

# Retrofitting your old Concrete Water Tank



**CONCRETE TANK SERVICES**

# Safety & Security



# Retrofit – Safety/Security/Access Upgrades



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Beautify

# Rehabilitation - Aesthetics





# Rehabilitation - Aesthetics



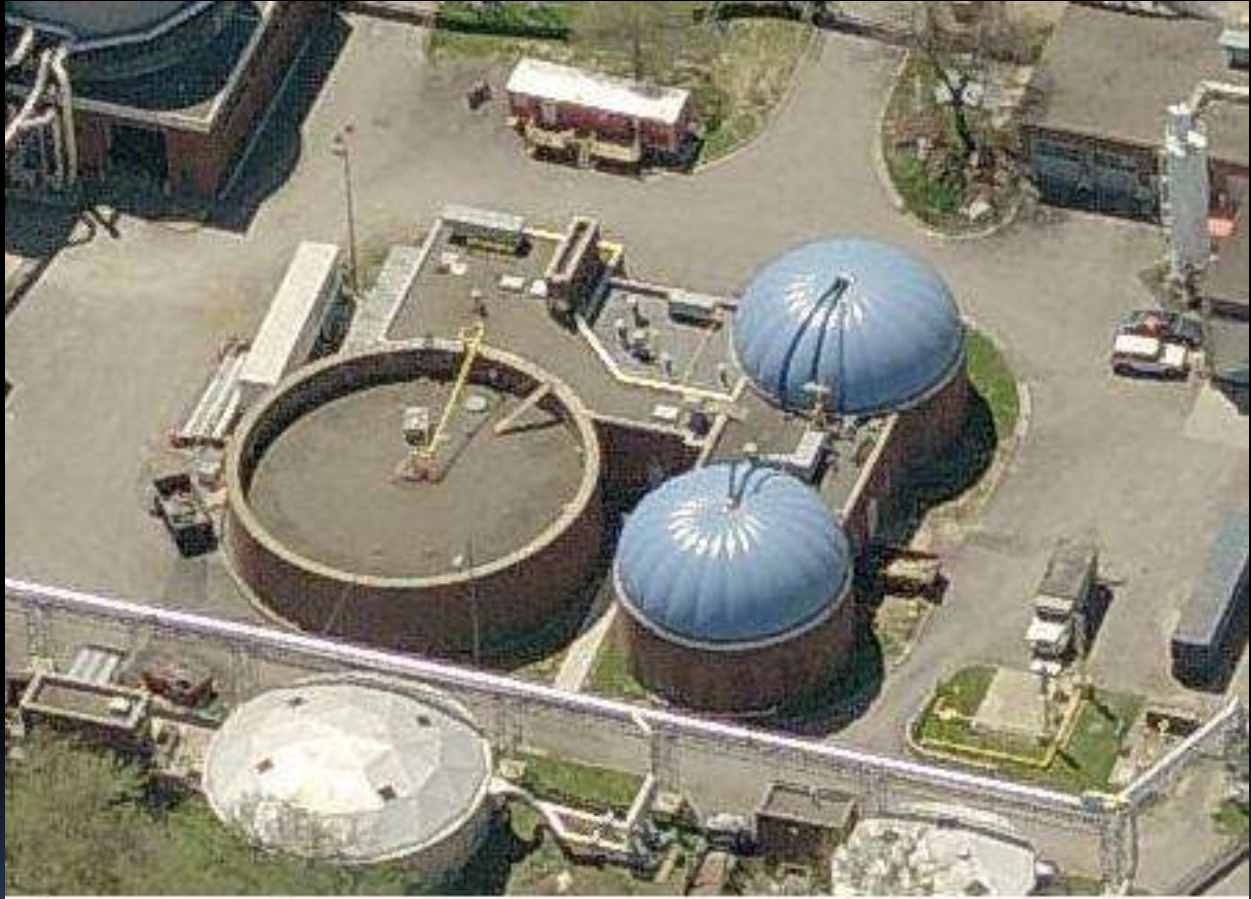
New Technology

# Rehabilitation - Repairs



- Response to Change in Clients Needs





# Water Quality Upgrades

# Concentric C Baffle



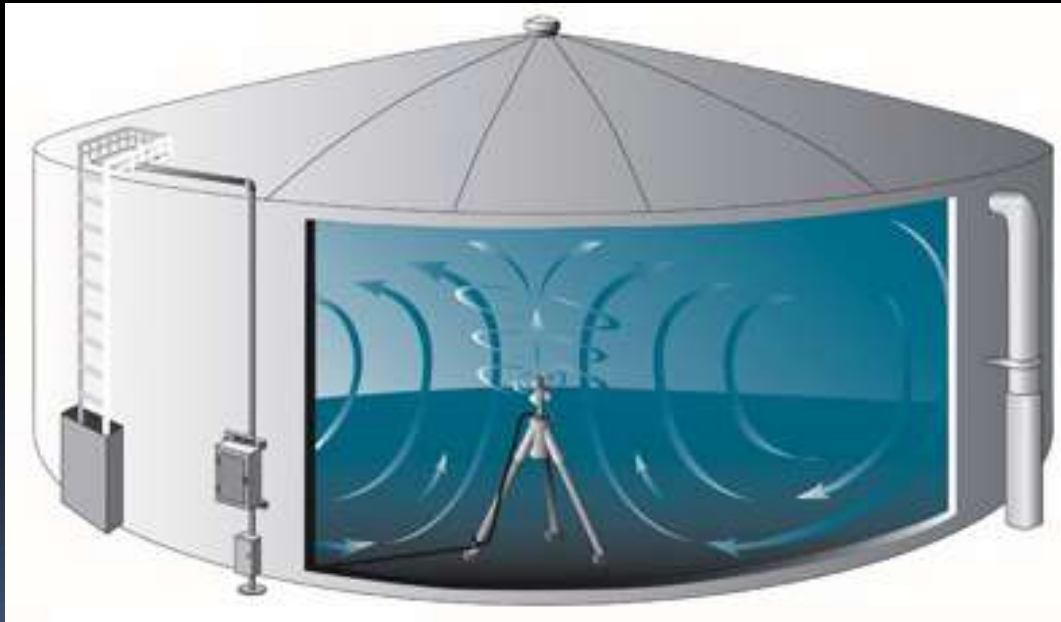
# Retrofit – Water Quality





# Mechanical Mixing System

- Can require a small amount of power to operate
- Fast, cost efficient installation



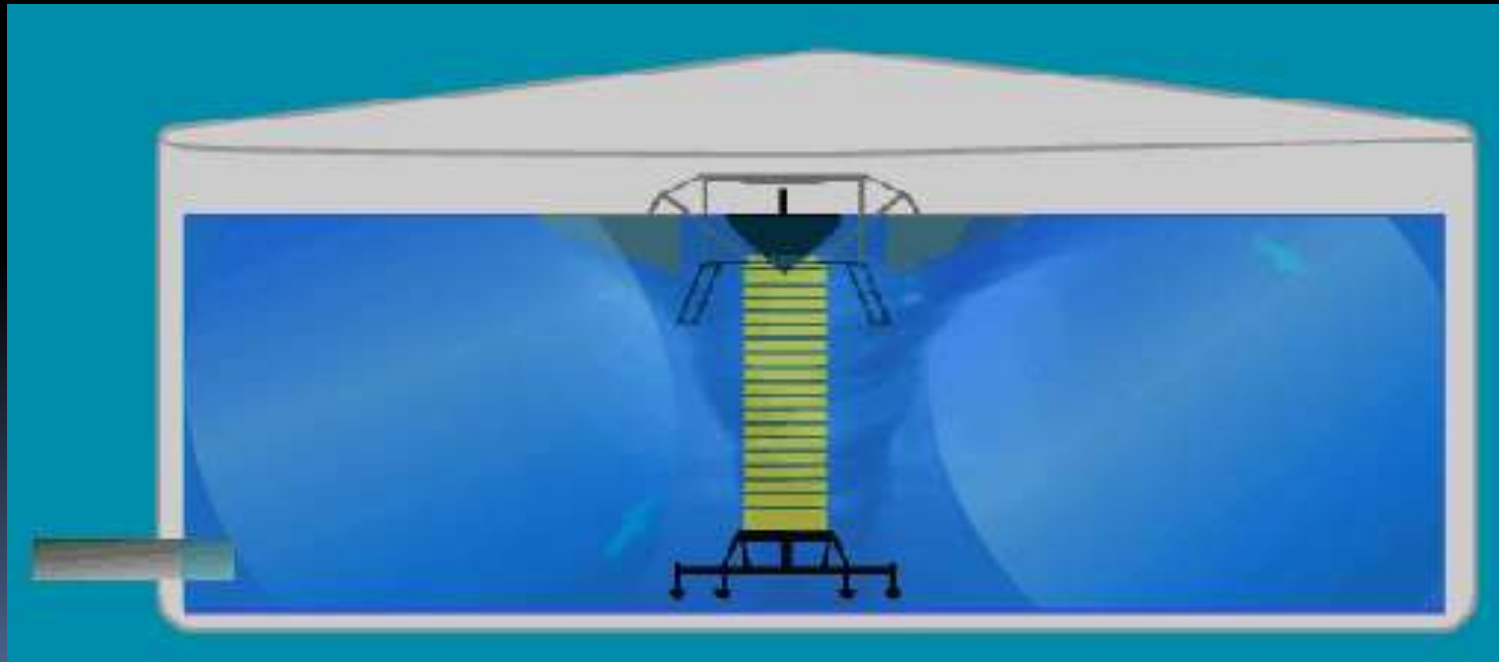
PAX Water Technologies



PAX Water Technologies

# Mechanical Mixing System

- Prevents stagnation, thermal stratification, nitrification and short circuiting.
- Provides complete mixing of influent and outflow.
- Can be solar powered.

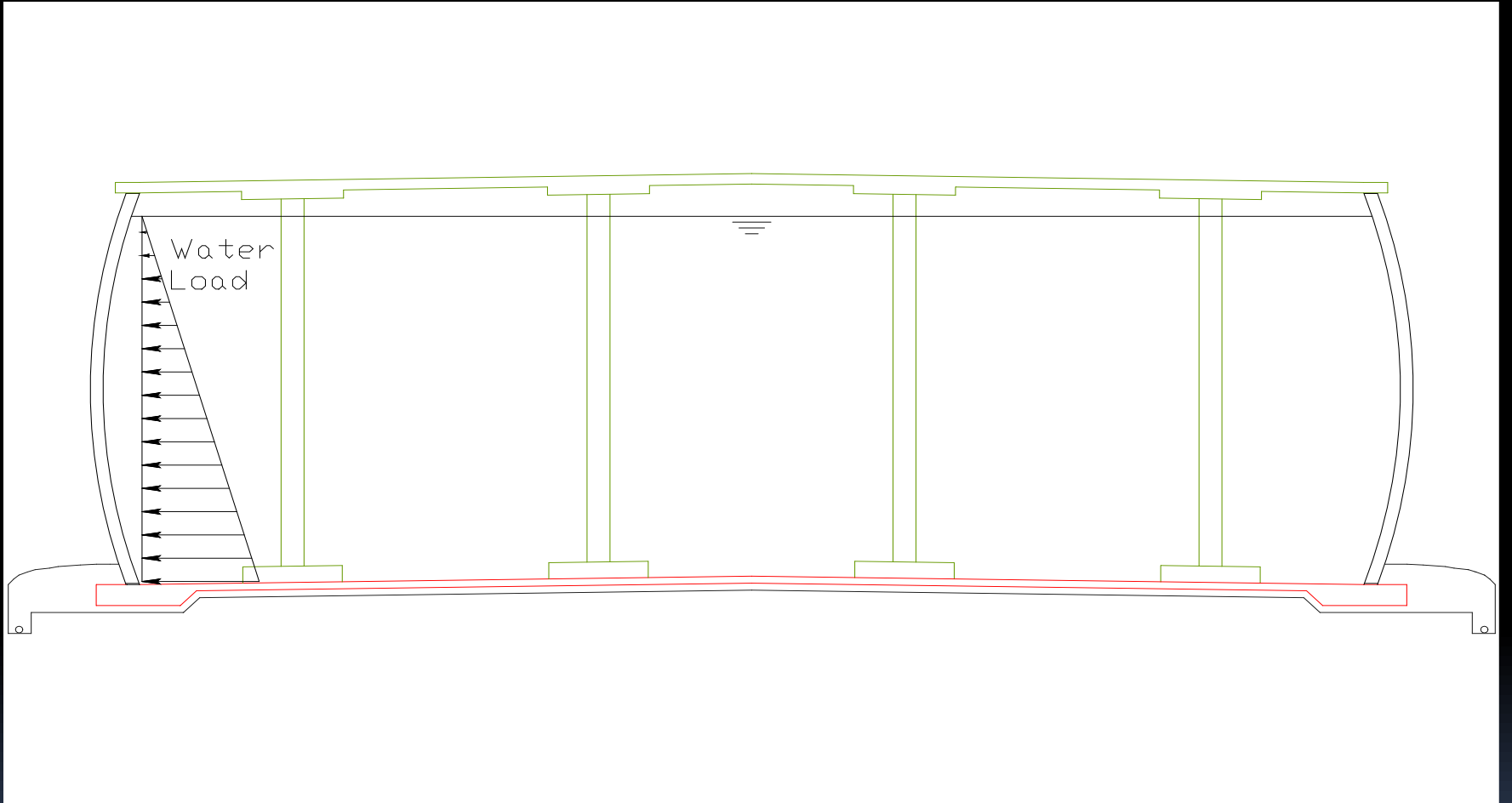


- Examples of Rehabs

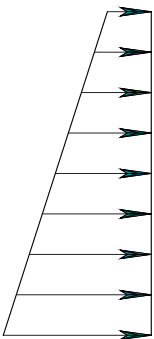
Understanding the  
design of your tank

Fixed or Free  
Base  
Connection?

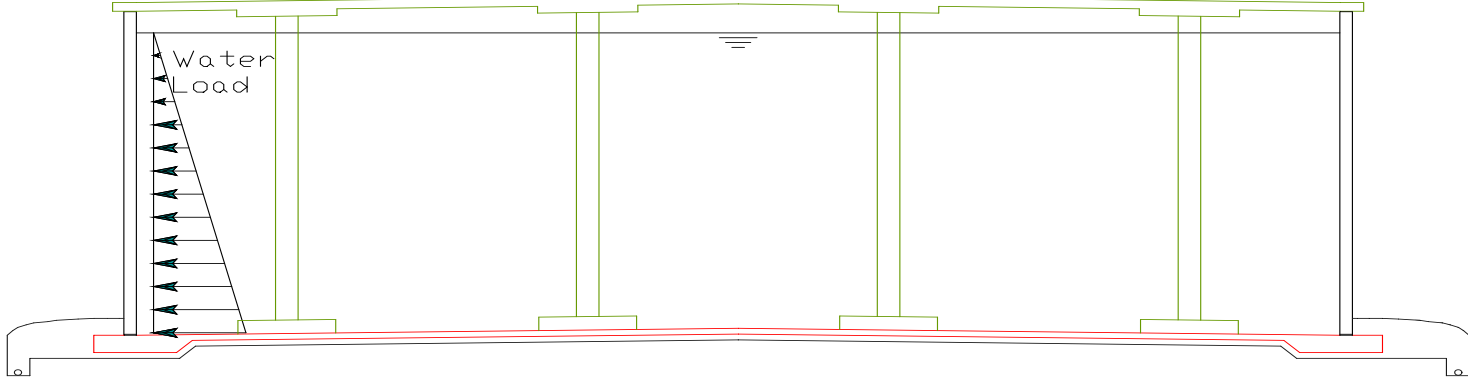
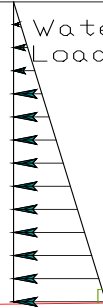
How will each  
handle the load?



Prestressing Force



Water Load





# Seismic Upgrade to a Reinforced Concrete Tank













Key to a good rehab is  
Preparation

# Rehabilitation - Repairs



# Rehabilitation - Repairs











## 0.75 MG Bolted Steel Reservoirs

Location: Cincinnati, OH

Problem: Leaking of concrete riser and insufficient structural steel

Calcium stains and leaking  
due to insufficient structural  
reinforcement



Hydraulic valve control  
system penetrations through  
wall - leaking



## 3 x 0.75 MG Bolted Steel Reservoirs



Lay out of unbonded cable system



0.6 diameter galvanized cables installed with friction pads, ready for stressing

## 3 x 0.75 MG Bolted Steel Reservoirs



Stress application of 0.6 diameter galvanized strand. Layout and force requirements by DYK Engineering.



Spalded area due to corrosion



Same area patched after sandblasting and prep for non-shrink cementitious material

# Engineering – Design Support Services

- Technical Assistance
  - Evaluate Deficiencies
  - Make Recommendations Based on Experience
- Specifications & Details
  - Provide Technical Specifications & Details
  - Contractor Qualifications
- Project Execution
  - Experienced Concrete Tank Inspection/Rehab/Retrofit Specialist

Questions?