NEW BELGIUM BREWING COMPANY BREAKS CONVENTION BY SELECTING ANAEROBIC MEMBRANE BIOREACTOR TECHNOLOGY

Brewery taps innovative technology for treating wastewater

### Customer Goals:
- Environmental stewardship
- Exceeding treatment requirements
- No disruption to surrounding environment, including neighborhood, light emissions, noise

### The Brewery's Requirements:
- On-site wastewater treatment plant - phased approach
  - Phase I: EQ tank and pH adjustment
  - Phase II: Biological treatment, reducing organic load to sewer
- Digest spent hops and yeast to increase biogas production, and lower disposal costs
- Turndown capability
  - Regular seasonal variation
- Exceed treatment requirements
  - Not just meet compliance requirements, but align with corporate policies on environmental sustainability and social responsibility

### The Solution:
Evoqua's ADI Systems Anaerobic Membrane Bioreactor (AnMBR) Technology

- Combines anaerobic digestion and membrane filtration in a single treatment stage
- Best suited to treat wastewater containing high concentrations of BOD/COD and TSS
- Treats entire organic load from brewery including solids
- Achieves very low BOD, zero TSS in effluent

### The Results:
- No hauling raw solids
- COD effluent average - 150mg/l - (98.3% removal)
- BOD effluent average - 20mg/l - (99.5% removal)
- TSS effluent average - 2mg/l - (99.0% removal)
- No surcharges - effluent quality exceeds all permit limits
- Consistent treatment efficiency
  - Best quality anaerobic effluent
  - Single stage process
  - Simplified operations
- Overcomes challenges in high-rate system
  - No upstream solids separation
  - No requirement of granular sludge
  - No biomass washout
- Small footprint and little noise, odor and light emissions

New Belgium Brewing adhered to their core values on environmental stewardship