

Village of Metamora

2023-2028 Capital Improvement Plan

Summary of Projects

May, 2023



PROJECT	Notes	ANTICIPATED COST	POTENTIAL FUNDING SOURCE	PROPOSED FISCAL YEAR	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028
STREETS									
High Street Microsealing	School St. to Center St.	\$108,000	Village/DDA	2023	\$108,000				
Pleasant St. Rehabilitation	E. High St. to Third St.	\$260,000	Village/DDA	2025			\$260,000		
Street Paving Program	All Remaining Streets Rated <5	\$2,605,000	Street Bond/DDA	2027					\$2,605,000
Subtotals		\$2,973,000			\$108,000	\$0	\$260,000	\$0	\$2,605,000
WATER SYSTEM									
Remove and Replace Customer Meters	System Maintenance	\$168,000	Village/DDA	2023	\$168,000				
Update Wellhouse Controls, New Chlorine Pump	Wellhouse Maintenance	\$102,000	Village/DDA	2024		\$110,000			
Replace Roof and Existing Stairs	Wellhouse Maintenance	\$58,000	Village/DDA	2025			\$58,000		
Concrete Floor in Chemical Room	Wellhouse Maintenance	\$18,000	Village/DDA	2027					\$18,000
Subtotals		\$346,000			\$168,000	\$110,000	\$58,000	\$0	\$18,000
WATER MAINS									
None									
SANITARY SEWER									
Replace Existing Plug Valves (7 Total)	Lagoons	\$126,000	Village/DDA	2023	\$126,000				
Replace Check Valve	Oak Street Lift Station	\$18,000	Village/DDA	2023	\$18,000				
Measure Sludge and Prepare Construction Plans	Lagoons	\$42,000	Village/DDA	2024		\$42,000			
Install Standby Generator & Relocate Control Panel	Oak Street Lift Station	\$96,000	Village/DDA	2024		\$96,000			
Sludge Removal	Lagoons	\$720,000	Village/DDA	2025			\$720,000		
Install SCADA Control System	All Sanitary Sewer Facilities	\$120,000	Village/DDA	2026				\$120,000	
Install Ferric Feed System	Lagoons	\$150,000	Village/DDA	2026				\$150,000	
Replace Existing Control Panel	Jamestown Lift Station	\$54,000	Village/DDA	2027				\$54,000	
Replace Hatch, Address H2S Issues	School Street Lift Station	\$36,000	Village/DDA	2027				\$36,000	
Subtotals		\$1,362,000			\$144,000	\$138,000	\$720,000	\$270,000	\$90,000
SANITARY SEWER									
None									
STORM SEWER									
None									
BUILDING AND GROUNDS									
Furnace Air Conditioning Unit Replacement	Village Hall	\$17,000	Village/DDA	2023	\$17,000				
Roof replacement (Metal)	DPW Small Barn	\$12,000	Village/DDA	2024		\$12,000			
Security Gate at Trail Crossing	DPW Entrance Driveway	\$4,000	Village/DDA	2024		\$4,000			
Asphalt Pad, Concrete Storage Bins	DPW Grounds, Prep for Salt Shed	\$51,000	Village/DDA	2025			\$51,000		
Employee Bathroom and Washitub	DPW Main Barn	\$156,000	Village/DDA	2026				\$156,000	
Salt Shed	DPW	\$60,000	Village/DDA	2027					\$60,000
Subtotals		\$300,000			\$17,000	\$16,000	\$51,000	\$156,000	\$60,000
PARKS AND RECREATION									
Harmer Park Improvements	Vault Toilet	\$42,000	Village/DDA	2023	\$42,000				
Trail Improvements	Upgrade Trail - Post Office to High St.	\$32,000	Village/DDA	2024		\$32,000			
Community Park Improvements - Phase 1	Pavilion and Parking Lot	\$557,000	SPARK Grant	2025			\$557,000		
Community Park Improvements - Phase 2	Launch Pad, Pathways, Disc Golf	\$333,000	MDNR/MEDC/Local	2027					\$333,000
Subtotals		\$964,000			\$42,000	\$32,000	\$557,000	\$0	\$333,000
EQUIPMENT									
Leaf Trailer Upgrade	DPW Equipment	\$4,000	Village/DDA	2024				\$4,000	
GRAND TOTALS		\$5,949,000			\$479,000	\$300,000	\$1,646,000	\$426,000	\$3,106,000

All costs are in 2023 dollars.

Village of Metamora

Pavement Analysis

March, 2023

22L0116

Prepared By:



ROWE PROFESSIONAL
SERVICES COMPANY

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ACRONYMS

- IBR Inventory Based Rating
- MTU Michigan Technological University
- PASER Pavement Surface Evaluation and Rating
- TAMC Transportation Asset Management Council

EXECUTIVE SUMMARY

The Village of Metamora requested ROWE Professional Services Company provide an evaluation of village street conditions. The assessment included 3.8 miles of public roadway. Ratings were completed in January 2023. Proposed treatments are based on the current road ratings and include preventative maintenance techniques, such as crack sealing, preservation through cold milling and resurfacing, or full roadway reconstruction.

Ratings were completed using the Pavement Surface Evaluation and Rating (PASER) scale for each pavement type. The PASER system is a visual survey method for evaluating the condition of streets. It was adopted by Michigan's Transportation Asset Management Council (TAMC) as an efficient and consistent method for evaluating the street condition. Streets are rated on a scale of 1 to 10, with 10 being the highest rating based on the surface conditions. A definition of the rating scale is included in the report.

The analysis for all village streets currently shows 12.9 percent (0.49 miles) are in good condition (Rating 8 to 10); 19.6 percent (0.74 miles) of the streets are in fair condition (Rating 5 to 7); and 67.5 percent (2.55 miles) of the streets are in poor condition (Rating 1 to 4).

I. INTRODUCTION

ROWE Professional Services Company completed an evaluation of more than 3.8 miles of public roads in the Village of Metamora. Ratings were completed in January 2023. The purpose of this assessment is to provide the village with a tool to assist with planning for future road projects and maintenance that will provide fair to good streets throughout the village.

Each type of pavement deteriorates differently and requires different maintenance techniques. The rating for each surface type differs based on the condition of the roadway when observed in the field. For the sake of this report only paved roadways were rated and reported.

The analysis for all village streets currently shows 12.9 percent (0.49 miles) are in good condition (Rating 8 to 10); 19.6 percent (0.74 miles) of the streets are in fair condition (Rating 5 to 7); and 67.5 percent (2.55 miles) of the streets are in poor condition (Rating 1 to 4).

II. PASER RATINGS AND DEFINITIONS

Ratings were completed using the PASER scale for each pavement type. The PASER system is a visual survey method for evaluating the condition of streets. It was adopted by TAMC as an efficient and consistent method for evaluating the street condition. Listed in Table 1 are the scales for each pavement type.

Table 1: Asphalt Pavement PASER Ratings

Rating	Description and Treatment
9 & 10	Newly constructed or recently overlaid streets are in excellent condition. No maintenance required.
8	This category includes streets which have been recently seal-coated or overlaid with new hot mix. It also includes recently constructed or overlaid streets, which may show longitudinal or transverse cracks. All cracks are tight or sealed. Little or no maintenance required.
7	Streets show first signs of aging, and they may have very slight raveling. Any longitudinal cracks are along paving joint. Transverse cracks may be approximately 10 feet or more apart. All cracks are ¼ inch or less, with little or no crack erosion. There are few, if any, patches, all of which are in very good condition. Maintain a crack sealing program.
6	Streets are in sound structural condition but show definite signs of aging. Sealcoating could extend their useful life. There may be slight surface raveling. Transverse cracks can be frequent, less than 10 feet apart. Cracks may be ¼ to ½ inch and sealed or open. Pavement adjacent to cracks is generally sound. First signs of block cracking may be evident. Pavement may have slight or moderate bleeding or polishing. Patches are in good condition. Consider preservation treatment.
5	Streets are still in good structural condition, but clearly need sealcoating or overlay. They may have moderate to severe surface raveling with significant loss of aggregate. First signs of longitudinal cracks near the edge. The pavement has first signs of raveling along cracks. Block cracking up to 50 percent of surface. The pavement surface has extensive to severe flushing or polishing. Any patches or edge wedges are in good condition. Preservation maintenance treatment required.
4	Streets show first signs of needing to be strengthened by overlay. They have very severe surface raveling, which should no longer be sealed. The pavement will have the first longitudinal cracking in wheel path. The surface will have many transverse cracks, and some

Rating	Description and Treatment
	may be raveling slightly. More than 50 percent of the surface may have block cracking. Patches are in fair condition. They may have rutting ½-inch deep or less, or slight distortion. Structural improvement required.
3	Streets must be strengthened with a structural overlay (2 inches or more). The pavement will benefit from milling and very likely will require pavement patching and repair beforehand. Cracking will likely be extensive. Raveling and erosion in cracks may be common. Surface may have severe block cracking and show first signs of alligator cracking. Patches are in fair to poor condition. There is moderate distortion or rutting (more than ½ inch and less than 2 inches in depth) and occasional potholes. Structural improvement required.
2	Streets are severely deteriorated and need reconstruction. Surface pulverization and additional base may be cost-effective. These streets have more than 25 percent alligator cracking, distortion, or rutting 2 inches or more in depth, as well as potholes or extensive patches in poor condition. Reconstruction required.
1	Streets have failed, showing severe distress and extensive loss of surface integrity. Reconstruction required.

III. PAVEMENT TREATMENTS AND DEFINITIONS

There are several roadway treatments proposed. A description of these treatments is given in Table 2. This pavement management system should be considered a working document and updates made every three years to reflect changes in the treatments used by the Village of Metamora.

Table 2: Asphalt Treatments

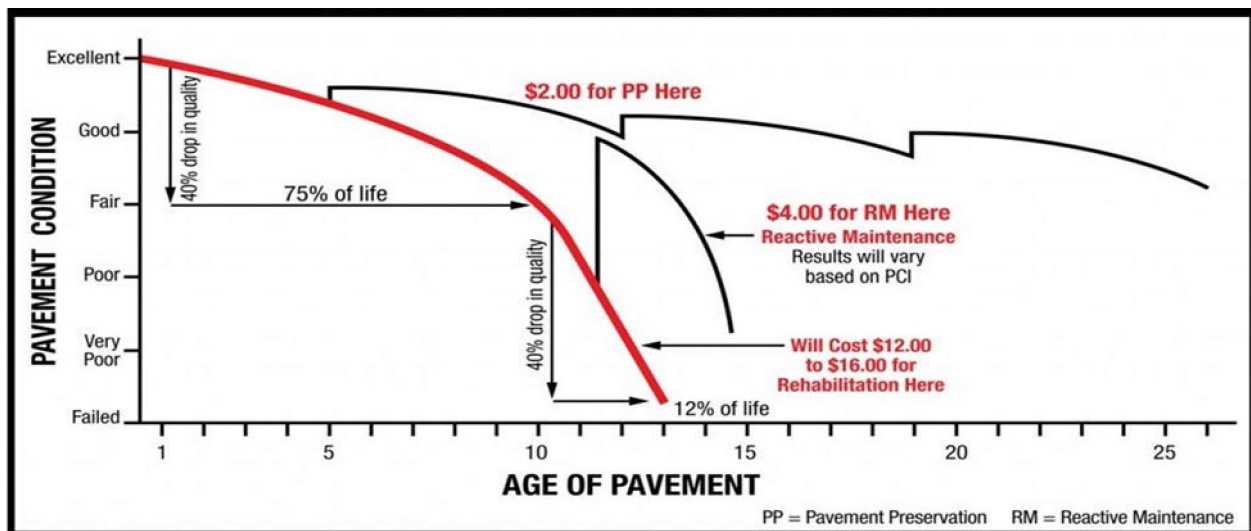
Preventative Maintenance	
Crack Sealing	Application of rubberized asphalt material to all longitudinal and transverse cracks to prevent water from seeping into the roadway base.
Slurry Seal	Thin application of emulsified aggregate across entire roadway. Application breaks down very top of asphalt surface and replaces fine aggregate, which may have worn out. Effective for sealing cracks in roadway but does not increase structural capacity of roadway.
Preservation	
Mill and Resurface	Milling off a portion (usually between 2 and 3 inches) of the roadway’s deteriorated asphalt pavement surface and then resurfacing the roadway with the same or greater thickness of asphalt pavement due to structural requirements. A mill and resurface project generally provide between 10 to 15 years of serviceable life if crack sealing operations are continued.
Major Repair/ Resurface	This is one step above a mill and resurface project. Significant areas of pavement failure are removed and replaced. Underdrain can be added to provide enhanced drainage. Once the pavement and base are repaired in the failed areas, the entire pavement is milled and resurfaced as above. Typically, these projects are necessary because the roadway base is deteriorated in some areas. Because of this deterioration, the expected life for a fix of this nature is also between 10 and 15 years if crack sealing operations are continued.

Reconstruction	
Reconstruction	Reconstruction is, as it implies, a complete removal and replacement of the existing pavement and base along with the base drainage system. Because the drainage system must be replaced, the curb and gutter must also be replaced in most situations. The expected life of this new street varies widely due to design and pavement maintenance programs.

IV. LIFESPAN OF AN ASPHALT PAVEMENT

Asphalt pavement has proven over the years to be a successful alternative to concrete pavement due to its adaptability to its surroundings, its relative ease of construction, and its cost advantages for both new construction and for maintenance. Figure 1 shows the lifecycle of asphalt pavement.

Figure 1: Pavement Life Cycle



Asphalt pavements are typically designed for a 10- to 20-year design life. This life can be extended by regular pavement maintenance operations; however, the pavement will eventually require major reconstruction or rehabilitation. To illustrate this point, the following describes the normal deterioration of asphalt pavement with routine maintenance.

A. New Pavement

During the first five years of the asphalt pavement’s life, the surface is in excellent to good condition. For the most part, the flexibility of the pavement will allow it to self-seal most cracks so minimal additional crack sealing operations will be required. Close monitoring of the pavement during this phase will also show any structural deficiencies based on additional traffic not originally intended for this street and/or subgrade problems not apparent during construction. If additional structural capacity is required at this point, corrections can be made with minimal cost.

B. Five Years

At five years' time, normal crack sealing operations should begin. The intent is to seal the surface so water cannot enter the pavement base. A slurry seal or chip seal treatment can also be applied at this time to seal smaller cracks. Groundwater and/or water entering the grade from the back of curb can be handled by the base drainage provided during construction. Fine material contamination of the road base will be minimized.

C. 10 to 25 Years

Normal crack sealing operations should be continued and should alleviate most of the problems for the next 15 to 20 years. Over this period, the major street deterioration should be seen on the surface itself. The constant pounding of traffic will eventually degrade the surface; however, the pavement structural capacity should remain intact. Because of this and the deterioration of the surface, normal crack sealing operations may not be sufficient to seal the pavement surface and an ultra-thin overlay should be considered. Due to the fact that the roadway base has been protected to this point and beyond, this ultra-thin overlay should provide approximately five to ten years of additional serviceable life, provided the crack sealing operations continue.

D. 25 to 35 Years

It is impossible to completely prevent the degradation of the roadway base and the deterioration of the asphalt pavement itself, though the roadway base degradation can be constrained to point locations. Because of this, at approximately 35 years, the village should expect the asphalt pavement will have deteriorated considerably so it no longer provides the required structural capacity. This, coupled with gradual settling and increased traffic volume, will require some type of structural upgrade. At this point, the village has the option of upgrading the cross section of the roadway due to traffic requirements and would complete a total reconstruction. If the pavement width is adequate, the village could consider a milling and resurfacing project to increase the structural capacity. Most resurfacing projects are designed, again, for a 10- to 15-year life, well beyond the 40-year life analyzed.

Appendix A: Current Surface Rating Reports – March 2023

Major Street Fund

Road Segment	From	To	Rating	Length (Ft)	Width (Ft)	Status of Roadway
N. Oak Street	High Street	Jamestown Drive	8	2575	26	Good
W. High Street	School Street	Oak Street	5	790	38	Fair
E. High Street	Oak Street	Barrows Street	5	345	38	Fair
E. High Street	Barrows Street	Pleasant Street	5	120	38	Fair
E. High Street	Pleasant Street	Center Street	5	355	38	Fair
Barrows Street	S. Oak Street	E. High Street	5	610	28	Fair
E. High Street	Center Street	Blood Road	4	720	30	Poor
S Oak Street	Colson Street	School Street	4	555	22	Poor
S Oak Street	School Street	Barrows Street	4	1320	24	Poor
S Oak Street	Barrows Street	High Street	4	265	38	Poor
W. High Street	West Village Limits	School Street	3	2440	30	Poor

Local Street Fund

Road Segment	From	To	Rating	Length (Ft)	Width (Ft)	Status of Roadway
Jamestown Drive	Cul-de-Sac	Jamestown Drive	7	440	24	Fair
Jamestown Drive	Jamestown Drive	N. Oak Street	7	1240	24	Fair
Center Street	2nd Street	3rd Street	4	300	18	Poor
Center Street	3rd Street	Dead End	4	640	18	Poor
School Street	Mid-Block	S. Oak Street	4	1010	22	Poor
Pleasant Street	2nd Street	3rd Street	3	300	20	Poor
Center Street	1st Street	2nd Street	3	300	20	Poor
2nd Street	Center Street	Blood Road	3	715	20	Poor
School Street	Barrows Street	Mid-Block	2	50	22	Poor
Barrows Street	School Street	S. Oak Street	2	705	20	Poor
Colson Street	S. Oak Street	Brown Drive	2	920	16	Poor
Pleasant Street	E. High Street	1st Street	2	310	27	Poor
Pleasant Street	1st Street	2nd Street	2	305	20	Poor
Center Street	E. High Street	1st Street	2	300	26	Poor
1st Street	Pleasant Street	Center Street	2	350	18	Poor
2nd Street	Pleasant Street	Center Street	2	350	18	Poor
3rd Street	Pleasant Street	Center Street	2	345	20	Poor
3rd Street	Center Street	Blood Road	2	705	16	Poor
4th Street	Dead End	Blood Road	2	280	16	Poor
School Street	W. High Street	Barrows Street	2	240	18	Poor

Appendix B: Recommended Treatment – Major Street Fund 2023

Road Segment	From	To	Rating	Length (Ft)	Width (Ft)	Status of Roadway	Suggested Repair	Cost of Repair
N. Oak Street	High Street	Jamestown Drive	8	2575	26	Good	No Action	\$0
W. High Street	School Street	Oak Street	5	790	38	Fair	Sealcoat or microseal	\$41,227
E. High Street	Oak Street	Barrows Street	5	345	38	Fair	Sealcoat or microseal	\$18,004
E. High Street	Barrows Street	Pleasant Street	5	120	38	Fair	Sealcoat or microseal	\$6,262
E. High Street	Pleasant Street	Center Street	5	355	38	Fair	Sealcoat or microseal	\$18,526
Barrows Street	S. Oak Street	E. High Street	5	610	28	Fair	Sealcoat or microseal	\$23,457
E. High Street	Center Street	Blood Road	4	720	30	Poor	Mill and overlay 2"	\$132,000
S Oak Street	Colson Street	School Street	4	555	22	Poor	2" overlay	\$65,663
S Oak Street	School Street	Barrows Street	4	1320	24	Poor	2" overlay (partial mill)	\$181,984
S Oak Street	Barrows Street	High Street	4	265	38	Poor	Mill and overlay 2"	\$61,539
W. High Street	West Village Limits	School Street	3	2440	30	Poor	Mill and overlay 2"	\$447,333

TOTAL

\$995,996

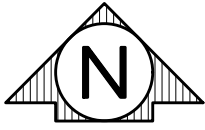
Appendix B: Recommended Treatment – Local Street Fund 2023

Road Segment	From	To	Rating	Length (Ft)	Width (Ft)	Status of Roadway	Suggested Repair	Cost of Repair
Jamestown Drive	Cul-de-Sac	Jamestown Drive	7	440	24	Fair	No Action	\$0
Jamestown Drive	Jamestown Drive	N. Oak Street	7	1240	24	Fair	No Action	\$0
Center Street	2 nd Street	3 rd Street	4	300	18	Poor	Reconstruct/Crush and Shape	\$68,400
Center Street	3 rd Street	Dead End	4	640	18	Poor	Reconstruct/Crush and Shape	\$145,920
School Street	Mid-Block	S. Oak Street	4	1010	22	Poor	Reconstruct/Crush and Shape	\$281,453
Pleasant Street	2 nd Street	3 rd Street	3	300	20	Poor	Reconstruct/Crush and Shape	\$76,000
Center Street	1 st Street	2 nd Street	3	300	20	Poor	Reconstruct/Crush and Shape	\$76,000
2 nd Street	Center Street	Blood Road	3	715	20	Poor	Reconstruct/Crush and Shape	\$181,133
School Street	Barrows Street	Mid-Block	2	50	22	Poor	Remove and Replace	\$23,500
Barrows Street	School Street	S. Oak Street	2	705	20	Poor	Reconstruct/Crush and Shape	\$178,600
Colson Street	S. Oak Street	Brown Drive	2	920	16	Poor	Reconstruct/Crush and Shape	\$186,453
Pleasant Street	E. High Street	1 st Street	2	310	27	Poor	Reconstruct/Crush and Shape	\$106,020
Pleasant Street	1 st Street	2 nd Street	2	305	20	Poor	Reconstruct/Crush and Shape	\$77,267
Center Street	E. High Street	1 st Street	2	300	26	Poor	Reconstruct/Crush and Shape	\$98,800
1 st Street	Pleasant Street	Center Street	2	350	18	Poor	Reconstruct/Crush and Shape	\$79,800
2 nd Street	Pleasant Street	Center Street	2	350	18	Poor	Reconstruct/Crush and Shape	\$79,800
3 rd Street	Pleasant Street	Center Street	2	345	20	Poor	Reconstruct/Crush and Shape	\$87,400
3 rd Street	Center Street	Blood Road	2	705	16	Poor	Reconstruct/Crush and Shape	\$142,880
4 th Street	Dead End	Blood Road	2	280	16	Poor	Reconstruct/Crush and Shape	\$56,747
School Street	W. High Street	Barrows Street	2	240	18	Poor	Reconstruct/Crush and Shape	\$54,720

TOTAL

\$2,000,893

Appendix C: PASER Rating Map



VILLAGE LIMITS

JAMESTOWN DRIVE

DEER RIDGE

OAK STREET

VILLAGE OF METAMORA

VILLAGE LIMITS

FOX HOLLOW DRIVE

RECREATIONAL TRAIL R.O.W.

HIGH STREET

TIMBO DR.

VILLAGE LIMITS

BARROWS ST.

FIRST STREET

SCHOOL STREET

SECOND ST.

PLEASANT STREET

CENTER ST.

THIRD ST.

FOURTH ST.

BLOOD ROAD

VILLAGE LIMITS

Oak STREET

COLSON STREET

RECREATIONAL TRAIL R.O.W.

VILLAGE LIMITS

LEGEND

- RATING 2
- RATING 3
- RATING 4
- RATING 5
- RATING 7
- RATING 8



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PREPARED FOR:
VILLAGE OF METAMORA

PASER RATING MAP

PLAN NO. 22L0116
 DATE: MARCH 2023
 PROJECT MGR: PTO
 REVIEWER: _____
 SCALE: NTS SHEET NO: 1

CONSTRUCTION COST OPINION

LOCATION: Village of Metamora, MI

PROJECT: Water Treatment Projects

DATE: May 2023

JOB: 22L0116

Estimate based on schematic plan using 2023 dollars. Costs will vary based on final design, phasing and year of construction.

WORK DESCRIPTION	FUNDING SOURCE	%	AMOUNT	TIMELINE
Water Meters				
Project #1 - Remove and replace all customer meters				
Rationale: The existing meters have been in operation for 20 years, and are past their service life. Installing updated system will result in more accurate reads, and will allow the installation of an antenna that can pick up data from all meters remotely, reducing labor costs.			\$ 140,000	
Subtotal			\$ 140,000	
Contingency (20%)			\$ 28,000	
TOTAL			\$ 168,000	
Budget			\$ 168,000	
General Fund	Village/DDA	100%	\$168,000	2023
Well House / Water Plant				
Project #2 - Replace Roof and Existing Stairs				
Rationale: The existing roof is showing wear and needs to be replaced. The existing steps are wood and continually experience problems. Concrete steps will provide a safe alternative. The existing retaining wall needs to be replaced.			\$ 48,000	
Subtotal			\$ 48,000	
Contingency (20%)			\$ 9,600	
TOTAL			\$ 57,600	
Budget			\$ 58,000	
General Fund	Village/DDA	100%	\$58,000	2025
Project #3 - Update Wellhouse Controls, Install Spare Chlorine Pump and Tubing				
Rationale: The existing control system is antiquated and experiences occasional problems. The system does not have redundancy if communications with the tower are interrupted. A redundant chlorine pump should be installed at the same time.			\$ 85,000	
Subtotal			\$ 85,000	
Contingency (20%)			\$ 17,000	
Design (8%)			\$ 8,000	
TOTAL			\$ 110,000	
Budget			\$ 110,000	
General Fund	Village/DDA	100%	\$110,000	2024
Project #4 - Concrete Floor in Chemical Room				
Rationale: The existing floor in the chemical room is gravel. Moisture issues are present. A concrete floor would resolve moisture issues and prevent ice issues.			\$ 15,000	
Subtotal			\$ 15,000	
Contingency (20%)			\$ 3,000	
TOTAL			\$ 18,000	
Budget			\$ 18,000	
General Fund	Village/DDA	100%	\$18,000	2027

CONSTRUCTION COST OPINION

LOCATION: Village of Metamora, MI

PROJECT: Sewage Disposal Projects

DATE: May 2023

JOB: 22L0116

Estimate based on schematic plan using 2023 dollars. Costs will vary based on final design, phasing and year of construction.

WORK DESCRIPTION	FUNDING SOURCE	%	AMOUNT	TIMELINE
Waste Water Stabilization Lagoons (WWSL)				
Project #1 - Replace Existing Plug Valves (7 Total)			\$ 105,000	
Rationale: Valves are original and are starting to have issues. Includes valve at discharge structure.				
Subtotal			\$ 105,000	
Contingency (20%)			\$ 21,000	
TOTAL			\$ 126,000	
Budget			\$ 126,000	
Sewer Fund	Village/DDA	100%	\$126,000	2023
Project #2 - Measure Sludge and Prepare Construction Plans				
Rationale: Sludge has not been removed since the construction of the lagoons. It is likely that sludge buildup is beginning to impact the quality of the effluent.			\$ 35,000	
Subtotal			\$ 35,000	
Contingency (20%)			\$ 7,000	
TOTAL			\$ 42,000	
Budget			\$ 42,000	
Sewer Fund	Village/DDA	100%	\$42,000	2024

PROJECT: Sewage Disposal Projects

Project #3 - Sludge Removal				
Rationale: Depending upon the results of Project #2 - Measure Sludge and Prepare Construction Plans, removal of the sludge will likely be necessary. Cost of this project will vary depending upon the amount of sludge discovered.				
Construction Plans, removal of the sludge will likely be necessary. Cost of this project will				\$ 600,000
Subtotal				
				\$ 600,000
Contingency (20%)				
				\$ 120,000
TOTAL				
				\$ 720,000
Budget				\$ 720,000
Sewer Fund	Village/DDA	100%	\$150,000	2025

Project #4 - Install Ferric Chloride Feed System				
Rationale: Ferric chloride is used to lower the phosphorous levels in the effluent. Currently, ferric is fed manually. An automated chemical feed system would improve effluent quality.				
Currently, ferric is fed manually. An automated chemical feed system would improve				\$ 125,000
Subtotal				
				\$ 125,000
Contingency (20%)				
				\$ 25,000
TOTAL				
				\$ 150,000
Budget				\$ 150,000
Sewer Fund	Village/DDA	100%	\$150,000	2026

PROJECT: Sewage Disposal Projects

Oak Street Lift Station				
Project #1 - Replace Check Valve				
Rationale: Existing check valve is inoperable and one pump has been taken offline as a result.			\$	15,000
Subtotal			\$	15,000
Contingency (20%)			\$	3,000
TOTAL			\$	18,000
Budget			\$	18,000
Sewer Fund	Village/DDA	100%	\$18,000	2023
Project #2 - Install Standby Generator & Relocate Control Panel				
Rationale: The pump station pumps all sewage to the lagoons. The station is critical to the operation of the system. A standby generator will allow continuous operation in the event of a power outage. Project also includes relocation of the control panel to correct a dangerous terrain issue (steep slope).			\$	80,000
Subtotal			\$	80,000
Contingency (20%)			\$	16,000
TOTAL			\$	96,000
Budget			\$	96,000
Sewer Fund	Village/DDA	100%	\$96,000	2024
Jamestown Lift Station				
Project #1 - Replace Existing Control Panel				
Rationale: The existing control panel is in poor condition. The panel lacks a main disconnect and the components are beginning to fail.			\$	45,000
Subtotal			\$	45,000
Contingency (20%)			\$	9,000
TOTAL			\$	54,000
Budget			\$	54,000
Sewer Fund	Village/DDA	100%	\$54,000	2027
School Street Lift Station				
Project #1 - Replace Existing Hatch and Address H2S Gas Issues				
Rationale: The existing wet well hatch does not lock and is in poor condition. The station also needs to have proper electrical seal offs to prevent H2S gas from reaching the control panel and causing corrosion.			\$	30,000
Subtotal			\$	30,000
Contingency (20%)			\$	6,000
TOTAL			\$	36,000
Budget			\$	36,000
General Fund	Village/DDA	100%	\$36,000	2027

PROJECT: Sewage Disposal Projects

System Controls				
Project #1 - Install SCADA System on Sanitary System				
Rationale: Each station and facility currently utilizes phone lines and antiquated dialer systems for alarm situations. The water system does not have adequate redundancy to operating when communication is interrupted. The project includes a base station and telemetry at each of the three lift stations, the well house and the elevated tank.			\$	100,000
Subtotal			\$	100,000
Contingency (20%)			\$	20,000
TOTAL			\$	120,000
Budget			\$	120,000
General Fund	Village/DDA	100%	\$120,000	2026

PROJECT: Park CIP

May, 2023

JOB: 22L0116

Refer to detailed construction cost opinion for additional information.

WORK DESCRIPTION	FUNDING SOURCE	%	AMOUNT	TIMELINE
Harmer Park Improvements				
Rationale: No current public restrooms downtown; costs to modify village offices and security was not preferred. Direct purchase and install by village.				
Vault toilet at Harmer Park			\$ 35,000	
Subtotal			\$ 35,000	
Contingency (20%)			\$ 7,000	
TOTAL			\$ 42,000	
Budget			\$ 42,000	
General fund	Village/DDA	100%	\$42,000	2023
Trail Improvements				
Rationale: Additional improvements can be made based on available funding. Provides improved function for maintenace and trail use from High Street to the Post Office.				
Aggregate surface, clearing.			\$ 26,600	
Subtotal			\$ 26,600	
Contingency (20%)			\$ 5,320	
TOTAL			\$ 31,920	
Budget			\$ 32,000	
General fund	Village/DDA	100%	\$32,000	2024
Community Park Improvements - Phase 1				
Rationale: Take advantage of limited SPARK grant opportunity for recreation project completion by 2026 at one site location to do improvements at Community Park. Back-up plan would be to pursue an MDNR Trust Fund Grant. Reimbursement grants require cash-flow for project implementation.				
Pavilion (no restrooms)			\$ 163,000	
Parking Lot			\$ 236,950	
Subtotal			\$ 399,950	
Contingency (20%)			\$ 79,990	
Design Engineering Budget (8%)			\$ 38,395	
Construction Engineering, Staking, Oversight, Testing, and Contract Admin. (8%)			\$ 38,395	
Permits			\$ 2,000	
TOTAL			\$ 558,730	
Budget			\$ 557,000	
SPARK grant (apply 2023)	MDNR	100%	\$ 557,000	2025

PROJECT: Park CIP
 May, 2023

Community Park Improvements - Phase 2				
Rationale: Leverage accessible parking, etc from previous phases to add accessibility and improvements to rest of Community Park				
Pathway (lower)			\$ 63,600	
Pathway (upper)			\$ 110,025	
Disc Golf			\$ 60,000	
Subtotal			\$ 233,625	
Contingency (20%)			\$ 46,725	
Design Engineering Budget (10%)			\$ 28,035	
Construction Engineering, Staking, Oversight, Testing, and Contract Admin. (8%)			\$ 22,428	
Permits			\$ 2,000	
TOTAL			\$ 332,813	
Budget			\$ 333,000	
Michigan Natural Resource Trust Fund	MDNR	90%	\$ 301,270	Apply 2026
Patronicity	MEDC	15%	\$ 51,280	2026
Local Match	Village/DDA	45%	\$ 288,450	2027

CONSTRUCTION COST OPINION

LOCATION: Village of Metamora, MI

PROJECT: Park CIP

DATE: May 2023

JOB: 22L0116

Estimate based on schematic plan using 2023 dollars. Costs will vary based on final design, phasing and year of construction.

WORK DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	AMOUNT
Harmer Park				
Premanufactured Vault Toilet (2 unisex) to support local events, no utilities. North of High Street, east of White Horse parking				
Vault (quotes by village) Incl shipping and installation by village	1	Lsum	\$ 35,000	\$ 35,000
Linear Trail				
Improve existng maintenance /access road from High Street to the Post Office				
Aggregate Surface, 4 inch 21AA (8' x 2,000')	1,800	Syd	\$ 12	\$ 21,600
Clearing and trimming along access road	1	Lsum	\$ 5,000	\$ 5,000
Subtotal				\$ 26,600
Community Park Festival Area (front) Parking Lot				
37 space parking lot. Assumes use of existing storm waterbasin for detention.				
Mobilization	1	Lsum	\$ 21,000	\$ 21,000
Subgrade Undercutting	100	Cyd	\$ 45	\$ 4,500
Site Grading	9,500	Cyd	\$ 5	\$ 47,500
Erosion Control, Silt Fence	1,000	Ft	\$ 2	\$ 2,000
Erosion Control, Mud Mat	1	Ea	\$ 1,000	\$ 1,000
Aggregate Base, 8 inch 22A	2,600	Syd	\$ 18	\$ 46,800
HMA, 13A, (5 inch) for barrier free spaces and drives	250	Ton	\$ 125	\$ 31,250
Curb and Gutter, Conc (east half of lot and drives)	1,000	Ft	\$ 35	\$ 35,000
Sidewalk	600	Sft	\$ 8	\$ 4,800
4 inch Pavement Marking	250	Ft	\$ 2	\$ 500
Pavement Marking, Overlay Cold Plastic, Handicap Symbol, Blue	2	Ea	\$ 400	\$ 800
Turf Establishment	1,000	Syd	\$ 3	\$ 3,000
3 lb Steel Post (2 for parking signs)	20	Ft	\$ 15	\$ 300
Barrier Free Parking Signage	2	Sft	\$ 100	\$ 200
Entry Sign	1	Lsum	\$ 5,000	\$ 5,000
18 inch End Section	1	Ea	\$ 800	\$ 800
Storm Sewer for Parking Lot	1	Lsum	\$ 12,000	\$ 12,000
Riprap	50	Syd	\$ 50	\$ 2,500
4 Ft Dia Drainage Structure w/ Cover	2	Ea	\$ 2,500	\$ 5,000
18 inch Storm Sewer, Trench Detail B	200	Ft	\$ 65	\$ 13,000
Subtotal				\$ 236,950

LOCATION: Village of Metamora, MI
 PROJECT: Park CIP
 DATE: May 2023

Community Park Festival Area (front) Improvements				
Miscellaneous Improvements (8' wide path from sdwk to balloon launch area, pavilion)				
Shared Use Path, Clearing and Grading	9	Sta	\$ 800	\$ 7,200
Aggregate Base, 8 inch 22A	1,000	Syd	\$ 18	\$ 18,000
Erosion Control, Silt Fence	900	Ft	\$ 2	\$ 1,800
HMA, 13A, (3 inch). 8 foot wide	150	Ton	\$ 120	\$ 18,000
Subgrade Undercutting, Misc.	80	Cyd	\$ 45	\$ 3,600
Turf Establishment	3,000	Syd	\$ 3	\$ 9,000
Mobilization	1	Lsum	\$ 6,000	\$ 6,000
Subtotal			\$	63,600
Pavilion (30x60) wood frame with steel roof, prefmng/deliv	1	Lsum	\$ 70,000	\$ 70,000
Pavilion Installation	1	Lsum	\$ 30,000	\$ 30,000
Pavilion Electrical Service/Outlets	1	Lsum	\$ 15,000	\$ 15,000
Pavilion Concrete Pad, 6 inch	1,200	Sft	\$ 10	\$ 12,000
Picnic Tables	9	Ea	\$ 1,500	\$ 13,500
Benches	10	Ea	\$ 2,000	\$ 20,000
Permanent Corn hole boards (2 sets) covers and bag box	1	Lsum	\$ 1,000	\$ 1,000
Turf Establishment	500	Syd	\$ 3	\$ 1,500
Subtotal			\$	163,000
Community Park Balloon Launch (middle) Improvements				
8' perimeter path (.35 mile)				
Shared Use Path, Clearing and Grading	19	Sta	\$ 800	\$ 15,200
Aggregate Base, 8 inch 22A	1,700	Syd	\$ 18	\$ 30,600
Erosion Control, Silt Fence	3,000	Ft	\$ 2	\$ 6,000
HMA, 13A, (3 inch). 8 foot wide	300	Ton	\$ 120	\$ 36,000
Subgrade Undercutting, Misc	125	Cyd	\$ 45	\$ 5,625
Turf Establishment	2,200	Syd	\$ 3	\$ 6,600
Mobilization	1	Lsum	\$ 10,000	\$ 10,000
Subtotal			\$	110,025
Adventure Area (back) Improvements				
Includes various development options for unique recreation opportunities in the west portion of the site.				
Disc Golf Course, 18 hole	1	Lsum	\$ 60,000	\$ 60,000
Subtotal			\$	60,000
<p>In providing opinions of probable construction cost, the Client understands that the Consultant has no control over the cost or availability of labor, equipment or materials, or over market conditions or the Contractors method of pricing and that the Consultants opinions of probable constructions costs are made on the basis of the Consultant's professional judgement and experience. the consultant makes no warranty, express or implied, that the bids or the negotiated costs of the work will not vary from the Consultant's opinion of probably construction cost.</p>				

Funding for Parks and Recreation Projects

General Fund

Continue to budget for re-investment in facilities to avoid future increased maintenance costs and ensure revenue streams when possible.

User Fee

Continue to charge reasonable fees to participants of recreation programs and key facilities. Evaluate the fees annually to ensure they are providing the appropriate amount of funding to allow the programs to continue.

Special Millage

A property tax millage can be used to finance specific park and recreation projects such as parkland improvements and facility upgrades. A millage is an effective method to divide costs over time among all the taxpayers in the community to provide matching grant funds or finance projects out-right. A millage allows more flexibility in how the money is used than a bond.

Bonds

Several bond programs can be used to finance construction of parks and recreation facilities. General Obligation Bonds are issued for specific community projects and may not be used for other purposes. These bonds are usually paid for with property tax revenues. Revenue bonds are issued for construction of public projects that generate revenues. The bonds are then retired using income generated by the project.

Michigan Department of Transportation

The **Transportation Alternatives Program (TAP)** provides funding for numerous types of projects that support the enhancement of transportation facilities and promote safe and efficient multi-modal transportation methods. This is a reimbursement program that originally comes from the federal level and is administered by Michigan Department of Transportation (MDOT). A minimum of 20 percent local match is required for proposed projects.

Michigan Department of Natural Resources Grants

The **SPARK grant** is a limited funding option with two (2) application periods in 2023 for recreation projects between \$100,000 and \$1M with no match requirement. Projects must demonstrate a response to Covid impacts and be able to be completed by the end of 2026. They cannot be combined with any other federal funding, but other non-federal grant opportunities can be used.

The **Michigan Department of Natural Resources Trust Fund (MNRTF)** provides funding assistance for state and local outdoor recreation needs, including land acquisition and development of recreation facilities. This assistance is directed at creating and improving outdoor recreational opportunities and providing protection to valuable natural resources. The grants are between \$15,000 and \$300,000 with a required minimum local match of 25 percent. Final engineering and construction services are covered at a maximum of 15 percent.

The **Land and Water Conservation Fund (LWCF)** provide grants to local units of government to acquire and develop land for outdoor recreation. At least a 50 percent match on either acquisition or development projects is required from local government applicants. The Michigan Department of Natural Resources (DNR) makes recommendations to the National Park Service (NPS), which grants final approval.

The **Michigan Recreation Passport Grant** program is funded by those who 'opt in,' that is, those desiring access of support the Michigan parks system as part of their license renewal. Eligible projects are targeted for renovation and improvement to existing parks. Grants range from \$7,500 to \$150,000 with a minimum 25 percent local match, with the anticipation that the maximum grant amount will increase as revenue from sales of the Recreation Passport also increases.

Other DNR grants include specialized opportunities such as the **Urban and Community Forestry (UCF)** program, funded through the United States Department of Agriculture (USDA) Forest Service's State and Private Forestry program and the Water Trail Designation Program. Local units of government, nonprofit organizations and schools are eligible to apply. Projects include street and park tree management and planning activities; urban forestry training and education events; tree plantings; and Arbor Day celebrations.

Community Development Block Grants (CDBG) projects must be in a low-moderate income service area and/or provide access to the disabled to qualify. Investments using CDBG funds must provide a documented benefit to low-moderate income households. Projects eligible for funding include public infrastructure improvements and those that provide Americans with Disabilities Act (ADA) accessibility.

Michigan Economic Development Corporation (MEDC) Patronicity Crowd Funding is a way of securing funding for community development projects by using crowdfunding to support developments. Communities, non-profits, and municipalities can submit projects by applying to the Patronicity campaign. The projects that meet the program's parameters and successfully crowd-fund their goal will receive a matching grant from the MEDC of up to \$50,000. <https://www.patronicity.com/puremichigan>

Michigan Community Revitalization Program (MCRP)-MEDC is a program available from the Michigan Strategic Fund (MSF), in cooperation with MEDC, designed to promote community revitalization that will accelerate private investment in areas of historical disinvestment, contribute to Michigan's reinvention as a vital, job-generating state, foster redevelopment of functionally obsolete or historic properties, reduce blight; and protect the natural resources of the state. The focus of the MCRP is to encourage and promote capital investment and redevelopment of brownfield and historic preservation sites located in traditional downtowns and high-impact corridors.

United States Department of Agriculture Rural Development (USDA) operates a direct loan and grant program provides funding for essential community facilities through the Rural Development program. Example projects include pavilions with shared use as a Farmers Market at trailheads. Yearly applications. 7 CFR Part 4280, Subpart E.

Michigan Natural Resources Tree Planting Grants oversees three tree planting grant programs that will assist in funding landscape enhancements at park and reforestation projects. Applicants must provide at least 50 percent of the total project cost.

United States Department of Transportation – Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant has a maximum grant amount of \$25 Million; with no more than \$100 Million going to one state. The grant is used to develop equitable access to multimodal transportation in communities. Current programs that qualify for this grant include the Rails to Trails Conservancy.

Donations from businesses, corporations, private clubs, community organizations and individuals will often contribute to recreation and other improvement programs to benefit the communities in which they are located. Private sector contributions may be in the form of monetary contributions, the donation of land, the provision of volunteer services or the contribution of equipment or facilities.

Conservation Easements are a method of preserving open space that is guaranteed through formal documentation. Rather than obtaining fee simple or complete ownership, an organization or community can purchase or acquire by gift an 'easement' to the property.

National Park Service – State Historic Preservation Programs are intended to support preservation of historic sites across the county. Eligible entities include local and state municipalities, federal, and tribal representation. Grants are awarded annually and based upon the needs of the community.

Public-Private or Public-Public Partnerships are set up as a means to accommodate specialized large-scale recreation demands.

Foundations are a special non-profit legal entity established as a mechanism through which land, cash and securities can be donated for the benefit of parks and recreation services. The assets are disbursed by the foundation's Board of Directors according to a predetermined plan.

National Forest Foundation – Matching Awards Program (MAP) provides funding for results-oriented "on-the ground" projects that enhance outdoor experiences in forests and grasslands. Match is 1:1 and applications are due in January of every year for Round 1 and June for Round 2. Eligible applicants are 501(c)(3) non-profits, universities and federally recognized Native American tribes.

Harry A. & Margaret D. Towsley Foundation provides funding for projects in arts/culture, education, environmental support, civic and community activities and health and human services. The geographic area of primary interest is Michigan. Eligible applicants are 501(c)(3) non-profits, community groups, non-political committees, and local capital improvement projects. Capital project request may not exceed 10 percent of the total cost of the project. Foundation does not support organization on an annual (or ongoing) basis and encourages self-sufficiency and financial sustainability.

Home Depot – Community Impact Grants are offered through Home Depot. Grant awards go up to \$5,000 to 501 (c)(3) designated organization (for at least one year) and tax-exempt public service agencies in the United States. Grants are normally given in the form of Home Depot gift cards to purchase tools, material, or services.

Doppelt Family Trail Development Fund was developed in 2015. The purpose of the fund is to develop rails to trails routes throughout the United States and multi-use trails. Annually, the fund disperses \$85,000 through a competitive grant application for the purpose of development or acquisition. Average grant is between \$10,000 and \$25,000.

AARP Community Challenge is a community grant program available for all 501 (c) non-profit organizations, government entities and other types of organizations based on a case-by-case basis. Program seeks to improve public spaces, civic engagement, inclusion, and transportation. Submission dates for the grant program are in April of the calendar year.

These grant funding opportunities can be accessed through the **Michigan Foundation Directory**:

https://subscribe.foundationcenter.org/?_ga=2.251298116.396118890.1593525913-378130520.1593525913&_gac=1.228271727.1593525913.CjwKCAjwxev3BRBBEiwAiB_PWJKS7JaVg1UtcOvn2w4xQ70R4WM9XI5o7YIRtcuLCZfLf_X9nDxBqxoCCXgQAvD_BwE#/fdo/sign-up/professional

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**PHASING PLAN
CONSTRUCTION COST OPINION**

LOCATION: Village of Metamora

PROJECT: Village Owned Facility Improvements

DATE: May 2023

Estimate based on schematic plan using 2023 dollars. Costs will vary based on final design, phasing and year of construction.

WORK DESCRIPTION	FUNDING SOURCE	%	AMOUNT	TIMELINE
VILLAGE HALL				
Project #1 - Furnace/Air Conditioning Unit needs replacement.				
Rationale: Furnace/AC Rooftop unit is at end of its service life.			\$ 13,750	
Subtotal			\$ 13,750	
Contingency (20%)			\$ 2,750	
TOTAL			\$ 16,500	
Budget			\$ 16,500	
General Fund	Village/DDA	100%	\$16,500	2023

LOCATION: Village of Metamora
 PROJECT: Village Owned Facility Improvements

DEPARTMENT OF PUBLIC WORKS FACILITY (BUILDINGS)				
Project #1 - Metal Roof on Smaller Barn (30' x 40')				
Rationale: Existing roof is original; leaks are forming. Metal roof will provide lifetime protection.				
Subtotal			\$	10,000
Contingency (20%)			\$	2,000
TOTAL			\$	12,000
Budget			\$ 12,000	
General Fund	Village/DDA	100%	\$12,000	2024
Project #2 - New Bathroom, Including Water & Sewer Connections				
Rationale: DPW Staff have no bathroom facility. Time can be saved when working on site, and installing wash basin will provide opportunity for cleaning (both employees and building).				
1" PEX Water Service, Tap, Shut off Valve			\$	40,000
6" PVC Sanitary Sewer Service with Tap			\$	55,000
Bathroom (Plumbing, Fixtures, and Walls)			\$	25,000
Subtotal			\$	120,000
Contingency (20%)			\$	24,000
Design Engineering Budget (8%)			\$	11,520
TOTAL			\$	155,520
Budget			\$ 156,000	
General fund	Village/DDA	100%	\$ 156,000	2026

LOCATION: Village of Metamora
 PROJECT: Village Owned Facility Improvements

DEPARTMENT OF PUBLIC WORKS FACILITY (GROUNDS)

Project #1 - Security Gate at Trail Crossing

Rationale: Security gate at vehicle entrance to DPW property and lagoon entrance will reduce trespassing.

12' Single arm galv. Gate (2 Posts) by Tiger Teeth or Equal			\$	2,000	
Boulders to supplement gate			\$	1,000	
Subtotal			\$	3,000	
Contingency (20%)			\$	600	
TOTAL			\$	4,000	
Budget			\$	4,000	
General Fund	Village/DDA	100%	\$	4,000	2024

Project #2 - Asphalt Pad for Salt Shed & Outdoor Storage Bins

Rationale: Village is paying ongoing cost to rent space on private land to store salt. While grading and paving equipment is on site, providing space for storage bins to contain cold patch and road gravel would save money and time driving to purchase supplies on a routine basis. (Supplies could be delivered in larger quantities.)

Earthwork & Aggregate Base			\$	12,000	
Pre-Cast Concrete Block Walls			\$	15,000	
HMA			\$	7,500	
Subtotal			\$	34,500	
Contingency (20%)			\$	6,900	
Design Engineering Budget (10%)			\$	3,312	
Construction Engineering, Staking, Oversight, Testing, and Contract Admin. (15%)			\$	6,210	
TOTAL			\$	50,922	
Budget			\$	51,000	
General Fund	Village/DDA	100%	\$	51,000	2025

Project #3 - Salt Shed (30' x 30')

Rationale: Village is paying ongoing cost to rent space on private land to store salt.

Salt Shed			\$	50,000	
Contingency (20%)			\$	10,000	
TOTAL			\$	60,000	
Budget			\$	60,000	
General Fund	Village/DDA	100%	\$	60,000	2027

DEPARTMENT OF PUBLIC WORKS FACILITY (EQUIPMENT)

Project #1 - Leaf Trailer Upgrade

Rationale: Existing leaf trailer is not equipped to handle volume of work required. Annual leaf pickup could be done more efficiently.

Leaf Trailer			\$	3,000	
Contingency (20%)			\$	600	
TOTAL			\$	3,600	
Budget			\$	4,000	
General Fund	Village/DDA	100%	\$	4,000	2024

