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Administrator: Christophe Jenkins
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Treasurer: Melissa Depies
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FREDONIA PUBLIC WORKS AND UTILITIES/TREE BOARD MEETING

Wednesday, June 21, 2023 at 6:00PM

Fredonia Government Center – East Conference room
242 Fredonia Avenue, Fredonia, Wisconsin

THE FOLLOWING BUSINESS WILL BE BEFORE THE PUBLIC WORKS COMMITTEE FOR INITIATION, DISCUSSION, CONSIDERATION, DELIBERATION AND POSSIBLE FORMAL ACTION

1. Call meeting to order
2. Consent Agenda:
 - a) Approve minutes from August 22nd, 2022, Public Works and Utilities/Tree Board Committee meeting
3. Presentation of 2023 Road and Utility Study
4. Discussion and Possible Recommendation on SCADA Update
5. Discussion and Possible Action on Emergency Backup Power Options for Public Works and Utilities
6. Items for future consideration
7. Adjourn

NOTICE IS HEREBY GIVEN that a majority of the Fredonia Village Board may attend this meeting in order to gather information about a subject over which they have decision-making responsibility.

UPON REASONABLE NOTICE, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For additional information or to request this service, contact the village clerk at 692-9125.

August 22, 2022 Public Works Committee Minutes.

1. CTO 6:02. Present: Don, John, Josh and Roger, also Melissa and Sandi Tretow.
2. Minutes approved by Josh, 2nd by John, carried.
3. Budgets: Sewer - reduced Washington Ave project by \$5,000 to balance budget. No rate increase is recommended. Water - replace booster pumps for both wells. Money to come from (TBD). No rate increase recommend. Discussed possible water main replacement projects using ARPA \$'s. General Fund - discussed personnel needs, COLA's, Ins. costs, leasing vehicles and equipment, projects, etc. We are waiting for numbers to help prioritize what will make sense for '23. Culvert replacement at S. Milwaukee St./Wheeler Ave and ordering a diesel truck chassis with duels are the two most pressing needs for P/W.
4. Future meeting: finalize budget numbers and pick projects.
5. Adjourned at 8:22, motion by Josh, 2nd by John, carried.

Respectfully submitted,

Don Dohrwardt
Chair, Public Works Committee



2050 Transportation Network Sustainability Plan

Village of Fredonia, Wisconsin

A guide to achieving a financially sustainable transportation network for the Village of Fredonia

This document was created through a collaborative effort of staff for the Village of Fredonia, outreach to Ozaukee County, and contracted services with Strand Engineering to provide the citizens of the village a safe, reliable, accessible, and well-maintained transportation system.

This edition was approved by the Village of Fredonia Board of Trustees on _____.

JUNE 2023

Edition 1

Acknowledgments

VILLAGE OF FREDONIA OFFICIALS

Daniel Gehrke – President

Village Board

Rick Abegglen

Tiffany Bartz

Don Dohrwardt

Josh Haas

Kurt Meyle

Bruce Paape

VILLAGE OF FREDONIA STAFF

Christophe Jenkins – Village Administrator

Eric Paulus – Public Works Director

Brandon Heinen – Water Utility Foreman

Melissa Depies – Village Treasurer

Michelle T. Johnson – Village Clerk

OTHER PARTNERS

Jon Edgren – Ozaukee County Public Works Director

Josh Borden – Ozaukee County Superintendent

Isak Fruchtman – Strand Engineering

Kyle Engelking – GIS Coordinator

1 Introduction and Purpose

The Village Board of Trustees assigned Village Administration and staff a 2023 goal to develop a five-year road and utility maintenance and reconstruction plan. This plan evolved into the following report that was designed to enhance safe traffic flow, ease congestion and ensure efficient mobility while improving, enhancing, and continuously investing in a safe, reliable, accessible, and well-maintained transportation infrastructure.

This plan contains...

- 1) Introduction and Purpose (Pg 3)
- 2) Methodology (Pg 2)
- 3) Planned Road Improvements (Pg 15)
- 4) Funding the Plan (Pg ...)
- 5) Policy Decisions (Pg ...)
- 6) Executive Summary (Pg ...)

This plan is subject to budget appropriation in each budget process and is intended to serve as a planning tool. Actual revenues and expenses consistent with the direction outlined in this plan will be reviewed and considered by the Village of Fredonia Board of Trustees.

2 Methodology

The following explains resources utilized and factors considered when determining which roads are in need of repair and how they were prioritized in the long-term plan.

Street Inventory

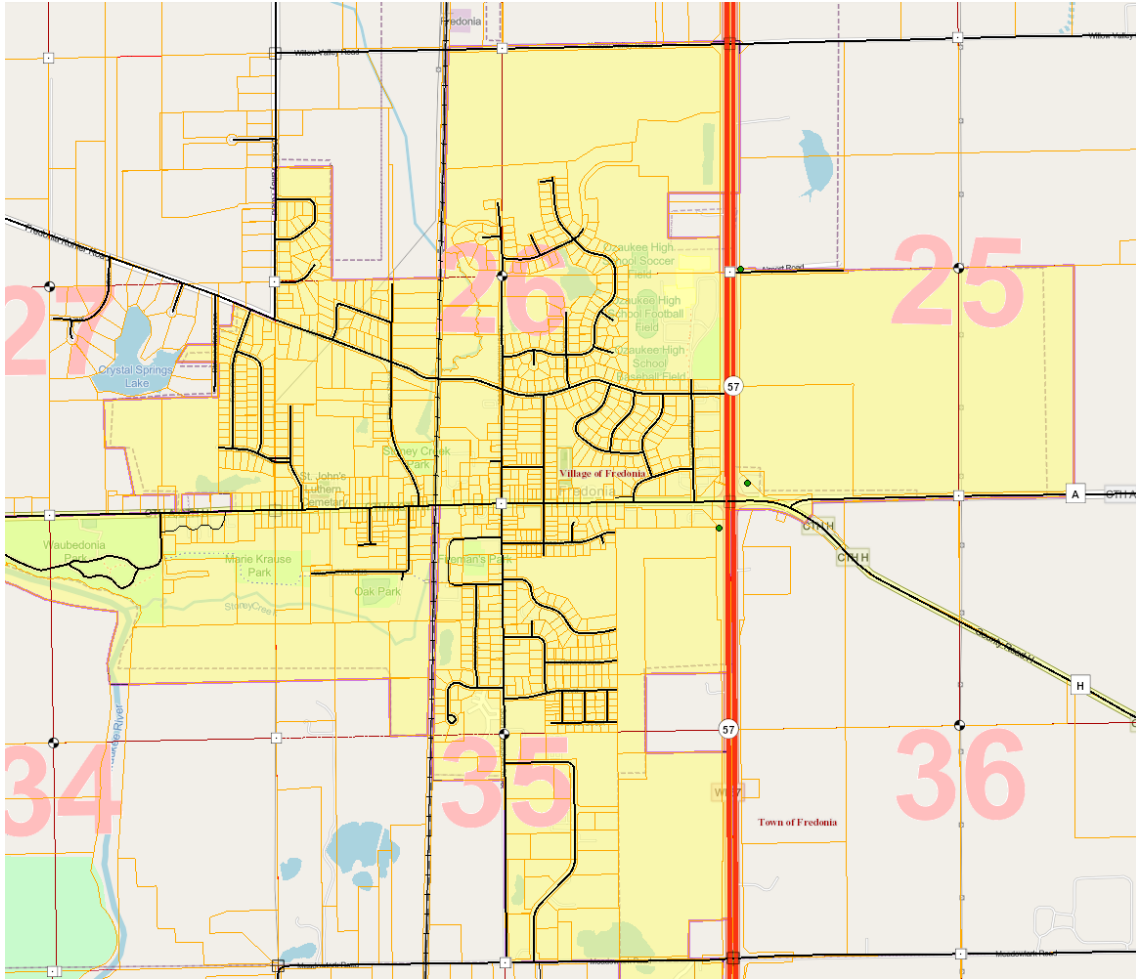
The first step taken to formulate the plan was to inventory which streets existed within the Village's limits and confirm which ones are the Village's responsibility to improve. This was accomplished by utilizing the Geographic Information System (GIS) technology and integrating a street database from the Wisconsin Department of Transportation's (WisDOT) road inventory system known as WISLR (Wisconsin Information System for Local Roads).

WISLR – Wisconsin Information System for Local Roads

A main source of road inventory information was WisDOT's WISLR system. WISLR is an internet-accessible system that helps local government and WisDOT manage local road data to improve decision-making and to meet state statute requirements. WISLR is a database for local road information, such as width, surface type, surface year, shoulder, curb, road category, functional classification, and pavement condition ratings.

Map 1 (next page) displays all streets and alleys under the Village's jurisdiction and have been considered for planning.

MAP 1
STREET INVENTORY 2023



Source: Ozaukee County GIS

Pavement Conditions

PASER Ratings

Pavement condition is rated and reported through WisDOT’s PASER (Pavement Surface Evaluation and Rating) system. Roads are evaluated and rated on a scale of 1 (failed) to 10 (excellent condition). Every two years municipalities and counties are required, under state statute, to report pavement condition ratings of roads under their jurisdiction to WisDOT. PASER ratings are documented within the WISLR system and are able to be extracted and displayed geographically using GIS.

| SURFACE DESCRIPTION | RATING | MILEAGE | PERCENT OF OVERALL MILEAGE |
|---------------------|--------|---------|----------------------------|
| Excellent | 10 | 0.88 | 2% |
| Excellent | 9 | 1.57 | 4% |
| Very Good | 8 | 1.47 | 4% |
| Good | 7 | 1.21 | 3% |
| Good | 6 | 22.46 | 56% |
| Fair | 5 | 0.45 | 1% |
| Fair | 4 | 8.63 | 22% |
| Poor | 3 | 2.72 | 7% |
| Very Poor | 2 | 0.51 | 1% |
| Failed | 1 | 0.04 | 0% |

Total = 39.94

Source: WSILR, WisDOT, and Ozaukee County

Table 1 displays street mileage and the percentage of the village’s overall street mileage that were rate on the PASER system in 2023.

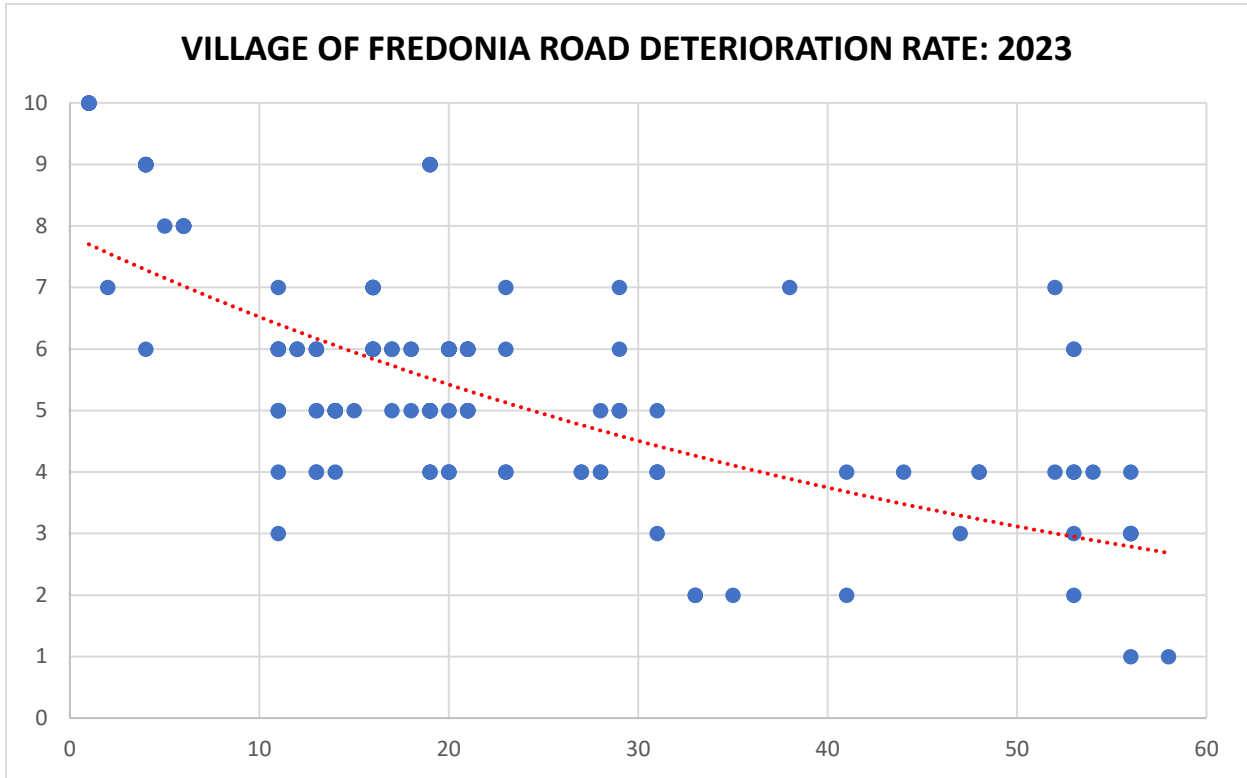


Newly paved surfaces such as Wilson St (shown left) received a PASER rating of “10”, where as crumbling roads such as Wisconsin St (shown right) are a “1”.

Utilizing WISLR road inventory data as of 2023, Figure 1 depicts the lifespan of the village’s roadways as it relates to decreasing PASER ratings as time progresses. With a few outlying data points removed, as shown by the logarithmic trend line, the most significant decline occurs in the first 25 years of the pavement’s life.

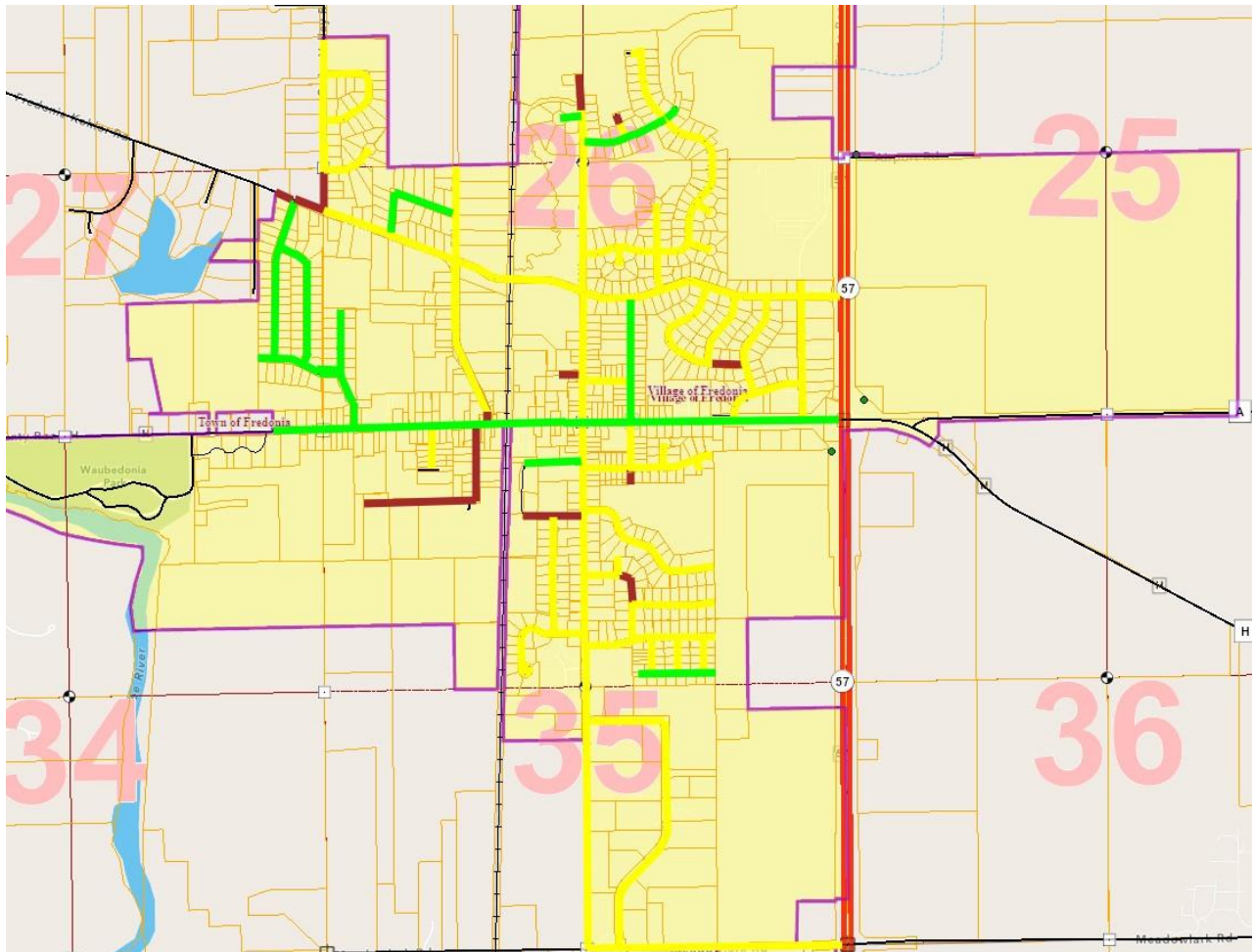
Decline continues but at a slower rate beyond 25 years with a typical lifecycle lasting approximately up to 50-60 years.

Figure 1



Source: WISLR, WisDOT, Village of Fredonia, and Ozaukee County

MAP 2
STREET INVENTORY 2023



Source: WisDOT, Village of Fredonia, and Ozaukee County

PASER RATINGS

- = 1 - 3
- = 4 - 6
- = 7 - 10

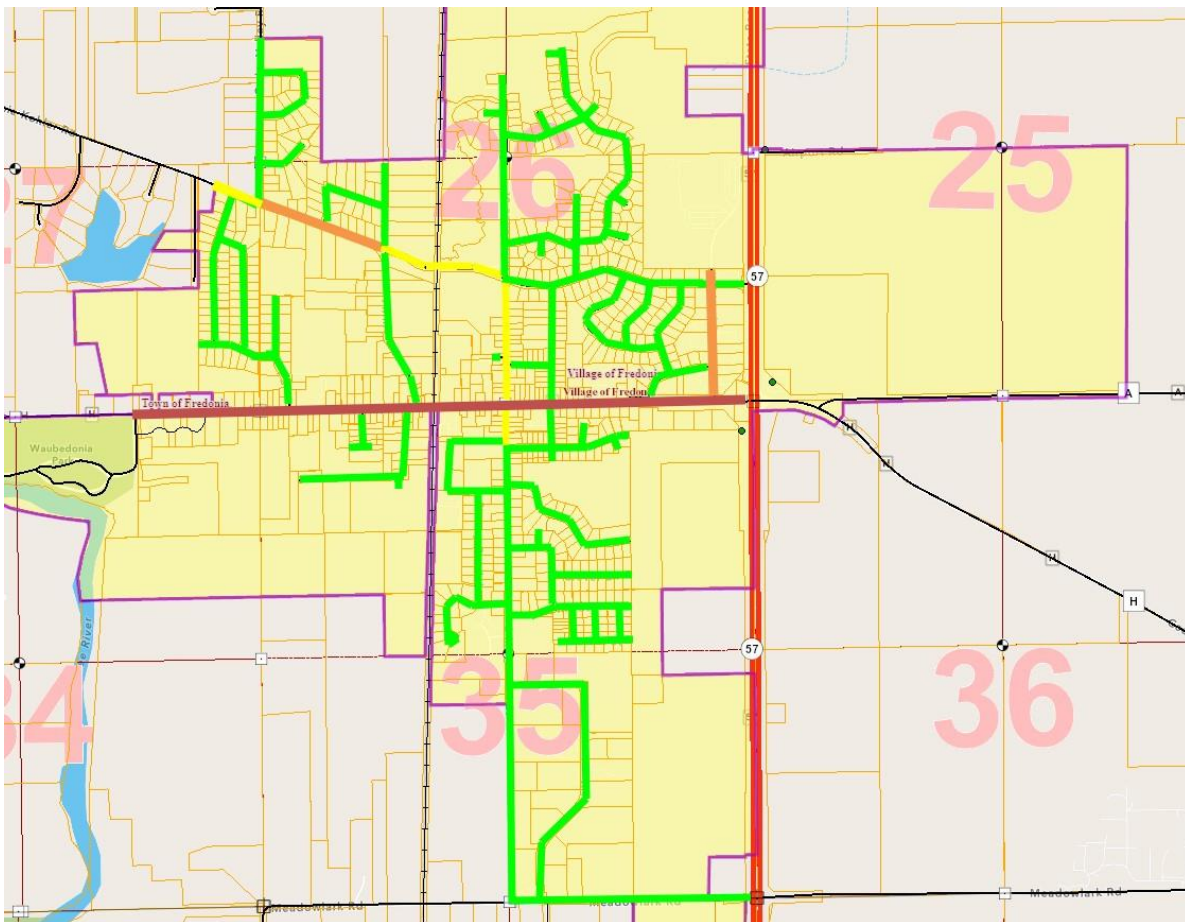
Map 2 displays the ratings of all village streets generalized into three categories; 1-3, 4-6, and 7-10. These three categories could be considered high, medium, and low priority for improvement respectively.

Traffic Volume

The volume of traffic that a roadway carries can also influence the timing and urgency of when it should be improved. Traffic volume is measured by “Annual Average Daily Traffic” or “AADT”. AADT represents traffic in both directions of travel and is the average for that particular section of route. The condition of roadways with higher AADT’s affects more vehicles and travelers. This helps prioritize which roads to improve and when. The Village’s street system with estimated AADT is shown on Map 3.

MAP 3

TRAFFIC VOLUMES (AADT)



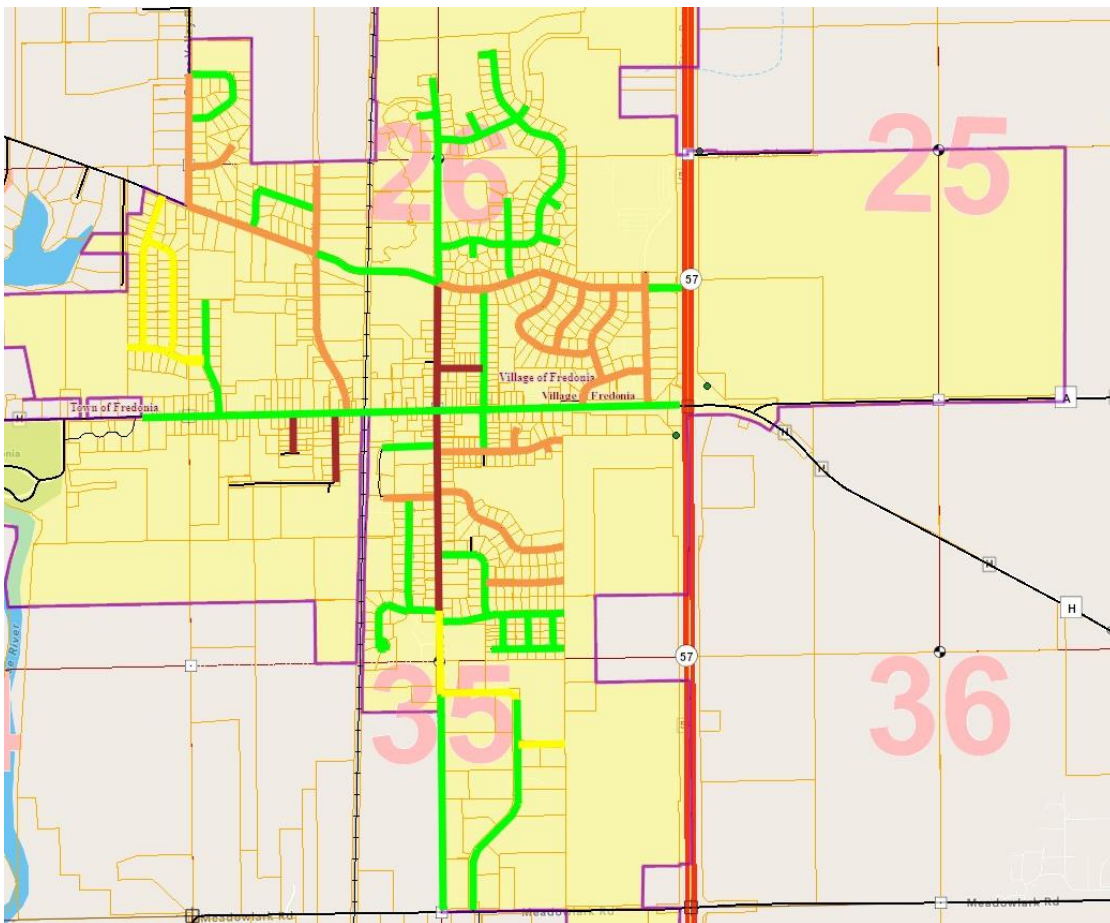
Source: WisDOT, Village of Fredonia, and Ozaukee County

- = Traffic Count of ~5000 per Day
- = Traffic Count of ~1000 per Day
- = Traffic Count of ~500-1000 per Day
- = Traffic Count of <500 per Day

Utilities

Another factor that can dictate when a roadway is improved is what lies below the surface. Various utilities such as water, sewer, and storm water commonly lay below roadways, especially in urbanized areas. The next step in the planning process was to gather an inventory of underlying utilities, with a focus on water and sanitary sewer, and determine the number of breaks that had occurred in recent history, flow issues, and the size of the lines. The repair of utility issues facilitates improvement of the road surface. Map 4 showcases a map of the age of utilities.

MAP 4
AGE OF UTILITIES



Source: WisDOT, Village of Fredonia, and Ozaukee County

- = 71 – 100 Years
- = 51 – 70 Years
- = 31 – 50 Years
- = 0 – 30 Years

Water Utilities

Water is transported from one of two wells and/or the water tower to homes, businesses, and other locations through pipes known as water mains and service connections. The type of pipe used can vary as standards have changed over time for a variety of reasons.

In the early days of urban development, it was common for water mains to be made of cast iron. The use of cast iron pipe gave way to ductile iron pipe due to different coating technologies that increased durability, elasticity, and inhibited corrosion. Currently PVC (polyvinyl chloride) and HDPE (high density polyethylene) were adopted as a more durable and long-lasting option.



Map 5 (next page) displays Village streets known to have underlying water issues due to the recorded water main breaks. The thicker the line, the more breaks have occurred in recent history. The biggest causes of these breaks are fluctuating levels of pressure, old or deteriorated infrastructure, and overall capacity issues. When breaks occur, they need to be “found” within the system, the area dug up, and then a repair or replacement needs to occur. After that, the area affected needs to be

filled in, and, if a road, patched.

Sanitary Sewer Utilities

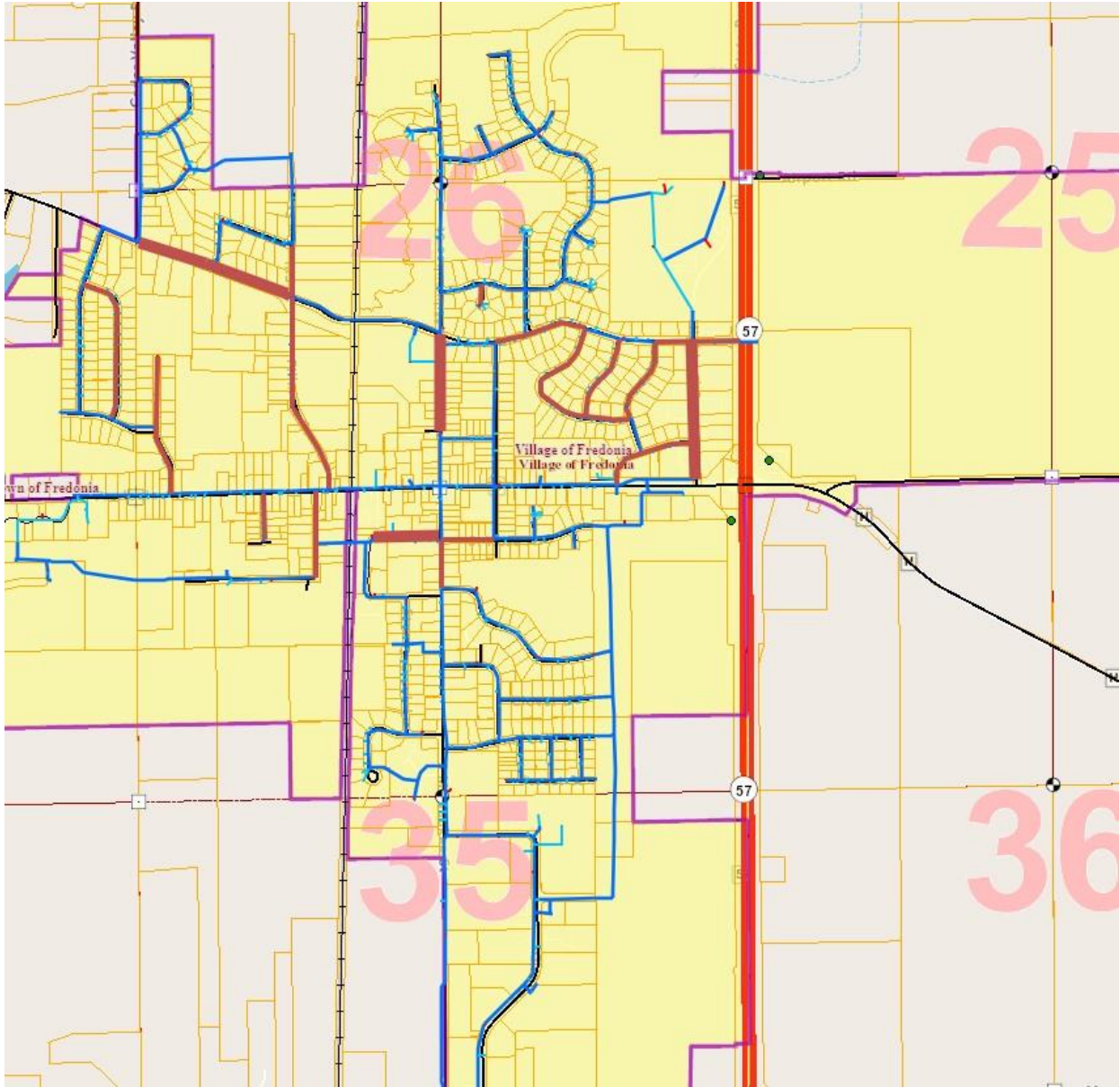
The Village wastewater infrastructure includes a network of sewer pipes that collect and carry household, business, and industrial effluents to the Waste Water Treatment Plant (WWTP). The Village of Fredonia WWTP, located at 210 Park Rd, uses a combination of processes to remove harmful contaminants and reduce pollution to achieve the required degree of treatment in compliance with the levels regulated by the Environmental Protection Agency (EPA) and the State of Wisconsin.



MAP 5

RECORDED WATER BREAKS

Thicker RED Lines = More Break



Source: Village of Fredonia and WisDOT

The sanitary sewer collection network is made of underground pipes connecting to structures (usually manholes) providing access from the surface. Those pipes and manholes constructed at different time periods, feature different characteristics reflecting the standards of construction in place during their installation.



Since the early 1900s, vitrified clay was the material of choice for most municipalities in the United States for sanitary sewer pipe material. Their life expectancy is typically 50 to 60 years. Technology progress introduced a variety of other materials over time such as cast iron, ductile iron, concrete, and plastic pipes such as PVC.

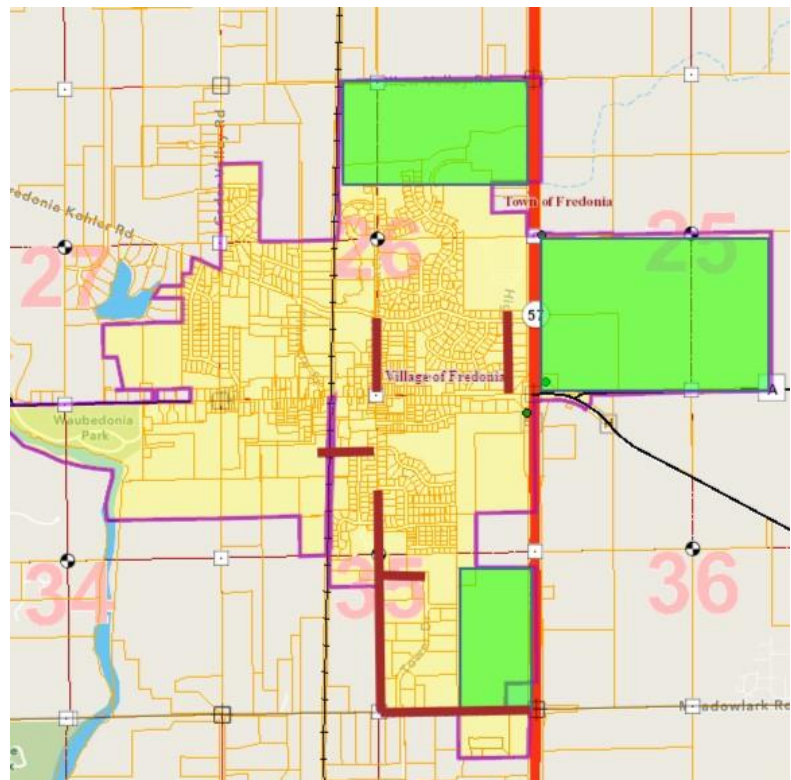
The Village's network includes pipes made of various types of materials, and at various stages of their service life.

Planning Considerations

Future Development and Traffic Volume Capacity Insufficiencies

Future development may also result in increased population, rising traffic volumes, and therefore traffic congestion issues. The Village has determined 3 primary "future development areas".

Functional improvements to the arterial street systems, such as those shown on Map 6, should be considered when planning future road improvements. The **green** boxes denote areas for future development - the **red** lines denote where road and utility work should be prioritized based on such developments.



MAP 6

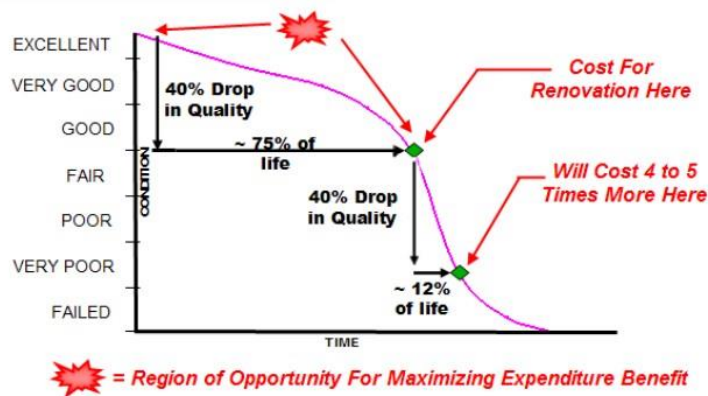
FUTURE DEVELOPMENT CAPACITY
INSUFFICIENCIES

Pavement Life Cycle

Identifying an aggressive, yet realistic goal for a paved surface’s lifespan is a key to effective long-term planning. Understanding how a paved surface reacts to various conditions is vital for ensuring the right projects are scheduled and the right maintenance practices are applied. Figure 2 depicts a typical pavement condition life cycle and demonstrates how investing in proper maintenance early in a pavement’s life cycle costs less long-term in effort to extend the surface’s effective lifespan. The model is further explained in WisDOT’s WISLR Manual.

Figure 1

Typical Pavement Condition Life Cycle



Source: WISLR Manual, WisDOT 2023

These planning considerations involve selecting projects based on both cost-effectiveness and importance to the overall system. Roads in poor or failed condition must be addressed, and once a new surface is in place, applying proper maintenance techniques early in the pavement’s life results in a more cost-effective approach to extending life.

| Annual Maintenance Expenses Example | |
|-------------------------------------|---------------------|
| Sealing | \$ 50,000.00 |
| Mill and Overlay | \$ 20,000.00 |
| Cracks and Joint Sealing | \$ 15,000.00 |
| Spot Repairs | \$ 5,000.00 |
| Curb and Gutter Replacements | \$ 10,000.00 |
| TOTAL | \$100,000.00 |

The Village of Fredonia strives to obtain up to 30 years of effective life out of its asphaltic street surfaces. The annual overall allocation to roads has varied significantly over the years for both reconstruction and maintenance needs. Decisions on which roads to crack fill or sealcoat are made on an annual basis based on road conditions. The

Village of Fredonia does not currently have a program to address surface aging – a sealcoat is typically placed on a roadway to extend pavement life. Typical sealcoat operations include: fog seal, slurry seal, chip seal, and asphalt rejuvenators. Laying out a

scheduled timeline for maintenance is helpful for proper budgeting. This will be cost-effective if implemented long-term.

Project Costs

Administration developed estimated unit costs for various types of roadways and utility work – Table 2 displays these costs. The unit costs incorporate the entire cost of a roadway project from design, bidding, construction, and inspection.

| Infrastructure | Est Construction Cost/LF |
|------------------------------|--------------------------|
| Water Main | \$ 365.00 |
| Storm Sewer | \$ 280.00 |
| Sanitary Sewer | \$ 350.00 |
| Mill and Overlay (2') | \$ 75.00 |
| Road Recon w/Curb and Gutter | \$ 350.00 |

3 Planned Road Improvements

Using the information accumulated as a data-driven starting point, Village staff reviewed and considered all other factors described in Section 2 that can influence and justify the timing of a road improvement project.

COMPLETE RECONSTRUCTION

Priority 1 – Highland Ave (from CTY A to Termini)

| | | | |
|----------|------|----|------------|
| Pavement | 1426 | \$ | 499,100.00 |
| Clay | 682 | \$ | 238,700.00 |
| Water | 1200 | \$ | 438,000.00 |

| TOTAL | GENERAL | WATER | SEWER |
|-----------------|---------------|---------------|---------------|
| \$ 1,175,800.00 | \$ 499,100.00 | \$ 438,000.00 | \$ 238,700.00 |

Priority 2 – Wheeler Ave (from S Milwaukee to Private)

| | | | |
|----------|-----|----|------------|
| Pavement | 634 | \$ | 221,900.00 |
| Clay | 760 | \$ | 266,000.00 |
| Water | 350 | \$ | 127,750.00 |

| TOTAL | GENERAL | WATER | SEWER |
|---------------|---------------|---------------|---------------|
| \$ 615,650.00 | \$ 221,900.00 | \$ 127,750.00 | \$ 266,000.00 |

Priority 3 – N Milwaukee St (from Martin Dr to Washington Ave)

| | | | |
|----------|-----|----|------------|
| Pavement | 898 | \$ | 314,300.00 |
| Clay | 483 | \$ | 169,050.00 |
| Water | 913 | \$ | 333,245.00 |

| TOTAL | GENERAL | WATER | SEWER |
|---------------|---------------|---------------|---------------|
| \$ 816,595.00 | \$ 314,300.00 | \$ 333,245.00 | \$ 169,050.00 |

UTILITIES-ONLY REPLACEMENT

Priority 1 – N Milwaukee St (from Meadowbrook to Park)

| | | | |
|-------|-----|----|------------|
| Clay | 480 | \$ | 168,000.00 |
| Water | 413 | \$ | 150,745.00 |

| TOTAL | WATER | SEWER |
|---------------|--------------|---------------|
| \$ 318,745.00 | \$ 15,745.00 | \$ 168,000.00 |

Priority 2 – Manor Dr (from Regal to Martin)

| | | |
|-------|------|---------------|
| Clay | 878 | \$ 307,300.00 |
| Water | 1090 | \$ 397,850.00 |

| | | |
|---------------|---------------|---------------|
| TOTAL | WATER | SEWER |
| \$ 705,150.00 | \$ 397,850.00 | \$ 307,300.00 |

Priority 3 – Filmore St (from CTY A to Martin)

| | | |
|-------|-----|---------------|
| Clay | 800 | \$ 280,000.00 |
| Water | 800 | \$ 292,000.00 |

| | | |
|---------------|---------------|---------------|
| TOTAL | WATER | SEWER |
| \$ 572,000.00 | \$ 292,000.00 | \$ 280,000.00 |

UTILITIES-ONLY REPLACEMENT

Priority 1 – Tower Dr (from Meadowlark to Industrial) and Industrial Dr (from Tower Dr to S. Milwaukee St)

| | | |
|----------|------|---------------|
| Pavement | 3274 | \$ 245,550.00 |
|----------|------|---------------|

| | |
|---------------|----------------|
| TOTAL | GENERAL |
| \$ 245,550.00 | \$ 245,550.00 |

Priority 2 – Heather Ln (from Pine St to S. Milwaukee St)

| | | |
|----------|------|---------------|
| Pavement | 2218 | \$ 166,350.00 |
|----------|------|---------------|

| | |
|---------------|----------------|
| TOTAL | GENERAL |
| \$ 166,350.00 | \$ 166,350.00 |

Priority 3 – Cedar Valley Rd (from Martin Dr to Ridge Way Cir)

| | | |
|----------|-----|--------------|
| Pavement | 898 | \$ 67,350.00 |
|----------|-----|--------------|

| | |
|--------------|----------------|
| TOTAL | GENERAL |
| \$ 67,350.00 | \$ 67,350.00 |

4 Funding the Plan

The Village of Fredonia has traditionally funded its roadway projects through a combination of borrowing and budgeted cash-on-hand capital funding. Due to the magnitude of road and utilities to take care of, borrowing every year or so may not be sufficient to fund this plan. When the utilities are improved under a roadway, the utilities will often bear the costs associated with replacing the road above the utility. This plan includes costs for both roadway and utility improvements.

Borrowing

The Village of Fredonia currently has an outstanding debt balance of \$802k in principal and interest payments on road-related projects – these are for Fredonia Avenue. Debt restructuring, early payoff, and adding new debt could all be utilized to fund future projects.

LRIP Funding

The Village has utilized the LRIP (Local Road Improvement Program) to provide funding in the past. Efforts could be made by the Village to request the State to increase the amounts allocated to this funding source.

STP Funding

These dollars are federally-sourced grant dollars that cover a certain percentage of road reconstruction costs – utilities are typically left up to the municipality to fund. The Village recently applied for grant dollars through this program for a section of Martin Ave. The recent Bipartisan Infrastructure Law passed by the Federal Government has created an in-flux of funding to this program.

Utility Funds

As mentioned above, utilities can pay for the reconstruction of the road above utilities. This can account for a significant amount of project costs. The Village of Fredonia is already utilizing this option.

Create a Storm Water Utility

The creation of a Storm Water Utility can have the utility pay for the cost of the storm sewer repair work in the street. This would allow for money designated for roadway repairs to focus on improvements to the surface layers of the asphalt.

TIF Districts

The funds from these districts can be used for road construction and reconstruction projects as long as the projects are within a certain area of the defined boundaries of the district.

Federal Infrastructure Grants

Federal grants opportunities continue to be created and announced – a recent uptick under the Biden Administration has led to more opportunities. However, there are many restrictions tied to these funds, including being used in high-population areas and areas with a high level of diversity. Staff can continue to monitor opportunities as they arise.

General Transportation Aid (GTA)

The Village of Fredonia annually receives approximately \$129k in General Transportation Aid from the State of Wisconsin. These funds are needed to provide for general public works operations and are not typically allocated strictly to fund road projects.

Special Assessments

The Village of Fredonia has the authority to levy special assessments for construction projects. This has been done in the past for utility laterals and sidewalk.

A “Wheel Tax”*

Wisconsin law allows a town, village, city or county to collect an annual municipal or county vehicle registration fee (wheel tax) in addition to the regular annual registration fee paid for a vehicle. The fee applies to vehicles kept in the municipality or county with:

- Motorcycle Registration
- Automobile Registration
- Truck Registration at 8,000 lbs or less (except dual purpose farm)

The State of Wisconsin currently collects the wheel tax for approximately 35 Cities/Villages and 13 Counties.

*Note - State law does not specify the amount of the wheel tax. However, the municipality or county must use all revenue from said tax on transportation-related purposes

Transportation Utility

Wisconsin law allows for the creation of a Transportation Utility Fee. This fee would be created by the Village to assess a fee based on all developed properties in the Village by assigning a number of trips a property generates based on a formula. The fee collected could be used on street reconstruction.

5 Policy Decisions

Discussions and decisions around fund allocations and roads/utilities are an ongoing debate. As these items are contemplated, the following policy decisions should be top-of-mind:

- A. Where do you place a well-maintained roadway system in your priorities?
- B. How important is a well-functioning sewer and water system?
- C. What minimum roadway condition (PASER) is acceptable?
- D. What level of funding for roadways is acceptable?
- E. What source of funding is acceptable?
- F. How much of the burden should be passed directly onto the property owners themselves?
- G. Should the Village increase funding to keep up with inflation?
- H. Are you willing to base your roadway selections based on data and not local pressure?

6 Executive Summary

Village Administration is honored to have collaborated with staff, elected officials, and other municipal and County partners to create this document to better plan and sustain the village's infrastructure. The Village of Fredonia wishes to provide its residents and those who travel through or visit the Village with a safe, reliable, accessible, and well-maintained transportation system.

The following primary factors were considered when determining which roads are in need of repair and how they were prioritized in the long-term plan:

- **Street Inventory**
- **Pavement Condition**
- **Traffic Volumes**
- **Utility Inventory**
- **Future Development**
- **Project Costs**

Overall, the current roadway conditions are average and funding has been intermittent. A commitment to steady annual funding along with data-based selection of projects would best suite the Village of Fredonia moving forward. At the minimum, the Village should dedicate a set amount of budgeted dollars through cash-on-hand, utilities, and borrowing to fulfill these needs.

From the Desk of:

Christophe E. Jenkins

Village Administrator

Energenecs SCADA Upgrade

The current SCADA (Supervisory Control and Data Acquisition) System has been in place since 2009 at Sewer Plant. This system gathers and monitors real-time data and controls equipment to safely and responsibly execute operations of the plant. Without this system, or if a failure were to occur, it would require 24/7 manning by staff to ensure process control. In the end, there is no doubt that this is an important system to our public works services.

The current system runs under Windows 7 – an outdated operating system which is no longer supported putting us at risk of cyber interference. The dialer, which calls out to staff if there's a plant failure, has been in place since the 1980's, and has failed on occasion to send out alerts. The current system also doesn't process state filings, which also interferes with new lab operations, and makes overall tasks cumbersome when dealing with the State.

The proposed upgrade from Energenecs would supply us with:

- Office Suite
- New Hard drive Computer
- New Monitors
- New XL Reporter
- New Dialer System – that would work remotely
- Plus, Labor for Installation and Programming

While the entire system is always at risk of failure, and should be upgraded – whether it is needed at this time can be debated. Administration would recommend Declining at this time, and adding to a future CIP budget.

Administrations Recommendation? Decline – budget in future year CIP

Fiscal Impact? Unbudgeted Capital Expenses in the Water/Sewer Funds (40/60 Split)

Thank you,

Christophe E. Jenkins

Village Administrator



J. MILLER ELECTRIC, INC.

ELECTRICAL CONTRACTOR SINCE 1963

512 S. Park Street, PO Box 587 Port Washington, WI 53074
Phone: 262-284-2646 • Fax: 262-284-6282

Budgetary Proposal

6/13/2023

Village of Fredonia
ATTN: Eric Paulus

Project: WWTF Generator Replacement and Upgrade

I am pleased to offer the following work for your consideration:

- Labor and materials to complete installation
- Provide and install one 200KW 480/277 Volt diesel generator
 - Block heater
 - Battery charger
 - 24-hour diesel tank, 500 gallons
 - Diesel tank permit fees
 - First fuel fill up included
 - Generator to be located in South side green space
- Excavation for concrete pad
 - Provide and install compacted stone backfill, 8" depth
 - Spoil removal included
- Saw cut and remove asphalt for underground electrical conduits
 - Approximately 24" wide x 100' length
 - Asphalt disposal included
 - Slurry backfill under asphalt
- Form and pour concrete pad 8.5' x 15.5' x 16" depth
 - Structural rebar mat
- Provide and install four 6" steel protective bollards
 - Bollards to be installed in 18" diameter concrete bases
- Provide and install two 2" conduits from electrical room to generator
 - Copper conductors
 - EMT conduit within building and above grade
 - PVC conduit underground and in concrete pad
- Provide and install four 1" conduits from electrical room to generator
 - Copper conductors
 - Block heater and 120 Volt convenience receptacle
 - Battery charger
 - Start circuit
 - Communication or spare
 - EMT conduit within building and above grade
 - PVC conduit underground and in concrete pad

- Provide and install 600 Amp 480/277 Volt automatic transfer switch
 - Indoor enclosure
 - Transfer switch to be located in same location as existing
- Provide and install grounding per NEC
- Provide and install new EMT conduit from transfer switch to existing emergency MCC
 - Copper conductors
- Demo and remove existing automatic transfer switch and circuit breaker
- Demo and removal of existing generator
 - Village to provide storage area for generator
- Crane rental and rigging for new generator
- Generator start up, load bank test and owner training included
- Electrical permit
- Excludes:
 - WE Energies fees
 - Asphalt replacement
 - Bollard painting
 - Existing generator exhaust removal
 - Natural gas piping
 - Water piping
 - Roof patching
 - Greenspace restoration, topsoil, seed
 - Rental generator fees

The above design and scope of work is confidential and proprietary to J. Miller Electric, Inc.
 Budgetary price for the above scope of work \$158,505.00. Taxes not included.
 Prices firm for acceptance within 30 days of quotation. Commodities pricing subject to change.
 Generator sizing to be confirmed with 7-14 day power log report prior to ordering.

Temporary Generator Rental Approximately \$1,500.00 per day (Weekly and monthly rates also available)

Generator Sizing Option

- Upgrade generator size to 250KW
 - Add \$25,000.00 to above net price

I hereby agree and accept this proposal.

Justin Miller
 Vice President
 J. Miller Electric, Inc.

Sign/Date:

Print/Date: