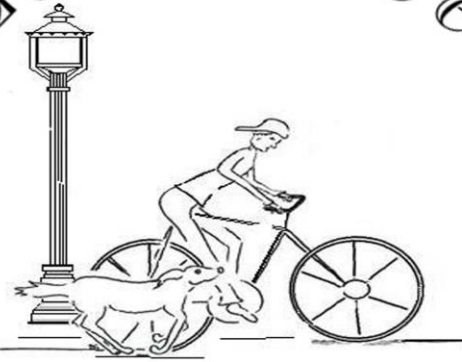


Lawrence



*See You There!*

Sanitary Sewer System  
Capital Improvement Plan  
2016 through 2026

Village of Lawrence Sanitary Sewer System  
Capital Improvement Plan  
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The requirement for capitol budgeting for the following ten fiscal years is found in the Michigan Planning. Capital Budgeting has two elements. The first is a Capital Improvement Plan, and the second is the incorporation of that plan into the annual budget and future budgeting forecasts. The Capital Improvement Plan is a ten-year schedule of all proposed major capital improvement projects including project priorities, cost estimates, methods of financing, and estimated operation and maintenance costs for the proposed projects. Each year the Capital Improvement Plan is revised for the next fiscal year.

Including the Capital Improvement Plan in the annual budget, and future budget forecast, is primarily for the purpose of adjusting the multi-year program of projects to change needs and circumstances. It also insures that projects completed during that year are removed from the plan and additional year's projects are added. The Capital Improvement Plan is designed to be amended on an annual basis. Projects can be added or subtracted as the needs and resources of the community adjust.

An effective and ongoing Capital Improvement Plan is beneficial to elected officials, staff, and the general public. Among the benefits that can be received from the adopted and well-maintained Capital Improvement Plan are:

1. Coordination of the community's physical planning with its fiscal planning capabilities.
2. Ensuring that the public improvements are undertaken in the desirable order of priority.
3. Assisting in the stabilization of tax levies over the period of years.
4. Producing savings in total costs by promoting a "pay as you go" policy of capital financing thereby reducing additional interest and other extra costs.
5. Providing adequate time for planning and engineering of proposed projects.
6. Ensuring the maximum benefit of the monies expended for public improvements.
7. Permitting municipal construction activities to be coordinated with those of other public agencies within the community. Capital Improvement Planning and budgeting allow officials and citizens to set priorities for capitol expenses and ensure maximum physical benefit for a minimum capital expenditure through an orderly process of project development, scheduling and implementation.

A wide range and variety of capital improvements are included in the Capital Improvement Plan. Listed below are several criteria to aid in the review of potential projects.

1. Requirement to fill any federal or state judicial administration requirements.
2. Relationship to source and availability of funds.
3. Impact on annual operating and maintenance costs.
4. Relationship to overall fiscal policy and capabilities.
5. Project's readiness for implementation.
6. Relationship to other projects.
7. Relationship to other projects.
8. Distribution of projects throughout the community.
9. Relationship to other communities.

These factors are all relevant and must be considered in order to ensure that the best quality of service is delivered to our residents in the most fiscally prudent manner. Most importantly the proposed list of capital projects has to reflect the overall goals and vision of the community's adopted Master plan.

## Manager's Executive Summary

The Village of Lawrence waste water system dates back to the late 1970's. Most of the collection system and pump stations were constructed as part of the original system. Exceptions to this are the sanitary sewer construction in the Lawrence Industrial Park adjacent to the I-94 (1997), sewers serving Corwin Meadows on the North side of Corwin road (2007) and the latest improvement to ISD condo project Corwin Meadows to Corwin road (2015). The system has no interceptors. All flow is directed to the Main Pump station located on the north side of and adjacent to, Paw Paw River and is pumped to the lagoons by this pump station. Waste water pipes are constructed of 100% clay. There are three lift stations and one main pump station.

The Village waste water system currently covers approximately one (1) square mile in the Village of Lawrence and is supplied through a water distribution network consisting of more than 14 miles of water main ranging from 1 inch to 4 inch in diameter.

The Village of Lawrence currently employs three operators and contracts with the Village of Paw Paw to provide a certified lagoon (L1) operator to oversee the Village's collection system. The Village provides customers with high-quality. Operator routinely test for contaminants in the waste water according to Federal and State laws.

Listed below is a history of improvements to the Waste Water Collection System:

- James Street Pump Station  
Located on the northwest corner of South Paw Paw Street and James Street. This pump station is a wet well/dry well flooded suction type pump station. The original design for these pumps included a pump delivery of 330 gallons per minute with 80 feet of head. Both pumps are equipped with two 20 horse power motors. It was constructed in 1980.
- Blackman Pump Station  
The pump station is a submersible type station that was constructed in 1980. The station is in relatively good condition. Recommended improvements to the station include shutoff valves at the pump station. The control is from the 1980's and is getting hard to find replacement parts.
- School Pump Station  
Located on West St. Joseph in front of the Lawrence Public Schools. This station was constructed in 1980. The station is a small grinder pump station the pumps 120 gallons per minute.
- Main/River Pump Station  
This station is an above ground suction lift type station and was constructed in 1980. It is the primary station that pumps all sewage from the sanitary system to the waste water treatment facility. The original basis design for these pumps included a primary pump delivery of 500 gallons per minute (gpm) at 82 feet of head. Both pumps are equipped with 30 horse power motors. Although the village has continued keeping this station operational with diligent maintenance, this station is approaching 35 years old. And is in need of replacement. The station is located within the 100-foot flood plain of the paw paw river. Due to this situation the station is in jeopardy when the river overflows its banks for a 100-year term. This has occurred more than one occasion just in the last five years. The operators responded by placing sand bags around the station to prevent the flood waters from the flood waters entering the wet well and, thus inundate and compromise the stations reliability.

## Manager's Executive Recommendations

### Main/River Pump Station

Located on North Paw Paw just adjacent to and North of the Paw Paw river. This station is an above ground suction lift station and was constructed in 1980.

Item	Description		QTY	Unit	Total Price
1.	Permanent Mounted Backup Generator with transfer switch mounted on concrete pad		1		50,000
2.	Increase height of wet well by 4 feet w/ladder, New lid and safety features		1		25,000
3.	Submersible Pumps 500 Gallons per minute with 110 feet of head Pressure 30 hp with rails		2		90,000
4.	Stainless steel Control Panel installed on concrete pad with pressure transducer High and low alarm, floats and high temperature. Reliable flow meter.		1		135,000
5.	Three Phase (Consumers) Already has service Relocate				28,000
6.	Contingencies (20%)		1		35,000
7.	Permit Fees		1		2,000
8.	Engineering, Inspection and Construction and Admin fees (12%)		1		21,000
	Total				\$386,000

### James Street Pump Station

Located on the northwest corner of South Paw Paw Street and James Street. This pump station is a wet well/dry well flooded suction type pump station. The original design for these pumps included a pump delivery of 330 gallons per minute with 80 feet of head. Both pumps are equipped with two 20 horse power motors. It was constructed in 1980.

Item	Description		QTY	Unit	Total Price
1.	Permanent Mounted Backup Generator with transfer switch mounted on concrete pad		1		25,000
2.	Submersible Pumps 330 Gallons per minute with 80 feet of head Pressure 20hp with Stainless rails.		2		70,000
3.	Modify wet well with new cover		1		8,000
4.	Stainless Steel Control Panel installed on concrete pad with pressure transducer High and low alarm, floats and high temperature.		1		25,000
5.	Flow fill Can		1		2,000
6.	Demolition of Old Control Components		1		1,000
7.	Replace Isolation Valves and bypass		1		15,000
8.	3 Phase Electric Already has service Relocate		1		2,000
9.	Contingencies (20%)				30,000
10.	Permit Fees				2,000
11.	Engineering, Inspection and Construction and Admin fees (12%)				18,000
	Total				\$301,000

### School Pump Station

Located on West St. Joseph in front of the Lawrence Public Schools. This station was constructed in 1980. The station is a small grinder pump station the pumps 120 gallons per minute.

Item	Description		QTY	Unit	Total Price
1.	Permanent Mounted Backup Generator with transfer switch mounted on concrete pad		1		25,000
2.	Submersible grinder Pumps 300 Gallons per minute with 22 feet of head Pressure 3 hp with rails.		1		50,000
3.	Stainless steel Control Panel installed on concrete pad with pressure transducer High and low alarm, floats and high temperature.		1		Included
4.	Cathodic Protection		1		10,000
5.	Replace isolation valves and bypass		1		
6.	Training		1		
7.	3 Phase Electric		1		10,000
8.	Demolition of Old Control Components		1		1,000
9.	Contingencies (20%)		1		10,000
10.	Permit Fees		1		1,000
11.	Engineering, Inspection and Construction and Admin fees		1		0
	Total				117,000

### Blackman Street Pump Station

Located on South Blackman this station was constructed in 1980. The station is a small submersible pump station the pumps 120 gallons per minute.

Item	Description		QTY	Unit	Total Price
1.	Permanent Mounted Backup Generator with transfer switch mounted on concrete pad		1		25,000
2.	Submersible grinder Pumps 300 Gallons per minute with 22 feet of head Pressure 3 hp. with rails.		1		
3.	Stainless steel Control Panel installed on concrete pad with pressure transducer High and low alarm, floats and high temperature.		1		50,000
4.	Cathodic Protection		1		10,000
5.	Replace isolation valves and bypass		1		
6.	Training		1		
7.	3 Phase Electric		1		10,000
8.	Demolition of Old Control Components		1		1,000
9.	Contingencies (20%)				10,000
10.	Permit Fees				1,000
	Total				82,000

## Lagoons

The lagoons are located on the Northeast side of the Village on N. Paw Paw Street. The lagoons have three ponds. The capacity of the system has been established at 170,000 gpd. The equates to approximately 62 million gallons (MG) for the entire fiscal year. The existing capacity is approximately 30.8 MG. Therefore, the existing facility can handle the flows within a six-month storage volume.

Item	Description		QTY	Unit	Total Price
1.	Cell #1 Sludge Removal		1		304,000
2.	Cell #1 Rip Rap		1		300,000
3.	Cell #2 Sludge Removal		1		70,000
4.	Cell #2 Rip Rap		1		170,000
5.	Cell #3 Sludge Removal		1		45,000
6.	Cell #3 Rip Rap		1		150,000
6.	Replace isolation valves and bypass		1		35,000
7.	Flow Meter		1		10,000
8.	Permit Fees		1		1,000
9.	Contingencies (10%)		1		100,000
	Total				1,181,000

### Manager's Executive Timeline

#### Village of Lawrence Waste Water Fund Summary:

##### Assumptions:

- The CIP for the Village of Lawrence is based off of the 2016/2017 waste water budget holds true.
- Anticipated waste water revenues are based on annual billable water usage of gallons/year, considering a waste water rate increase of 3% increase each year after.
- Based on estimates, the Waste Water fund would generate approximately \$200,000 to support expenses and capital improvement projects.
- As proposed, this plan includes, if approved by Village Council, a use of \$100,000 of the Waste Water's current savings.

**As for the Waste Water CIP will be reviewed and updated each year and to facilitate long range planning the following capital projects needed to be considered.**

- These recurring projects are projected in the model for the next (10) ten fiscal years 2016/17 – 2025/26:
- The following projects are anticipated in the model for the ten (10) fiscal years 2016/17 – 2026/27 as they are recommended capital improvement projects in the 2015/2016 S2 grant study by our engineers Wade Trim.:
  1. Remove Cattail and debris from cell 1. Use of DPW staff and backhoe.
  2. Repair drive to lagoons and around ponds. Contract Van Buren County Road Commission.
  3. Demolition and replacement of Main Pump Station. Wade Trim Engineering costs.
  4. The demolition and replacement of the James street station. Wade Trim Engineering costs.
  5. Upgrade of School lift station. Choose Vendor to Upgrade Station.
  6. Cell 1 Sludge removal
  7. Cell 1 Rip Rap
  8. Cell 2 Lagoon Sludge removal

9. Cell 2 Rip Rap
10. Cell 3 Sludge removal
11. Cell 3 Rip Rap
12. Replace Valves (7) in system
13. Blackman Street Station Upgrade
14. Erect Storage Building to store Mower

THE FOLLOWING CODES ARE USED THROUGHOUT THE DOCUMENT TO INDICATE THE SOURCE OF FUNDING FOR THE PROPOSED PROJECTS

DO-Donations

FG- Federal Grant

GF- General Grant

GO- General Obligation Bonds

RB- Revenue Bond

LS- Local Street Fund

MS- Major Street Fund

SA- Special Assessment

SM-Special Millage

WF- Water Fund

SF- Sewer Fund

PSP- Property Sale Proceeds

**Waste Water Fund Capital Improvement Projects**

(A) Main Pump Station	\$386,000
(B) James Street Lift Station	\$301,000
(C) School Station	\$225,000
(D) Lagoon Drive	\$30,000
(E) Removal Debris	\$3,000
(F) Lagoon Cell 1 Sludge removal	\$304,000
(G) Lagoon Cell 1 Rip rap	\$300,000
(H) Lagoon Cell 2 Sludge removal	\$70,000
(I) Lagoon Cell 2 Rip rap	\$170,000
(J) Lagoon Cell 3 Sludge removal	\$45,000
(K) Lagoon Cell 3 Rip rap	\$150,000
(L) Blackman Street Station	\$82,000
(M) Mobile Generator	\$60,000
(N) Sewer Jetting Machine	\$70,000
(O) Mower	\$70,000
(P) Storage Building	\$70,000
(Q) Flow Meter and Water/Sewer Meters	\$90,000
(R) Valves at Lagoons (7) @ 5,000 each	\$35,000

Village of Lawrence  
 Capital Improvement Plan – Executive Summary  
 2016-2017

Project	Costs	Funding Source
(A) James Street Station	\$301,000	RB
(B) Main Pump Station	\$386,000	RB
(C) School Station	\$225,000	RB
Total	<b>\$912,000</b>	

2017-2018

Project	Cost	Funding Source
(D) Lagoon Drive	\$30,000	SF
(E) Removal of Debris	\$3,000	SF
Total	<b>\$33,000</b>	

2018-2019

Project	Cost	Funding Source
(F) Sludge Removal Cell 1	\$304,000	SF
(G) Rip Wrap Cell 1	\$300,000	SF
Total	<b>\$604,000</b>	

2019-2020

Project	Cost	Funding Source
(H) Sludge Removal Cell 2	\$70,000	SF
(I) Rip Wrap Cell 2	\$170,000	SF
Total	<b>\$140,000</b>	

2020-2021

Project	Cost	Funding Source
(J) Sludge Removal Cell 3	\$45,000	SF
(K) Rip Rap Cell 3	\$150,000	SF
Total	<b>\$195,000</b>	

2021-2022

Project	Cost	Funding Source
(L) Blackman Street Station	\$82,000	SF
(M) Mobile Generator	\$60,000	SF
Total	<b>\$142,000</b>	

2022-2023

Project	Cost	Funding Source
(N) Sewer Jetting Machine	\$70,000	SF
Total	<b>\$70,000</b>	

2023-2024

Project	Cost	Funding Source
(O) Mower	\$70,000	SF
Total	<b>\$70,000</b>	



2024-2025

Project	Cost	Funding Source
(P) Storage Building	\$70,000	SF
Total	<b>\$70,000</b>	

2025-2026

Project	Cost	Funding Source
(Q) Flow Meter and Water/Sewer Meters	\$90,000	SF
(R) Valves at Lagoons (7) @ 5,000 each	\$35,000	SF
Total	<b>\$125,000</b>	