

**Lake Huron Water Treatment Plant, Raw Sludge Clarifier and Raw Sludge Pumping System**

- Innovation
- Water MP Right Sizing
- Reliability/Redundancy
- NEWTP Repurposing

**Project Status** Active

Raw sludge clarifier at  
Lake Huron WTP



**CIP Type** Project

**Project New To CIP**

**Project Engineer/Manager** Todd King

**Budget** Water

**Manager** Grant Gartrell

**Class Lvl 1** Water

**Managing Dept** Water Eng

**Class Lvl 2** Treatment Plants and Facilities

**Date Original Business Case Prepared** 8/7/2015

**Class Lvl 3** Lake Huron

**Year Project Added to CIP** 2016

**Location** Saint Clair County

**Fund and Cost Center** Water - 5519-882111

**Project Significance** This project will provide a study and design on the structural integrity, capacity and performance requirements for pumps and piping to meet maximum design flows. The construction services will re-construct the raw sludge clarifiers and sludge pumping and conveyance system to meet the plant demands for pumping and conveying raw sludge to the existing lagoons.

**Scope of Work** The sludge clarifier is integral to the backwash water treatment system and the walls of the clarifiers are severely bowed and in the process of failing. If the clarifier and backwash tank fail, the ability to backwash the Lake Huron WTP filters will be lost and result in the loss of the Lake Huron WTP to the system until a temporary bypass can be arranged.

**Challenges** Improvements will require coordination with plant operations (filter backwashing).

**Project History** The clarifier/backwash structure is original to the plant. The tank walls appear to have been inadequately designed and/or constructed to withstand the loading of the surround soils.

**Related Project** This project is being designed by Brown & Caldwell under Contract No. CS-171.

**Lookup Driver** 1 - Condition

**Other Important Info** This project should be completed prior to cessation of treatment at the Northeast WTP.

**Explanation** Not provided.

**PM Weighted Score**

**62.2**

Criteria	Score	Comment
Condition	5	
Efficiency and Innovation	1	
Financial	1	
O&M	4	
Performance (Service Level/Reliability)	5	
Public Benefit	1	
Public Health & Safety	3	
Regulatory (Environmental/Legal)	3	

**RC Weighted Score**

**53.2**

Criteria	Score	Comment
Condition	5	
Efficiency and Innovation	1	
Financial	4	
O&M	2	
Performance (Service Level/Reliability)	5	
Public Benefit	1	
Public Health & Safety	2	
Regulatory (Environmental/Legal)	1	



Lake Huron Water Treatment Plant, Raw Sludge Clarifier and Raw Sludge Pumping System

**Phase** GLWA Employees Project management

**Contract** NA

**Status** Active

**Title** GLWA Salaries

**Phase Budget**

**Phase Status**

**Start Date**

**End Date**

**Cost Allocation**

**Funding Source**

**Fund**

**Useful Life >20Yrs?**

**Tot. Federal Loan Amount**

**Cost Estimation Information**

**Cost Est. Class**

**Cost Est. Date**

**Cost Est. Source**

**Cost Est. Prepared By**

**Program/Allowance Task Information**

**Project Manager**

**CIP Number**

**Description**

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
GLWA Salaries CIP2020	FY19	\$15	6	1	CS-171
GLWA Salaries CIP2020	FY20	\$15	6	1	CS-171
GLWA Salaries CIP2020	FY21	\$15	6	1	CS-171
GLWA Salaries CIP2020	FY22	\$0	0	0	CS-171

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	22	22	22	0	0	0	0	66

**Phase Total Expenses By FY (All figures are in \$1,000's)**



Lake Huron Water Treatment Plant, Raw Sludge Clarifier and Raw Sludge Pumping System

**Phase** Construction

**Contract** NA

**Status** Future Planned Start

**Title** LH WTP - Raw Sludge Clarifier and Raw Sludge Pumping System Improvements

**Phase Budget**

**Cost Allocation**

**Phase Status**

**Funding Source**

**Start Date**

**Fund**

**End Date**

**Useful Life >20Yrs?**

**Tot. Federal Loan Amount**

**Cost Estimation Information**

**Cost Est. Class**

**Cost Est. Date**

**Cost Est. Source**

**Cost Est. Prepared By**

**Program/Allowance Task Information**

**Project Manager**

**CIP Number**

**Description**

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Construction	FY19	\$0			2020CIP
Construction	FY20	\$4,450			
Construction	FY21	\$4,450			
Construction	FY22	\$0			

Task	Start Date	End Date	Duration
Scope Development	9/3/2018	12/2/2018	90
Procurement	12/3/2018	9/2/2019	273
Project Execution	9/1/2019	12/24/2020	480
Project Closeout	12/24/2020	3/24/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	0	4,450	4,450	0	0	0	0	8,900

**Phase Total Expenses By FY (All figures are in \$1,000's)**



Lake Huron Water Treatment Plant, Raw Sludge Clarifier and Raw Sludge Pumping System

**Phase** Study and Design and Construction Assistance

**Contract** CS-171

**Status** Under Procurement

**Title** CS-171, Brown & Caldwell, LH WTP-Raw Sludge Clarifier and Raw Sludge Pumping System Improvements

CS-171 is almost awarded as of 9/18/2017.

**Phase Budget**

**Cost Allocation**

**Phase Status**

**Funding Source**

**Start Date**

**Fund**

**End Date**

**Useful Life >20Yrs?**

**Tot. Federal Loan Amount**

**Cost Estimation Information**

**Cost Est. Class**

**Cost Est. Date**

**Cost Est. Source**

**Cost Est. Prepared By**

**Program/Allowance Task Information**

**Project Manager**

**CIP Number**

**Description**

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY19	\$172			
Engineering Services	FY20	\$188			
Engineering Services	FY21	\$189			
Engineering Services	FY22	\$0			

Task	Start Date	End Date	Duration
Scope Development	8/1/2016	10/30/2016	90
Procurement	10/31/2016	10/31/2017	365
Project Execution	11/1/2017	6/30/2021	1337
Project Closeout	8/31/2021	11/29/2021	90

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
	172	188	189	0	0	0	0	549

**Phase Total Expenses By FY (All figures are in \$1,000's)**



Lake Huron Water Treatment Plant, Raw Sludge Clarifier and Raw Sludge Pumping System

Phase not applicable

Contract NA

Status Closed Out

Title Prior Year Actual Expenses

Phase Budget

Phase Status

Start Date

End Date

Cost Allocation

Funding Source

Fund

Useful Life >20Yrs?

Tot. Federal Loan Amount

**Cost Estimation Information**

Cost Est. Class

Cost Est. Date

Cost Est. Source

Cost Est. Prepared By

**Program/Allowance Task Information**

Project Manager

CIP Number

Description

Cost Type	Fiscal Year	Expense	Fringe Benefit	NonPersonne	Comment
Engineering Services	FY18-	\$275			FY18
Unknown	FY18-	\$9			FY17

Prior Yr Actuals	FY19	FY20	FY21	FY22	FY23	FY24	FY25+	Total
284								284

Phase Total Expenses By FY (All figures are in \$1,000's)

Project Total Expenses By FY Compared to Prior CIPs (All figures are in \$1,000's)

CIP	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	Total
2018			50	920	6,163				0	0	7,133
2019	0	9	422	212	1,612	3,608	1,221			0	7,084
2020	0	0	284	194	4,660	4,661	0	0	0	0	9,799