

National Resources. Local Expertise.



WATERSIM™

Combining Forces to Provide Superior Water & Process Solutions



Apollo, Aqua Treat, Guardian CSC, and Weas Engineering, now unified as Apex, redefine industrial water and process solutions. We blend high-level expertise with a local, tailored approach to customer service. Beyond just being a provider, we forge true partnerships, ensuring the performance and reliability of your water systems. With Apex, expect more than solutions—expect a commitment to problem-solving and value at every turn.

Our Unified Strengths Expand Possibilities:

- ENGINEERED EQUIPMENT & SOLUTIONS
- DATA INSIGHT & REPORTING
- FLEXIBLE APPROACH
- PROCESS CUSTOMIZATION
- SUSTAINABLE PRACTICES
- COMPLIANCE PRECISION



The Apex Advantage

Integrated Offerings

Our approach to water treatment and process is all-encompassing. We deliver a spectrum of services, from comprehensive engineered equipment to innovative chemical solutions, ensuring your unique needs are met with precision.

Team-Driven Excellence

Working with your water provider should be personal and easy. Our team's dedication is the key to your operational success, providing industry insights, extensive training, and meticulous water system management for your complete satisfaction.

Problem-Solving Agility

We recognize the uniqueness of your challenges. Our ability to swiftly adapt enables us to offer solutions that are specifically customized for you. With our flexible strategy, we efficiently solve problems and deliver effective solutions.



ADVANCED WATER MODELING

Water is more complex than most realize.

Flows, pressures, temperatures and chemistries all play significant roles in system sizing, operational costs and long-term operability. All too often, the effort to model an entire production facility's water system never takes place. Or, if it does, it's simplified down to just a water balance with flow rates. Failing to take everything into account ends up putting projects and owners at risk of not having a system that will work effectively.

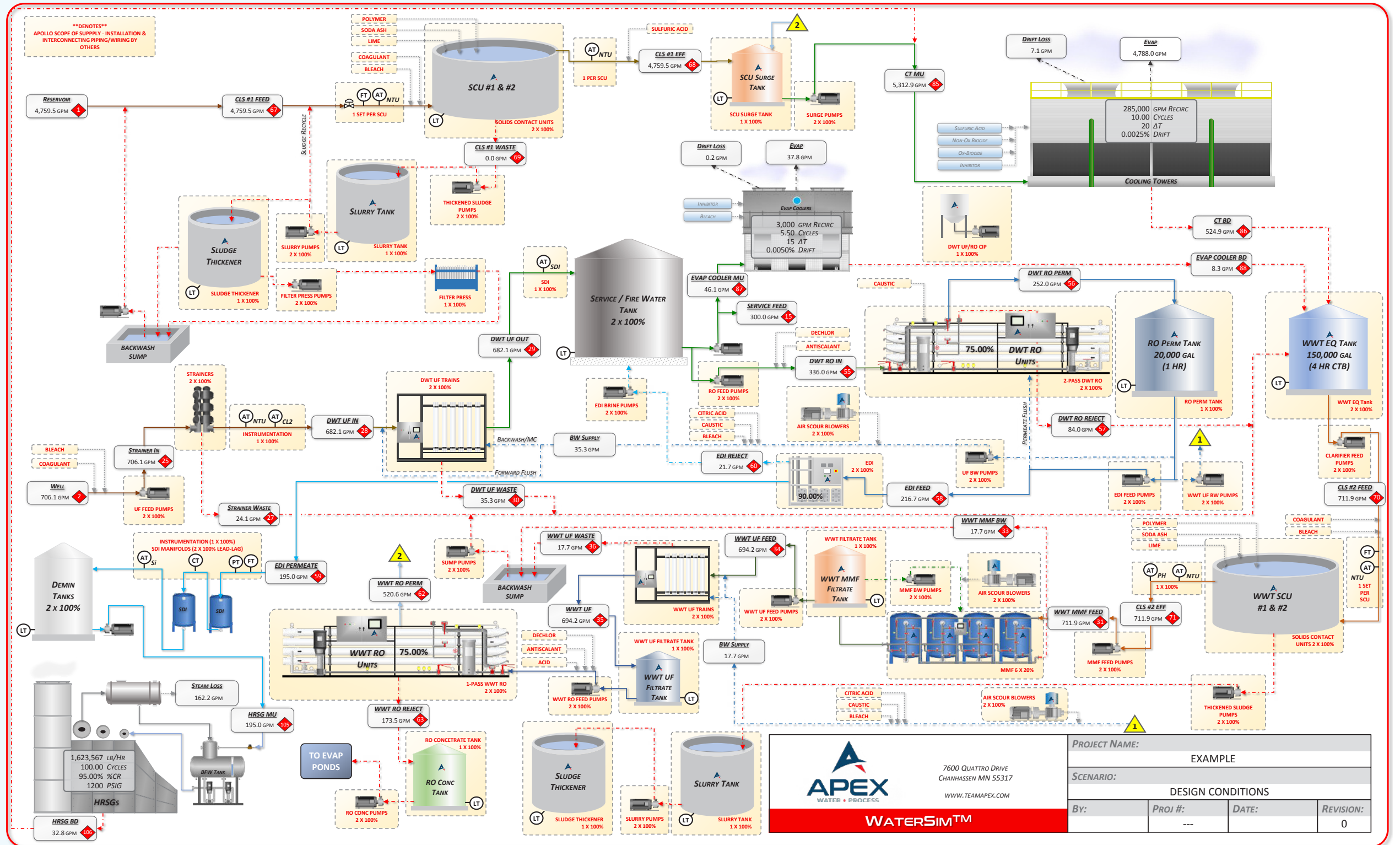
Apex has addressed the historical deficiencies in water modeling by developing WaterSim—the industry's most advanced water simulation software.

WaterSim is unmatched in its ability to provide answers to the following:

- **How big do the systems need to be?**
Don't over/under size equipment.
- **How much will it cost?**
Estimate CapEx and OpEx for variety of "What-if" scenarios.
- **Will the systems be able to operate?**
Predict the chemistries to prevent scale, corrosion and fouling.
- **How do we improve?**
Identify how to save water, energy, manpower and chemical usages.
- **Will we be able to discharge the water?**
Provide visibility to AHJ on estimated flows and compositions.

FLOW & QUALITIES THROUGHOUT PROCESS

PARAMETER	UNITS	1 Reservoir
Conductivity	µmhos/cm	932
LAB TDS	ppm	
Calculated TDS	ppm	606
pH	---	8.31
Temperature	°F	55.0
Temperature	°C	12.8
TSS	ppm	4.60
TOC	ppm	
BOD5	ppm	
P-Alkalinity	ppm as CaCO ₃	
M-Alkalinity	ppm as CaCO ₃	250
Bromide	ppm as Br	
Chloride	ppm as CL	234.0
Fluoride	ppm as F	2.00
Nitrate	ppm as NO ₃	3.1
Nitrite	ppm as NO ₂	
Total Phosphate	ppm as PO ₄	3.2
Sulfate	ppm as SO ₄	46.8
Silica	ppm as SiO ₂	
Calcium Hardness	ppm as CaCO ₃	200.0
Magnesium Hardness	ppm as CaCO ₃	75.0
Aluminum	ppm as Al	0.100
Arsenic	ppm as As	0.002
Barium	ppm as Ba	0.059
Beryllium	ppm as Be	0.003
Boron	ppm as B	0.255
Cadmium	ppm as Cd	0.003
Chromium	ppm as Cr	0.000
Cobalt	ppm as Co	0.024
Copper	ppm as Cu	0.013
Iron	ppm as Fe	0.147
Lead	ppm as Pb	0.001
Manganese	ppm as Mn	0.024
Mercury	ppm as Hg	0.002
Molybdenum	ppm as Mo	
Nickel	ppm as Ni	0.004
Potassium	ppm as K	
Selenium	ppm as Se	
Sodium	ppm as Na	
Strontium	ppm as Sr	
Thallium	ppm as Tl	0.001
Tin	ppm as Sn	
Titanium	ppm as Ti	
Vanadium	ppm as V	
Zinc	ppm as Zn	0.038



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