Existing Conditions

» No major improvements since mid-1980’s
» Deferred maintenance from lack of funding
Existing Conditions

» Ineffective three train split
» No ability to measure or control solids balance
Overall Process Flow
» Dual screening
» Multi-tray grit removal
» Pros and cons
IFAS & MBBR

» Integrated Fixed Film Activated Sludge (IFAS)
  ▪ Suspended-growth biofilm systems that incorporate fixed or free-moving biofilm carriers with high surface area

» Moving Bed Biofilm Reactor (MBBR)
  ▪ Same concept as IFAS except that return activated sludge is not part of the process
IFAS Process

FLOATING MEDIA

INFLUENT

RETURN ACTIVATED SLUDGE

CLARIFIER

TREATED EFFLUENT

WASTE ACTIVATED SLUDGE

Image courtesy of www.degremont-technologies.com
MBBR Process

FLOATING MEDIA

Image courtesy of www.degremont-technologies.com
Filter Selection

» Conventional Coagulation - Flocculation - Filtration for TPWQBEL

» Inside/out
  ▪ Backwash method

» Media types

» Potential for EF treatment
Filter Selection
Filter Selection
Cyclic Anoxic/Aerobic Digestion

» Sequencing AX/AR in time
» DO/ORP Control
» Solids reduction/oxygen reduction/alkalinity recovery
Class A/Class B Dewatering

» Conventional screw press
» Alkaline stabilization/pasteurization
» Flexibility
Cyclic Anoxic/Aerobic Digestion
Cyclic Anoxic/Aerobic Digestion
Class A/Class B Dewatering

» Class A without pressing
Class A/Class B Dewatering

» Class B without alkaline
Class A/Class B Dewatering