

Intermediate Bar Screens

220.4

Priority Score: **58.40**

Project Type:	New Asset
Growth Related?:	No
Estimated Useful Life (years):	25
Future Replacement Cost:	
Priority Level:	High
Department:	Public Works and Engineering
Staff Contact:	Manager of Public Works
Location/Coordinates:	Wastewater Treatment Plant

Cash Flow Projection:	2025	2026	2027
Studies			
In House Engineering			
Design or Engineering			
Communication / Signage			
Construction / Contractor	\$ 900,000	\$ 0	
Materials			
Equipment/Misc			
Contingency			
Total	\$ 900,000	\$ 0	\$ 0

Costs Incurred to 2024 Year End \$ 900,000

Impact on Operating Budget \$ 0 \$ 0 \$ 0

Total Project Budget: \$ 1,800,000

Schedule:
 Construction Start Date: 09/01/2024
 Substantial Completion or purchase date: 12/31/2025

Funding Sources:
 Waste Water Rates \$ 1,800,000
 Please Select
 Please Select
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 Please Select
 Capital Reserve \$ 0

Description and Rationale:
 The existing Bar Screens at the Wastewater Treatment Plant provide pre-treatment removal of coarse materials before grit removal and clarification. Materials removed include rags, sticks, and other debris, which would damage downstream components if not removed. The biosolids removed in the clarifiers are pumped to the digester for further treatment, and then to storage tanks. However, because initial screening does not remove 100% of the coarse material, over time, rags and other items build up in the digester and storage tanks and need to be removed in a cleanout, which is an expensive process; \$150,000 + for a storage tank and \$300,000 + for the digester.
 In 2021 the digester cleanout which was undertaken confirmed that excess materials are passing through the screening process, affecting the digestion process, and impacting cleanout costs
 New Intermediate fine screening equipment, located between the grit building and the clarifiers, would mitigate the following risks:
 a-The decreased frequency of digester and storage tank cleanouts, which has an estimable monetary effect.
 b-The impacts the trash has had on our mechanical equipment, like pumps, drive sprockets, motors, drive chain, etc.
 c-The staff time required to deal with breakdowns in b above.
 d-The risk of digester failure due to trash content preventing recirculation (which had almost happened on previous occasions)
 e-The risk of rejection by one or more farmers, of our material.
 f-Rejection of material by Lystech, who receives our material during a cleanout, g-The risk to our BAF media, which would cost approximately \$1M.

Attach Images:
 220.4.JPG

Opens the attachment panel. Double click files to view images attached. Maximum Size: 10MB

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Justification for Matrix Values

Score 0 - 5

Justification / Rationale for Rating

People	How many people will be directly impacted by the project?	5	This can affect the wastewater treatment train which affects the entire City
Health and Safety	What is the risk to the health and safety of the public or Staff if the project does not proceed?	3	Failure of the bar screen system can have a significant environmental and health and safety impact if treatment failures result
Legislation	Is the project required for legislative/regulatory compliance?	3	Ontario Water Resources Act, Nutrient Management Act
Asset Management	Is the project a high priority for replacement in the asset management plan.	4	These are identified on the 10 year plan
Operational Performance	If the project proceeds (or fails to proceed), what will be the impact on operational performance? Comment on any impact on operating costs, staff time and maintenance.	4	Failure of the bar screen system poses a risk to both biological processes at the plant; digestion, and the BAF.
Financing	Can the cost of investment be leveraged or are there partnership funds available?	1	N/A
Environment	Does the project address needs impacted by climate change?	3	Wet weather flows are now more frequent; this is a relevant factor for this project since higher flows carry a higher debris load
Socio-Economic Factors	To what degree does the project support diversity and inclusion Initiatives?	1	N/A
Aesthetic Value	To what degree is the aesthetic value of the asset improved?	1	None
Strategic Plan	Does the project help to meet a Key Result in the Strategic Plan?	1	N/A : Core Service
Public Input	Has the project been identified through public engagement?	1	None