

INTRODUCTION

An in-flight catering and commissary terminal needed a more advanced wastewater treatment system to replace their existing inefficient system that did not meet discharge requirements. CWT and its partners developed a solution which allowed the Client to not only reduce discharge costs, but to also provide for water re-use.



CHALLENGE



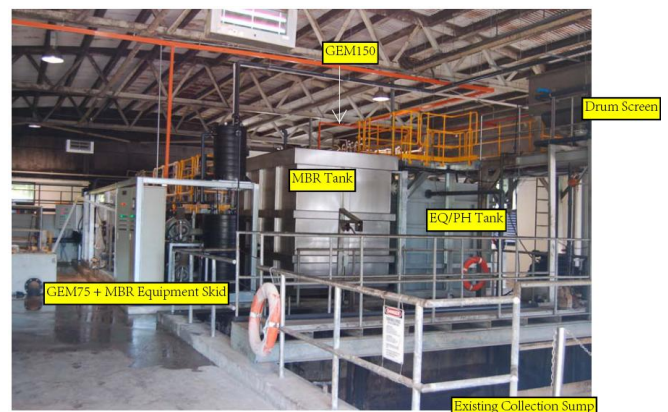
The previous system consisted of a traditional dissolved air flotation (DAF) followed by traditional activated sludge treatment. The DAF did not exhibit high enough removal efficiencies, which increased the overall cost for discharge. A new floatation system was required in order to meet the new treatment demand.

In addition to primary treatment, client required an expanded process which allowed the re-use of water within the facility. CWT needed to install a new series of products which delivered full re-use water in the footprint of the old DAF building.

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SOLUTION

- Replaced Existing DAF with **GEM System** for TSS and FOG Removal
- Installed a **Compact MBR System** for BOD Removal
- A **Skid Mounted RO Unit** was Implemented for TDS Reduction
- The GEM System **Doubled Flow Capacity**
- Expanded from Primary Treatment to Tertiary Treatment within the **Same Footprint**
- Re-used Water **Reduced \$300,000** a Year in Cooling Water Costs



BEFORE TREATMENT

- *BOD=1500~3000mg/l
- *COD=1800~4000mg/l
- *Oil & Grease= 300~1500mg/l
- *TSS = 1000~2500mg/l
- *TDS = 1000mg/l
- *pH = 4~7 (equalization= 6~7)

AFTER GEM+MBR

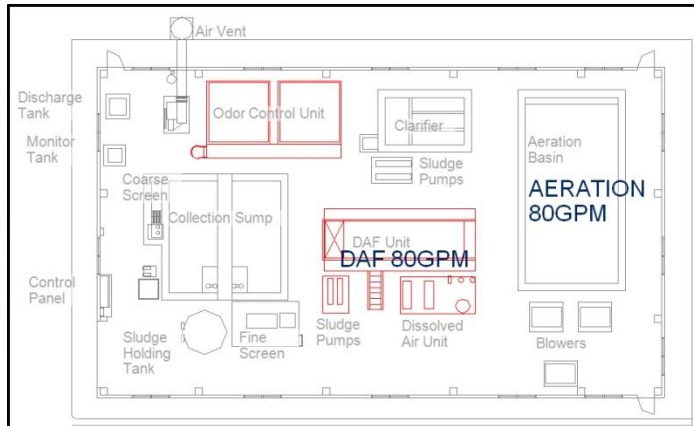
- BOD < 4 mg/l
- TSS < 1 mg/l
- COD < 65 mg/l
- TDS < 1200 ppm



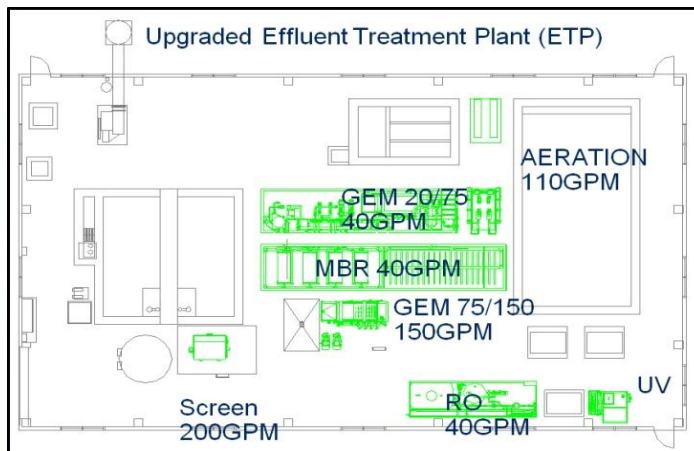
AFTER RO TREATMENT

- BOD < 1 mg/l
- TSS <= 0 mg/l
- TDS < 82 ppm

CWT's Full Wastewater Treatment Recycle Solution was able to help **ATS** meet their wastewater recycle needs. CWT was able to reduce the required footprint, provide easier operation, meet discharge requirements and reduce discharge costs, all while expanding a primary treatment system to a full recycle solution.



LAYOUT BEFORE UPGRADE



LAYOUT AFTER UPGRADE