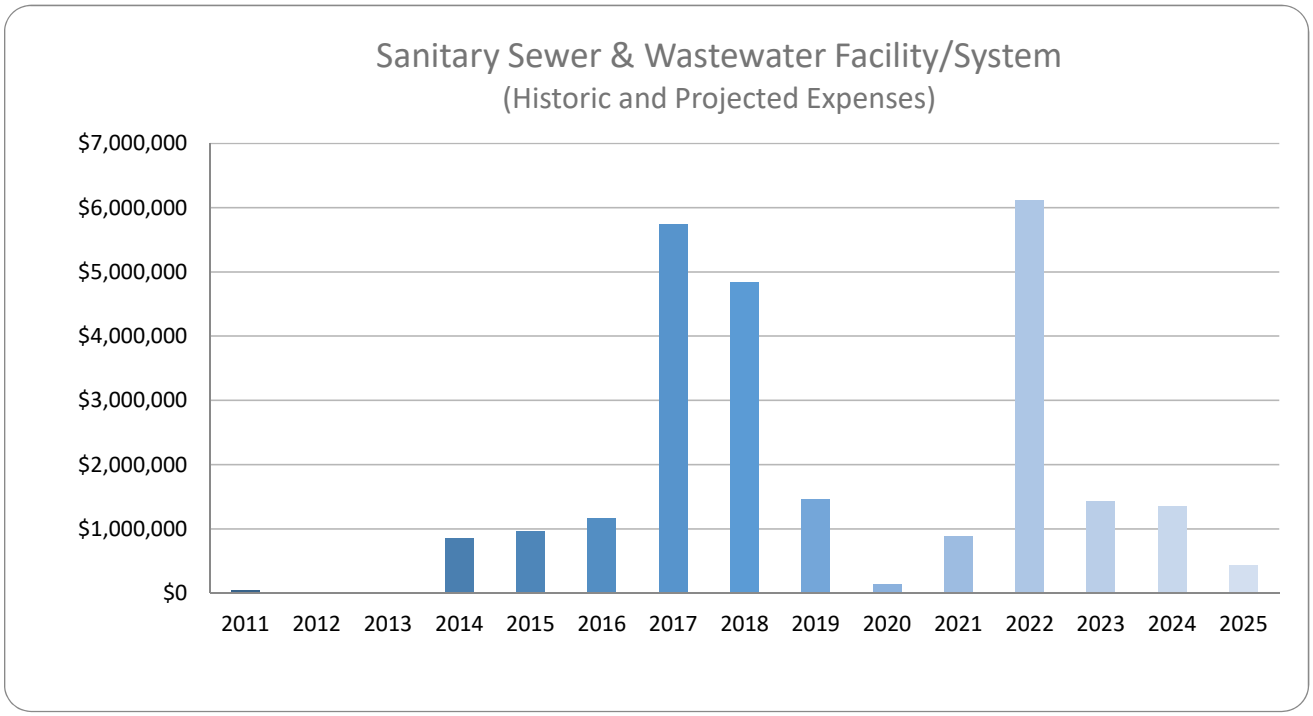
Sanitary Sewer & Wastewater Facility/System Improvements

The Village owns and maintains a wastewater treatment plant, pump stations and transmission mains to convey and treat sanitary waste. Projects in this category include maintenance work, studies to assess and map the system, evaluate sewer rates, and determine replacement schedules for the wastewater treatment plant, as well as sanitary sewer and lift station replacement projects. Annual maintenance work within this category is necessary to maintain Village facilities and sanitary waste treatement services. Investment in studies allows the Village to proactively plan for facility repair and replacement and establish sewer rates which cover the cost of operating and maintaining the Village system.



Financial Impact

	2011	2012	2013	2014	2015	
Historical	$37,672	$2,000	$9,352	$849,617	$962,802	
	2016	**2017**	**2018**	**2019**	**2020**	**Historical**
Historical	$1,160,415	$5,743,489	$4,837,466	$1,456,464	$132,690	$13,330,524
	2021	**2022**	**2023**	**2024**	**2025**	**Short Term**
5-Year	$885,000	$6,110,000	$1,422,000	$1,352,000	$425,000	$10,194,000

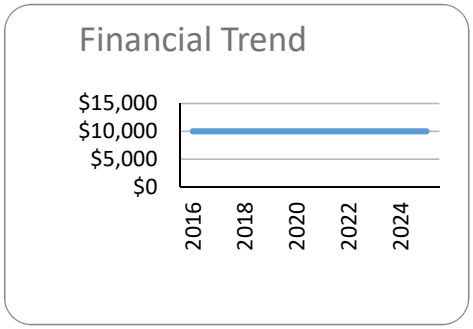
Sanitary System replacements/repairs

Project Category	Sanitary & Wastewater
Useful Life	50 Years
Project Type	Maintenance
User Department	PW
Coordinator	PW
Current Budget	$10,000.00
Initial Proposal Date	Ongoing
Design Work	N/A
Project Work	Yearly
Reoccurance	Annually
Fund	Sanitary Sewer Mains
Account(s)	50-700

Location Sanitary Collection System

Issue Following the completion of cleaning and televising the sewers, emergency repairs will be required.

Solution Perform emergency repairs to ensure the sanitary sewer operates at maximum capacity and does not cause EPA violations or basement backups.



Financial Impact

	2016	2017	2018	2019	2020	Historical
Historical	$10,000	$10,000	$10,000	$10,000	$10,000	$50,000
	2021	2022	2023	2024	2025	Short Term
Short Term	$10,000	$10,000	$10,000	$10,000	$10,000	$50,000
	Year 6-10	Year 11-15	Year 16-20	Long Term	Short Term	Total 20 Year
Long Term	$50,000	$50,000	$50,000	$150,000	$50,000	$200,000

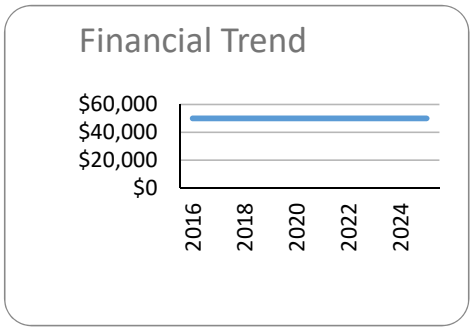
Inflow/Infiltration replacements/repairs

Project Category	Sanitary & Wastewater
Useful Life	20 years
Project Type	Maintenance
User Department	PW
Coordinator	PW
Current Budget	$50,000.00
Initial Proposal Date	Ongoing
Design Work	N/A
Project Work	Yearly
Reoccurance	Annually
Fund	Sanitary Sewer Mains
Account(s)	50-700

Location Sanitary Collection System

Issue Following the completion of the inflow and infiltration testing, stormwater intrusion locations will be found that require immediate repair.

Solution Perform repairs on the sanitary sewer system to keep stormwater from entering the system. Eliminating stormwater from the system will reduce EPA violations and costs to operate infrastructure and the wastewater treatment plant.



Financial Impact

	2016	2017	2018	2019	2020	Historical
Historical	$50,000	$50,000	$50,000	$50,000	$50,000	$250,000
	2021	2022	2023	2024	2025	Short Term
Short Term	$50,000	$50,000	$50,000	$50,000	$50,000	$250,000
	Year 6-10	Year 11-15	Year 16-20	Long Term	Short Term	Total 20 Year
Long Term	$250,000	$250,000	$250,000	$750,000	$250,000	$1,000,000

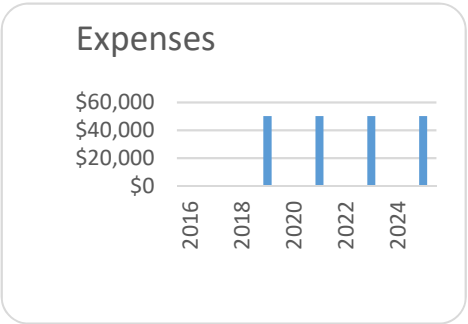
WWTP Buildings Tuckpointing

Project Category	Sanitary & Wastewater
Useful Life	50 Years
Project Type	Maintenance
User Department	PW
Coordinator	PW
Current Budget	N/A
Initial Proposal Date	2020
Design Work	N/A
Project Work	Biannually
Reoccurance	Biannually
Fund	Wastewater
Account(s)	50-710

Location Wastewater Treatment Plant

Issue Buildings at the Wastewater Treatment Plant are in need of repairs due to their age and the harsh environment.

Solution Performing tuckpointing will prevent further damage and prolong the life of the buildings.



Financial Impact

	2016	2017	2018	2019	2020	Historical
Historical				$50,000		$50,000
	2021	2022	2023	2024	2025	Short Term
Short Term	$50,000		$50,000		$50,000	$150,000
	Year 6-10	Year 11-15	Year 16-20	Long Term	Short Term	Total 20 Year
Long Term	$0	$0	$0	$0	$150,000	$150,000

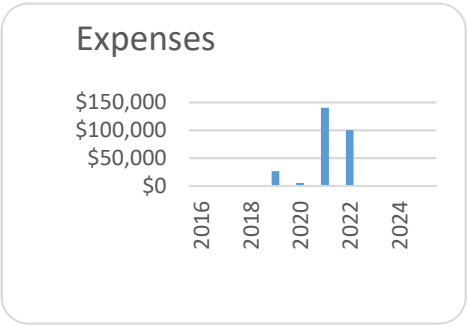
WWTP Phosphorus Building

Project Category	Sanitary & Wastewater
Useful Life	20 Years
Project Type	Construction
User Department	Maintenance
Coordinator	PW
Current Budget	N/A
Initial Proposal Date	2021
Design Work	N/A
Project Work	2021
Reoccurance	20 Years
Fund	Wastewater
Account(s)	50-710

Location Wastewater Treatment Plant

Issue The Phosphorus Building requires additional safety measures.

Solution Improvements to this building will bring it up to code and provide a safe work environment.



Financial Impact

	2016	2017	2018	2019	2020	Historical
Historical				$26,000	$5,000	$31,000
	2021	2022	2023	2024	2025	Short Term
Short Term	$140,500	$100,000				$240,500
	Year 6-10	Year 11-15	Year 16-20	Long Term	Short Term	Total 20 Year
Long Term				$0	$240,500	$240,500

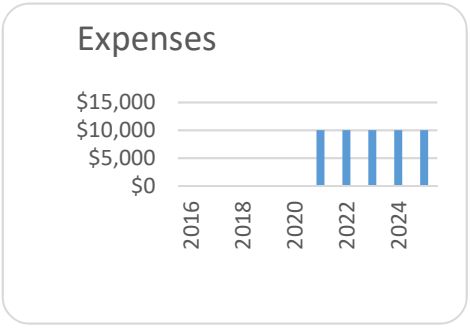
WWTP Lab Improvements

Project Category	Sanitary & Wastewater
Useful Life	Varies
Project Type	Maintenance
User Department	PW
Coordinator	PW
Current Budget	N/A
Initial Proposal Date	2021
Design Work	N/A
Project Work	N/A
Reoccurance	Yearly
Fund	Wastewater
Account(s)	50-710

Location Wastewater Treatment Plant

Issue The Lab for the Wastewater Treatment Plant has equipment that requires routine maintenance and replacement.

Solution Replacing equipment before it fails will keep the lab in working order and allow the Village to meet IEPA requirements.



Financial Impact

	2016	2017	2018	2019	2020	Historical
Historical						$0
	2021	2022	2023	2024	2025	Short Term
Short Term	$10,000	$10,000	$10,000	$10,000	$10,000	$50,000
	Year 6-10	Year 11-15	Year 16-20	Long Term	Short Term	Total 20 Year
Long Term	$50,000	$50,000	$50,000	$150,000	$50,000	$200,000

Inflow/Infiltration Assessment

Project Category	Sanitary & Wastewater
Useful Life	5 Years
Project Type	Study
User Department	PW
Coordinator	PW
Current Budget	$300,000.00
Initial Proposal Date	Ongoing
Design Work	N/A
Project Work	Yearly
Reoccurance	Annually
Fund	Sanitary Sewer Mains
Account(s)	50-700

Location

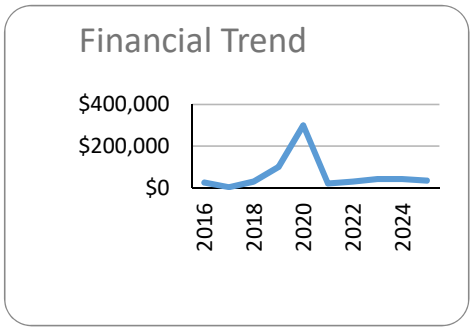
Sanitary Collection System

Issue

The Village treats approximately twice as much sanitary water as it produces drinking water. The majority of this additional flow comes in the form of stormwater and causes EPA violations.

Solution

Performing inflow and infiltration testing will help the Village determine locations where stormwater enters the sanitary system. Eliminating stormwater from the sanitary system will reduce EPA violations and costs to the Village.



Financial Impact

	2016	2017	2018	2019	2020	Historical
Historical	$26,000	$3,400	$30,700	$100,000	$300,000	$460,100
	2021	2022	2023	2024	2025	Short Term
Short Term	$20,000	$30,000	$42,000	$42,000	$35,000	$169,000
	Year 6-10	Year 11-15	Year 16-20	Long Term	Short Term	Total 20 Year
Long Term	$200,000	$200,000	$200,000	$600,000	$169,000	$769,000

Televise, Clean & Inspect Sewer Lines and Update GIS Data

Project Category	Sanitary & Wastewater
Useful Life	5 Years
Project Type	Study
User Department	PW
Coordinator	PW
Current Budget	$270,000.00
Initial Proposal Date	Ongoing
Design Work	N/A
Project Work	Yearly
Reoccurance	Annually
Fund	Sanitary Sewer Mains
Account(s)	50-700

Location

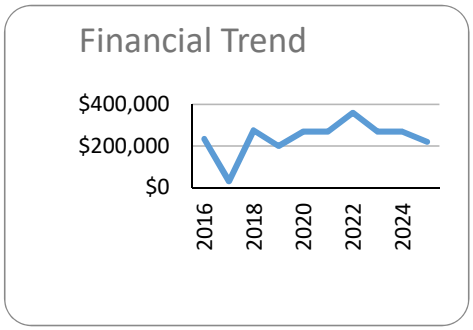
Sanitary Collection System

Issue

Aging systems result in broken pipes and increased maintenance. When those issues are not found, they result in EPA violations by causing sanitary sewer overflows and backing up into private property.

Solution

Perform regular cleaning and televising to keep the sanitary system operating at maximum capacity. Locate and repair damaged pipe before backups and overflows occur.



Financial Impact

	2016	2017	2018	2019	2020	Historical
Historical	$234,000	$31,000	$275,000	$200,000	$270,000	$1,010,000
	2021	2022	2023	2024	2025	Short Term
Short Term	$270,000	$360,000	$270,000	$270,000	$220,000	$1,390,000
	Year 6-10	Year 11-15	Year 16-20	Long Term	Short Term	Total 20 Year
Long Term	$1,500,000	$1,500,000	$1,500,000	$4,500,000	$1,390,000	$5,890,000

WWTP Condition Assessment Study

Project Category	Sanitary & Wastewater
Useful Life	N/A
Project Type	Study
User Department	PW
Coordinator	PW
Current Budget	N/A
Initial Proposal Date	2020
Design Work	N/A
Project Work	N/A
Reoccurance	N/A
Fund	Wastewater
Account(s)	50-710

Location

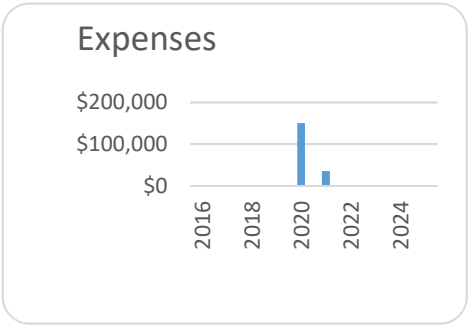
Wastewater Treatment Plant

Issue

The Village's existing Wastewater Treatment Plant (WWTP) was last fully upgraded in 1972. Several pieces of equipment, structures, and unit processes have either passed or are approaching the end of their useful life.

Solution

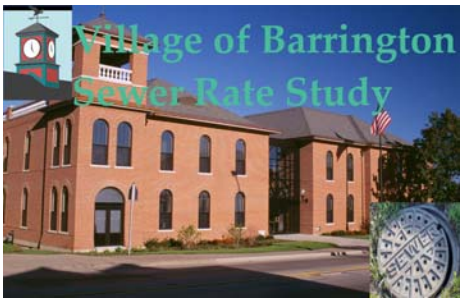
The purpose of this project is to perform a full evaluation of each unit process and associated equipment, and develop a project plan identifying necessary upgrades and maintenance plans at the Village's WWTP.



Financial Impact

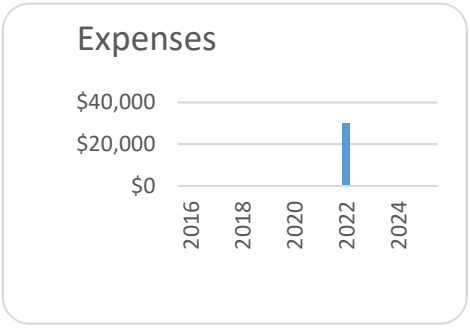
	2016	2017	2018	2019	2020	Historical
Historical					$150,000	$150,000
	2021	2022	2023	2024	2025	Short Term
Short Term	$35,000					$35,000
	Year 6-10	Year 11-15	Year 16-20	Long Term	Short Term	Total 20 Year
Long Term				$0	$35,000	$35,000

Sewer Rate Study



Project Category	Sanitary & Wastewater
Useful Life	N/A
Project Type	Study
User Department	PW
Coordinator	PW
Current Budget	N/A
Initial Proposal Date	2022
Design Work	N/A
Project Work	N/A
Reoccurance	N/A
Fund	Wastewater
Account(s)	50-710

Location	Wastewater System
Issue	The Village's wastewater system is aging and is costing more to maintain each year. The current wastewater rate is not sufficient to keep up with the increasing cost of maintenance and replacement.
Solution	Having a study performed will provide documentation of rates that can cover both infrastructure needs and the cost of treating wastewater.



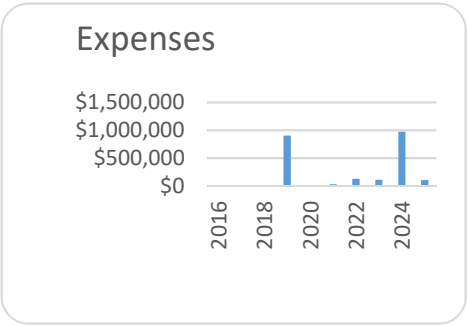
Financial Impact

	2016	2017	2018	2019	2020	Historical
Historical						$0
	2021	2022	2023	2024	2025	Short Term
Short Term		$30,000				$30,000
	Year 6-10	Year 11-15	Year 16-20	Long Term	Short Term	Total 20 Year
Long Term				$0	$30,000	$30,000

Lift Stations (12 Total)

Project Category	Sanitary & Wastewater
Useful Life	30 Years
Project Type	Improvement
User Department	PW
Coordinator	PW
Current Budget	N/A
Initial Proposal Date	Ongoing
Design Work	Ongoing
Project Work	Ongoing
Reoccurance	Biannually
Fund	Wastewater
Account(s)	50-710

Location	12 Lift Stations
Issue	A few lift stations have reached the end of their useful life and need replacement.
Solution	Design and replacement of the lift stations before they fail will prevent downtime, possible issues with not being able to operate them properly, and IEPA violations.



Financial Impact

	2016	2017	2018	2019	2020	Historical
Historical				$900,000		$900,000
	2021	2022	2023	2024	2025	Short Term
Short Term	$25,000	$125,000	$105,000	$970,000	$100,000	$1,325,000
	Year 6-10	Year 11-15	Year 16-20	Long Term	Short Term	Total 20 Year
Long Term	$2,200,000	$2,200,000	$2,200,000	$6,600,000	$1,325,000	$7,925,000

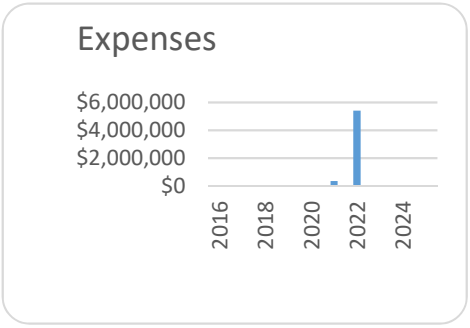
WWTP Control Building Replacement

Project Category	Sanitary & Wastewater
Useful Life	N/A
Project Type	Improvement
User Department	PW
Coordinator	PW
Current Budget	N/A
Initial Proposal Date	2021
Design Work	2021
Project Work	2022
Reoccurance	N/A
Fund	Wastewater
Account(s)	50-710

Location Wastewater Treatment Plant

Issue The Control Building at the Wastewater Treatment Plant, its electrical components, and the equipment inside have reached the end of their useful life.

Solution Design and construction of a new Control Building will be more cost effective than trying to repair or rehab the building, and replacing the out of date equipment.



Financial Impact

	2016	2017	2018	2019	2020	Historical
Historical						$0
	2021	2022	2023	2024	2025	Short Term
Short Term	$325,000	$5,410,000				$5,735,000
	Year 6-10	Year 11-15	Year 16-20	Long Term	Short Term	Total 20 Year
Long Term				$0	$5,735,000	$5,735,000

Sanitary Sewer Main Lining Project

Project Category	Sanitary & Wastewater
Useful Life	50 Years
Project Type	Improvement
User Department	PW
Coordinator	PW
Current Budget	N/A
Initial Proposal Date	2022
Design Work	2022
Project Work	2023
Reoccurance	N/A
Fund	Sanitary Sewer Mains
Account(s)	50-700

Location

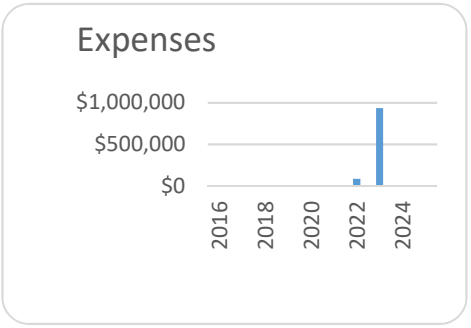
North Fox Point and Jewel Park

Issue

Following inflow and infiltration testing; as well as televising, large sections of sanitary sewer mains were found to be in poor condition needing repair and allowing ground water to enter.

Solution

Line approximately 14,000 L.F. of mainline sanitary sewer to extend the useful life of the sewer and eliminate ground water from entering the sanitary system.



Financial Impact

	2016	2017	2018	2019	2020	Historical
Historical						$0
	2021	2022	2023	2024	2025	Short Term
Short Term		$85,000	$935,000			$1,020,000
	Year 6-10	Year 11-15	Year 16-20	Long Term	Short Term	Total 20 Year
Long Term				$0	$1,020,000	$1,020,000