MWEA BIOSOLIDS CONFERENCE

Clemens Food Group WW TP
Coldwater, Michigan
WHO WE ARE

• Traditional General Contractor
• 3rd Generation
• Incorporated in 1963
• Established in the WWTP industry for nearly two decades!
• Completing over 100 projects in this same industry
• Self-performing on average 70-75% of our projects.
• One of the only contractor members of MWEA

WE ARE
GENERAL CONTRACTORS
SELF-PERFORMING
for over 55 YEARS!
CFG WW PRE-TREATMENT

Create Jobs | Environmentally Conscious | Lower Operating Costs
• 6th Generation Pennsylvania Company
• Serving the community for over 120 years
• Incorporating hog farming, food production, logistical services and transportation
• Building state-of-the-art facility to serve the Midwest
• Creating 800+ jobs for the area!
• Deep rooted core values:

Ethics Integrity Stewardship
THE PORK WASTEWATER PROCESS

- Processing 11,000 hogs per shift
- Main processing plant incorporates rendering
- Wastewater Pre-Treatment Plant
- 30% Water Reuse
Maybe next time you’ll try a little sunscreen…
SELECTING LDD

- Pork processing plant was a Design-Build project from the start
- Design-Builder Gray Construction
- Splitting off WW Pre-Treatment Plant
- Schedule and budget drivers

Process Waste?

GRAY  LDD

SCHEDULE + BUDGET = F P D B

Fixed-Price Design-Build
18 MO. TURN KEY PLANT

- 1.5 MGD Max Plant Capacity
- 3,500 cy of concrete poured
- 276 tons of rebar installed
- 13,500 sf metal building erected
- 3,600 lf of underground piping
- 25 Equipment Containers

9.1.2017 | Final Completion
8.21.2017 | 12-Day Buffer
6.3.2016 | Final Design
3.1.2016 | Initial Design
2.25.2016 | Contract Finalized
STARTUP | ALL SYSTEMS GO

- Pre-Treatment and Screening
- Chemical DAF – bypass 2
- Aeration Train #1
- Aeration Train #2
- Water Reuse
TECHNOLOGY

- Influent maximum 1.5MGD
- COD range 3,000mg/l to 8,000mg/l
- Phosphorus ~ 30mg/l
- Ammonia ~80mg/l
- DAF Clarifiers
- Sand filters
- Buffer tank

- (2) each 132’ Diameter aeration tanks
- Re-use tank

up to 35% COST SAVINGS
SOLIDS HANDLING

PROCESS

CENTRATE TO BUFFER

DECANTER CENTRIFUGE

CHEMICAL SLUDGE

DECANTER CENTRIFUGE

WASTE ACTIVATED SLUDGE (WAS)

FLOCCULANT

HAND FED BAGS

BIG BAG FEEDER

FLOCCULANT

SEDIMENT SEPARATOR

SLUDGE BUFFER TANKS

EMERGENCY SLUDGE DISCHARGE

A Win Win Win | L.D. Docs Associates, Inc.
**SEDIMENTATION**

-100% footprint
-100% equipment + civil costs
-100% excess sludge flow
-100% operating costs

**FLotation FBR**

-25% footprint
-25% equipment + civil costs
-80% excess sludge flow
+15% operating costs

**FILTERATION MBR**

-60% footprint
+80% equipment + civil costs
-33% excess sludge flow
+40% operating costs
UNIQUENESS

• Turbo Blowers
• Turbo Mixers
• DAF
• Dry Polymer
WATER CLARIFICATION

- 300,000 gallons reuse water needed
- No pressure filter or membrane
- Utilization of sand filters
- Chlorination by NaCl
- Media sand shipped from Europe
THE BRAIN

- 30’ SINGLE piece control panel
- Air freight from Europe
- Containing 80% power distribution
- 6 Month design phase
- Arriving on-site July, 2017 – Yes, 1 month prior to startup!
70% SELF-PERFORMANCE

- Earthwork
- Site piping
- Concrete
- Metal Building
- Carpentry
- Process equipment
- Process piping
- Miscellaneous metals associated with equipment
AERATION TANK DESIGN

DOWLING NOT REQUIRED
UNDERGROUND PIPING

- Prefabricated in Netherlands
- Stainless Steel Piping
- 3,600 lf installed under building floor
- Modeled in ACAD
- Site adjustments
IMPORT CHALLENGES

- Containers
- Duty Tax
- Importing
- Instructions

25 equipment container deliveries
BIOSOLIDS

- Pretreatment
- Truck Wash
- Hog Pens
- Bio and Chemical Sludge
- End goal to land apply

BIOSOLIDS

- Pretreatment
- Truck Wash
- Hog Pens
- Bio\Chem
• Approximately 10 tons/day of wood chips and manure
• Fats, Oil, Grease (FOG)
• Transforms to usable products
• 1 Ton/Day of wash-down pen water
• 40 Tons/Day WAS and Chemical DAF sludge
• All are currently sent to a landfill
SUCCESS

• Win for the City
  ✓ City gains a great client sensitive to water and wastewater needs.
  ✓ Creating 800+ new jobs for the area

• Win for Clemens Food Group
  ✓ Fulfilling the need to serve the Midwest
  ✓ Low cost system for pretreatment

• Win for L.D. Docsa Associates, Inc.
  ✓ Showcasing our expertise in a successful Fixed-Price Design-Build project with 70% self-performance
  ✓ Provided a gateway to the industrial market

54% Trying Alternative Delivery Methods
30-33% Faster Completion
Accepted by most major funding sources!
THANK-YOU

• Thank-you Clemens Food Group for giving us this opportunity and being an awesome Owner!
• Thank-you MWEA for giving us this platform to share the success of this project with others!
• Thank-you to our partners for assisting in delivering a smooth project timeline with top notch performance!
• And most of all, thank-you to our crew for taking on the challenge and once again, completing the work on time and on budget, with outstanding results and client satisfaction!

That’s all Folks!!