

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:

CBOD₅ 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 Contact 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



AERIAL OF HUDSON WASTEWATER TREATMENT PLANT



HUDSON WASTEWATER TREATMENT
PLANT CONDITION ASSESSMENT
HUDSON, WISCONSIN

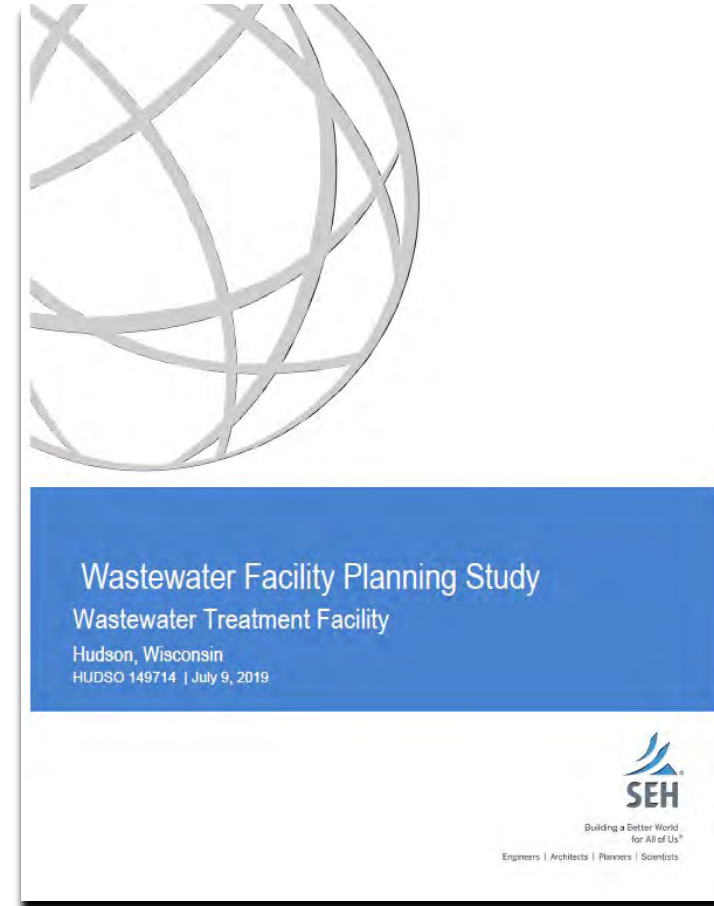
FILE NO. HUDSON 14732
CITY PROJECT NO. 6/14/2018
ISSUED DATE

SHEET TITLE
HUDSON WWTP
AERIAL SITE PLAN

Figure
1

Planning and Design

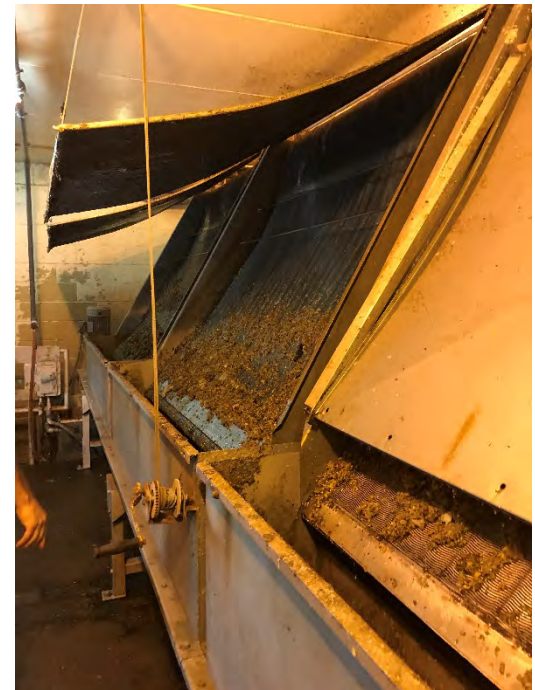
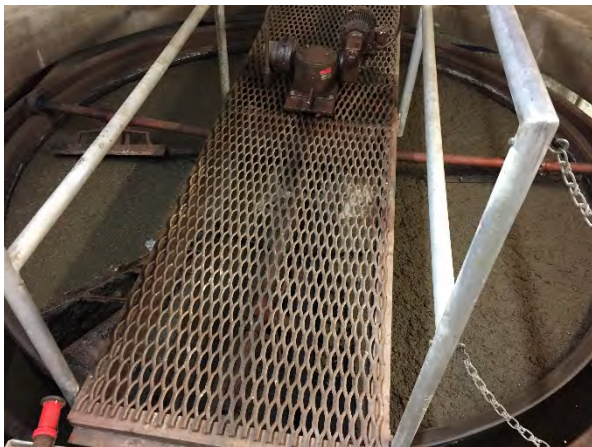
1. Condition Report – 2018
2. Facility Plan – July 2019
 - Remain at existing WWTF
 - Improvements to extend life at permitted flows and load
3. Design to DNR – Sept 2019
4. Bid – Spring/Summer 2020
5. Construction
 - Start – Summer 2020
 - Completion – Spring 2022



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



Hudson WWTF - Drone Video



SEHINC.COM/DRONES

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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