HUDSON, WISCONSIN

WASTEWATER TREATMENT PLANT
2020 Improvements Project Update

May 11, 2021 – WWOA West Central District Meeting

Kip Peters - Hudson
Joe Intihar - Hudson
Caleb Weber - SEH
John Friel, PE (WI) - SEH
Presentation Outline

• Plant History & Overview
• Current Project Summary
• Drone Video
• Construction Updates and Photos
• Questions and Answers
Brief History of Major Hudson WWTP Improvements

- 1950s Original Hudson Wastewater Treatment Plant (WWTP) Constructed
- 1982 Treatment Plant Upgrade (1.1 mgd)
- 1996 Charter Member – West Central Wisconsin Biosolids Commission – Biosolids to Ellsworth
- 1998 Treatment Plant Upgrade (2.2 mgd and Phosphorus Removal)
- 2020 Treatment Plant Improvements
Hudson WWTP Plant Info

Treatment: Activated Sludge with Biological Phosphorus Removal

Permitted Flows:
- Average: 2.2 mgd
- Peak: 4.8 mgd

Permit Limits:
- CBOD$_5$: 25 mg/L
- TSS: 30 mg/L
- TP: 1 mg/L
- Ammonia-N: 34 mg/L
- Mercury: 6.8 ng/L
Hudson WWTP Plant Info

Existing Treatment Process Units:

- Static Screens
- Aerated Grit
- Anoxic Selector & Aeration Tanks
- Rectangular Final Clarifiers
- Chlorine Contract Tank
- DAF Sludge Thickening
- Anaerobic Digestion
- Centrate Storage Tank
Hudson WWTP Plant Info

- North of I94
- Hwy 35 / 2nd St.
- Outfall to St. Croix River
Planning and Design

1. Condition Report – 2018
2. Facility Plan – July 2019
   • Remain at existing WWTF
   • Improvements to extend life at permitted flows and load
3. Design to DNR – Sept 2019
4. Bid – Spring/Summer 2020
5. Construction
   • Start – Summer 2020
   • Completion – Spring 2022
Hudson WWTP 2020 Improvements

Major Project Components
1. New Preliminary Treatment System
2. Rehab Sludge Thickening System
3. New UV Disinfection System
4. Other plant wide improvements
Operator Insights

• Design Input
• Construction Impacts
• Interim Treatment
Construction Updates

• Existing Garage Partial Demo
• New Pretreatment Building
• Plantwide Rehab
  – New Turbo Blower
  – Aeration Tanks – Replacement of fine bubble diffusers
• Existing Chlorine Contact Tank Demo/Repurpose
• New UV Disinfection System
Garage Partial Demolition
New Pretreatment Building

- Excavation and Pilings
New Pretreatment Building

- Concrete Work
New Pretreatment Building

- Concrete Work
Plantwide Rehab

• New Turbo Blower
Plantwide Rehab

- Aeration Tank Piping and Diffuser Replacements
Chlorine Contact Demo
New UV Disinfection
Questions?

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