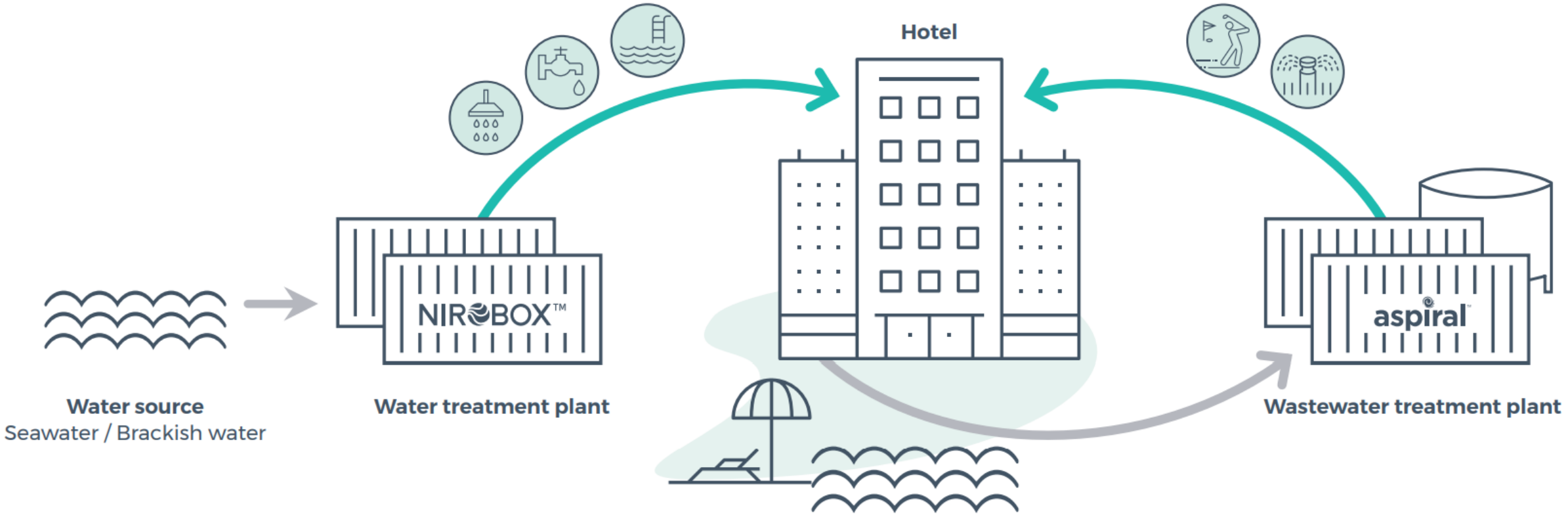
Water 360⁰



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Focus on Decentralized Systems

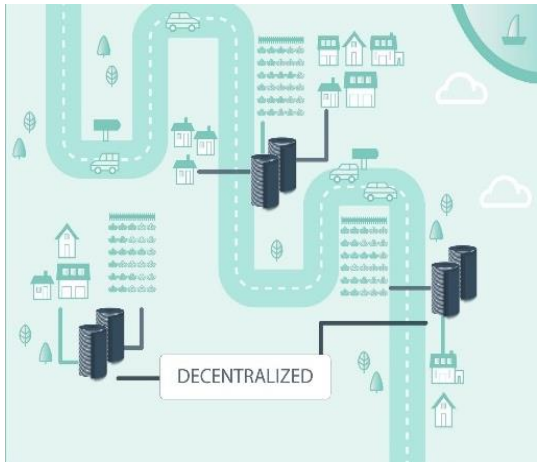
Urgent Need For Affordable, Fast-to-Deploy Solutions

Centralized

- ✘ 2/3 of CAPEX before the plant (piping, pumping)
- ✘ Expensive to maintain and upgrade
- ✘ No flexibility and scalability
- ✘ Mainly for well developed urban areas

vs.

Decentralized



- ✓ 1/3 of time-to-complete and lower, just-in-time CAPEX
- ✓ Capturing more value
- ✓ Scalable and customized to fit current needs
- ✓ Easy to upgrade and relocate

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Smart Decentralized modular Plants Accelerate Project Timeline

Modular plant expertise helps speed rollout:

- Packaged solutions minimize engineering per plant, allowing for handling of bulk orders
- Minimal civil works accelerates commissioning
- Smart operation avoids need for onsite staff
- Energy savings minimize customer OpEx, increase IRR

NIROBOX™

Modular seawater, brackish water or fresh water plant designed and built by Fluence, deploying globally since 2015

Aspiral™

Modular wastewater treatment plant designed and built by Fluence, deploying since 2017

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Water Source Economical Priority

Water Source	Use	Cost	Comments
Wastewater	Re-use for landscaping/golf Irrigation	Lowest	Requires purple pipe
Wastewater	Re-use for agricultural Irrigation	Lower	Requires purple pipe Requires education
Brackish water	Potable water consumption	Mid	Requires funding
Wastewater	Re-use for potable consumption	High	Requires Education Requires purple pipe
Sea water	Potable water consumption	High	Requires source

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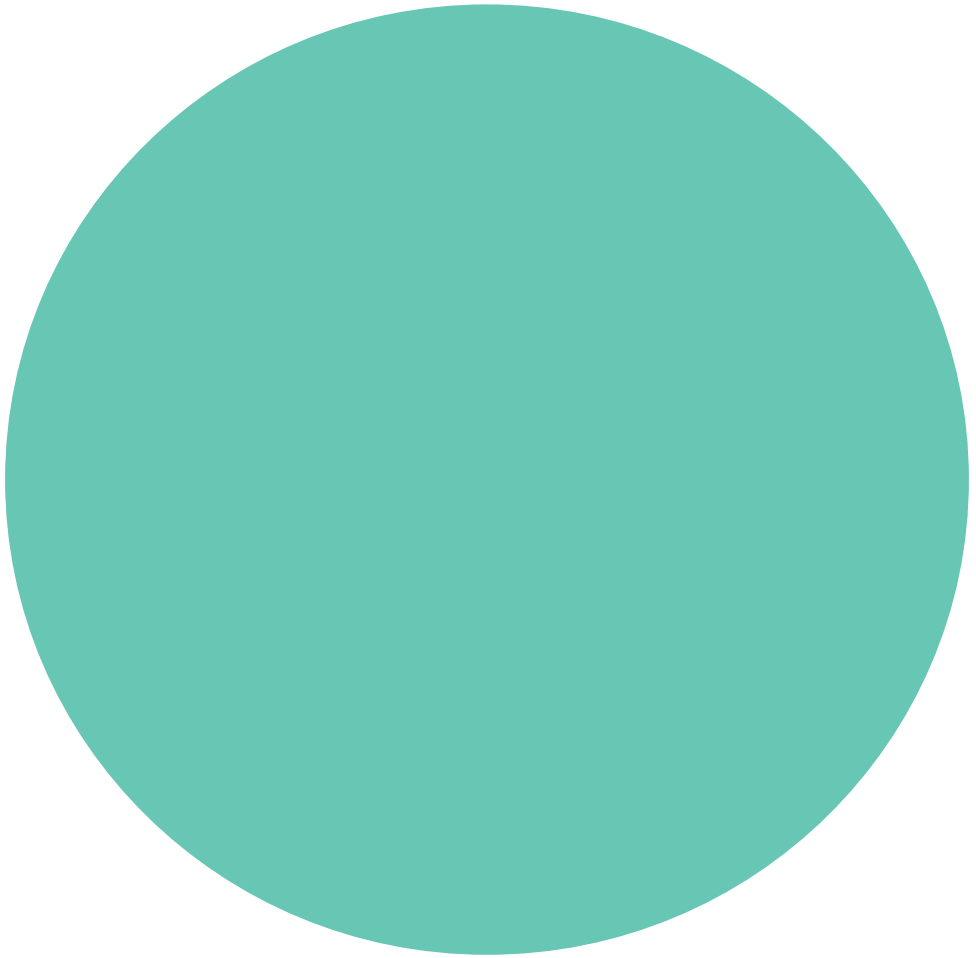
Case Studies & Applications



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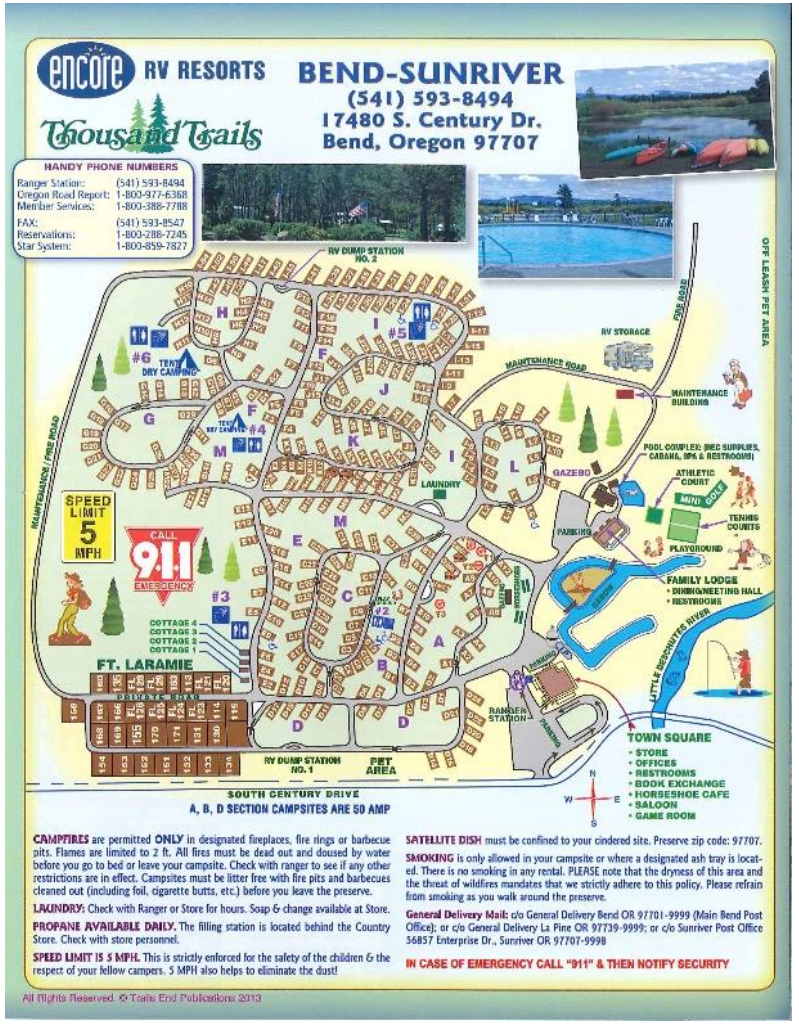
Thousands Trails RV Resort – La Pine, Oregon

Customer	Orenco (Equity Life Style)
Project	Integrate MABR modules into Orenco's FRP tanks in order to reduce the size of a I-fast based process and meet the stringent TN requirements at minimum energy and capital costs.
Capacity	18,000 GPD (Peak – 42,000 GPD)
Solution Overview	Install 4 x MABR, 2 Spiral modules into Orenco's FRP tanks and design the biological process as well as specify the auxiliary equipment supplied by Orenco and provide a PPG.
Results	• Integration of MABR modules took 2 days. • Installation time was reduced to less than a week • Expected process results (commissioning is expected in Oct. 2019): BOD < 10 mg/l TSS < 10 mg/l TN < 10 mg/l E. Coli - < 10 CFU



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SUBRE Retrofit, Mayan Zvi, Israel

Customer	Mayanot Ha-Amakim Water Utility
Project	The WWTP was designed to treat 2.4 MGD of municipal sewage in a conventional A2O process with two parallel reactor basins and clarifiers. The plant is expected to increase its' capacity by 17% to 2.8 MGD and reach the required effluent standards.
Capacity	2.8 MGD
Solution Overview	Design and installation of SUBRE modules to increase the plant's treatment capacity while maintaining the same effluent quality. The upgrade will reduce the specific energy consumption while adding 20% to the plant's Nitrogen removal capacity. The upgrade eliminates the excess scum in the clarifiers which is created by denitrification.
Results	• 1 month basin preparation work • 1 week for installation • Process results: TSS – 15 mg/l COD – 40 mg/l BOD – 10 mg/l TN 15 mg/l NH4-N – 4 mg/l NO3-N – 11 mg/l TP – 3 mg/l

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Pilot Plant at Codiga Resource Recovery Center

Location	Stanford, CA, USA
Project	Pilot plant for 3rd party evaluation
Design Parameters	○ Flow: 11 m^3/D (3,000 GPD) ○ Wastewater characteristics: Highly concentrated wastewater ○ Wastewater minimum temperature: 60^0 F
Raw waste water Influent	○ COD_t: 1,220 mg/l ○ TSS: 563 mg/l ○ TN: 100 mg/l ○ Phosphorous: 8.1 mg/l
Effluent Requirements	○ Phase 1 (Title 22): ○ Turbidity: 2 NTU ○ E. Coli: 2.2 MPN/100 ml ○ Phase 2 (MD Reg.): ○ TN: 3 mg/l ○ TP: 0.3 mg/l
Solution	**MABR**
Results	Met CA Title 22

BOOT Seawater Desalination for Hotel

Bimini, Caribbean

Client:
Rav Bahamas Limited

Project Type	Build, Own, Operate and Transfer (BOOT) project agreement for the supply of water for the Resorts World property including equipment supply, supervision during construction, operation, maintenance & services • Contract duration: 15 years
Capacity	3,000 m^3/day (0.79 MGD)
Application	Potable water: drinking water, irrigation, resort operations
Technology	• 3 X NIROBOX™-XL packaged seawater desalination units, each consist of: UF pretreatment, RO, ERD (Energy recovery), CIP. • Centralized post-treatment system composed of a remineralization unit and chlorination • Temperature controlled packaged NIROBOX systems
Highlights	Replacing an old SWRO plant at the Resorts World with the NIROBOX state of the art packaged SWRO units. The plant will be treating seawater from beach wells to provide potable water for drinking, irrigation and operations for the resort, including the newly built Hilton hotel, the local homeowner's association serving over 300 homes and condominiums. It will also serve the municipality of North Bimini.

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