



Preliminary Engineering Report Water and Wastewater Facilities

Canton, MN

March 2022

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engineers + planners + land surveyors

- ▶ System Background
- ▶ Need for Project
- ▶ Recommended Improvements in PER
- ▶ Project Alternatives Evaluated
- ▶ Cost Eligibility
- ▶ Cost Summary
- ▶ USDA-RD Funding
- ▶ Other Funding Sources
- ▶ Next Steps

Water System

- ▶ Distribution System
 - Aging pipes (1910s)
 - Lead joints
- ▶ Well #1
 - Built 1918
 - Fluoride treatment
 - Pump replaced 2021
- ▶ Well #2
 - Built 1983
 - Fluoride treatment
- ▶ Water Tower
 - Built 1914
 - Exterior painted in 2017

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Wastewater System

- ▶ Collection System
 - Aging pipes (1950s)
- ▶ Treatment Plant
 - Built 1960, upgraded 2003
 - Oxidation ditch
 - UV disinfection
 - Sludge digester/storage tank



Need for Project - Water

Water Main

- ▶ Aging pipes - history of breaks
- ▶ Mostly original pipes
 - ▶ Installed in 1910s
 - ▶ Lead joints
- ▶ Undersized pipes

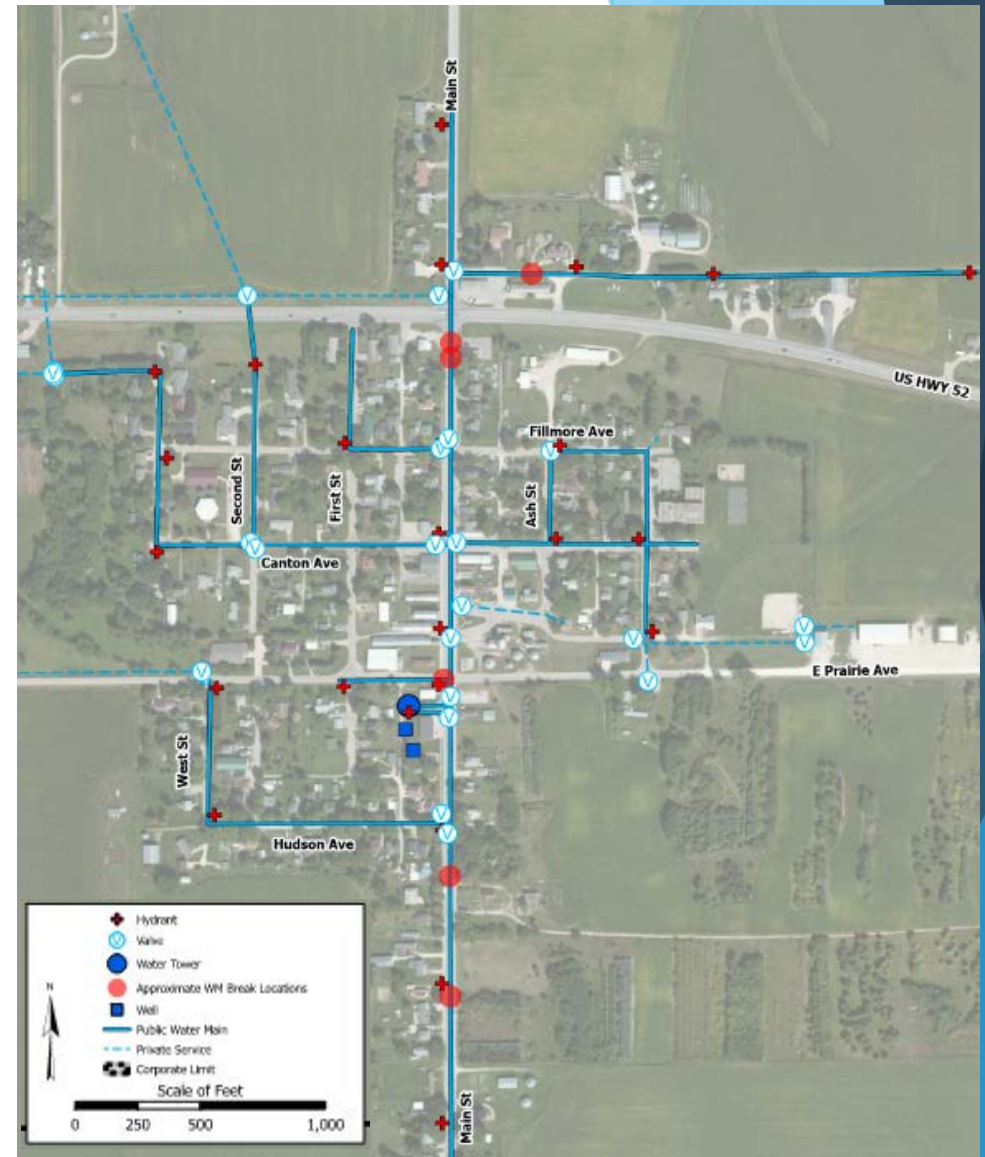
Wells

- ▶ Beyond their useful life
 - Well #1 casing in poor condition
 - Well House - Aging Structure

Water Tower

- ▶ Further structural evaluation warranted

Risk of major failure is significant



Need for Project - Wastewater

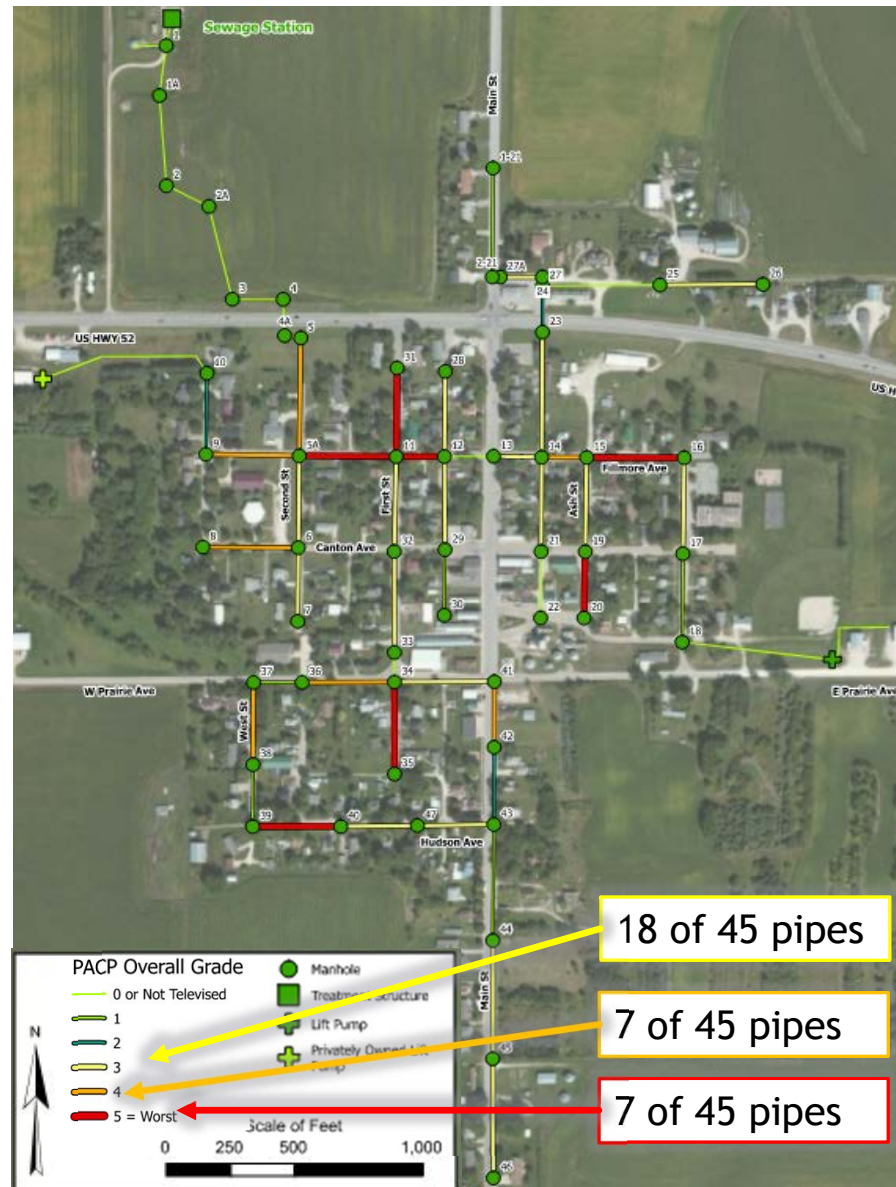
Collection System PACP Rating

- ▶ 5 Rating - Requires immediate attention (pipe has failed or will fail in the next 5 years.)
- ▶ 4 Rating - Needs attention in the next 5 to 10 years.
- ▶ 3 Rating - High potential for inflow/infiltration - can cause sewer backups during large rain events.

Treatment Plant

- ▶ Equipment deficiencies due to age and condition

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PACP Examples - 5 Rating



Distance: 285.2 ft. Grade: 5
Condition: Tap Break-In Intruding
Remarks: N/A

Main Street & Fillmore Ave



Distance: 220.8 ft. Grade: 5
Condition: Broken Pipe Soil Visible
Remarks: N/A

Ash Street & Canton Ave



Distance: 286.8 ft. Grade: 5
Condition: Collapse Pipe Sewer
Remarks: SECTION OF PIPE HAS BROKEN AND COLLAPSE

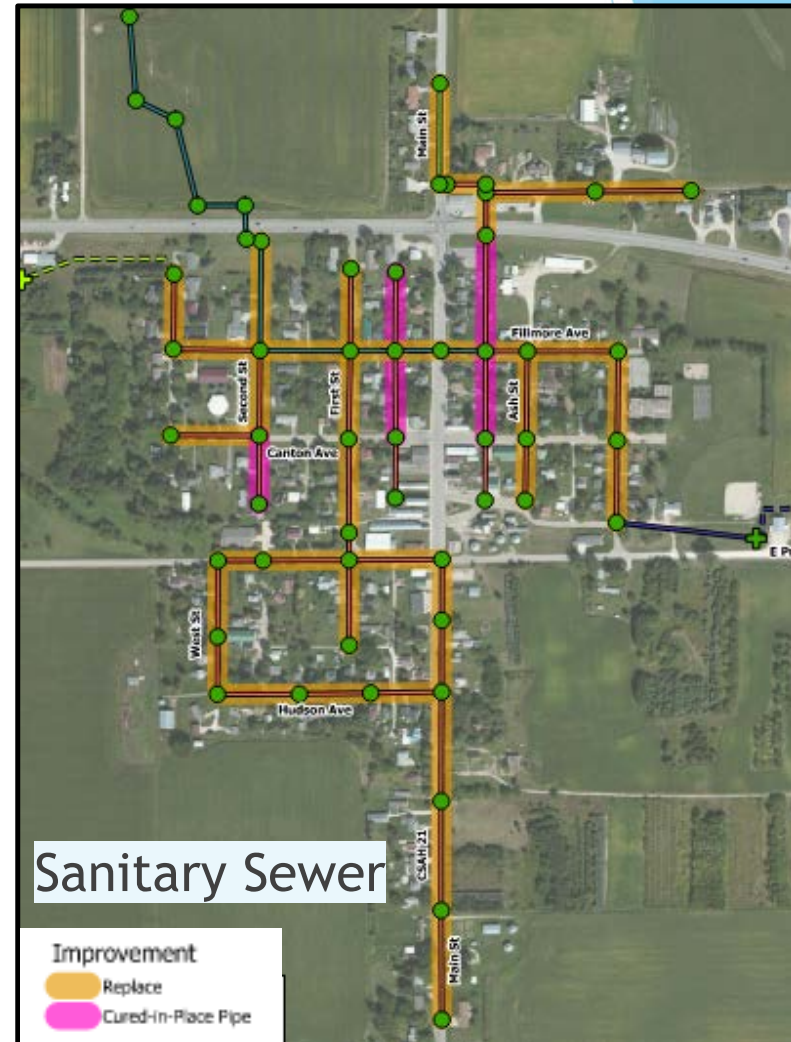
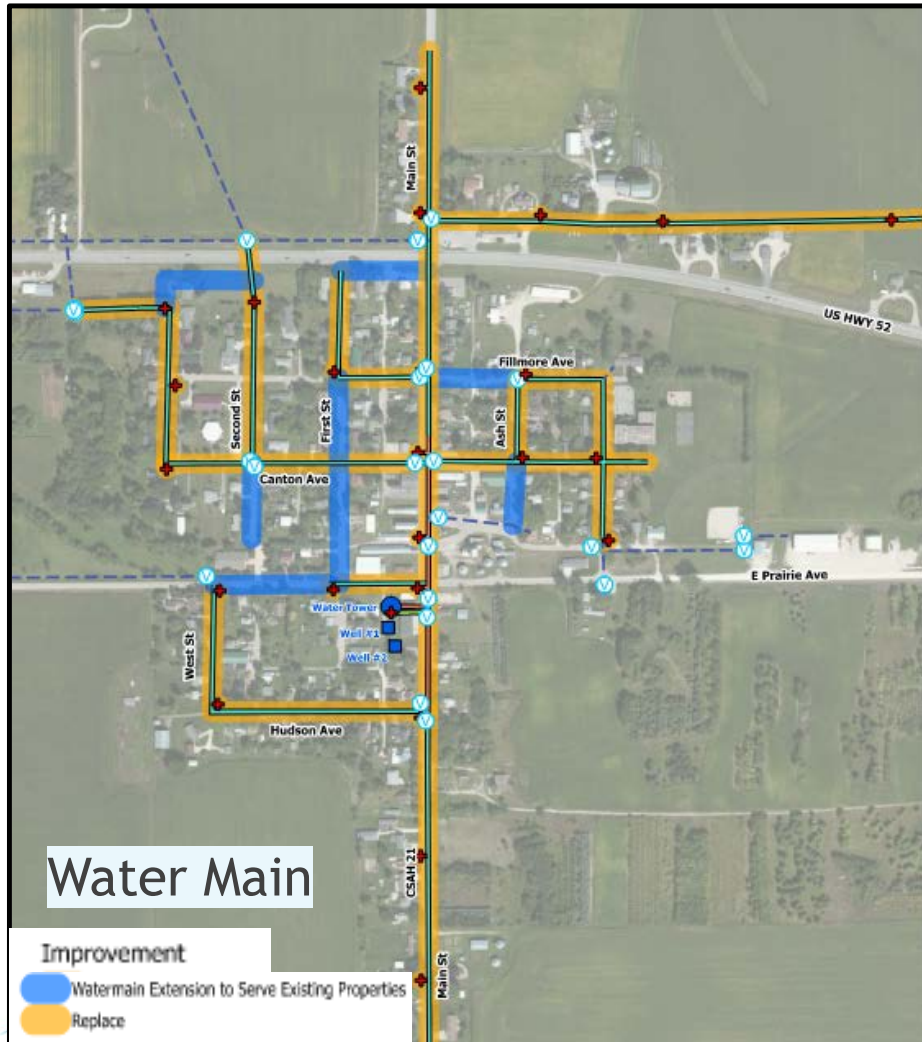
1st Street & Fillmore Ave

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Recommended Improvements in PER

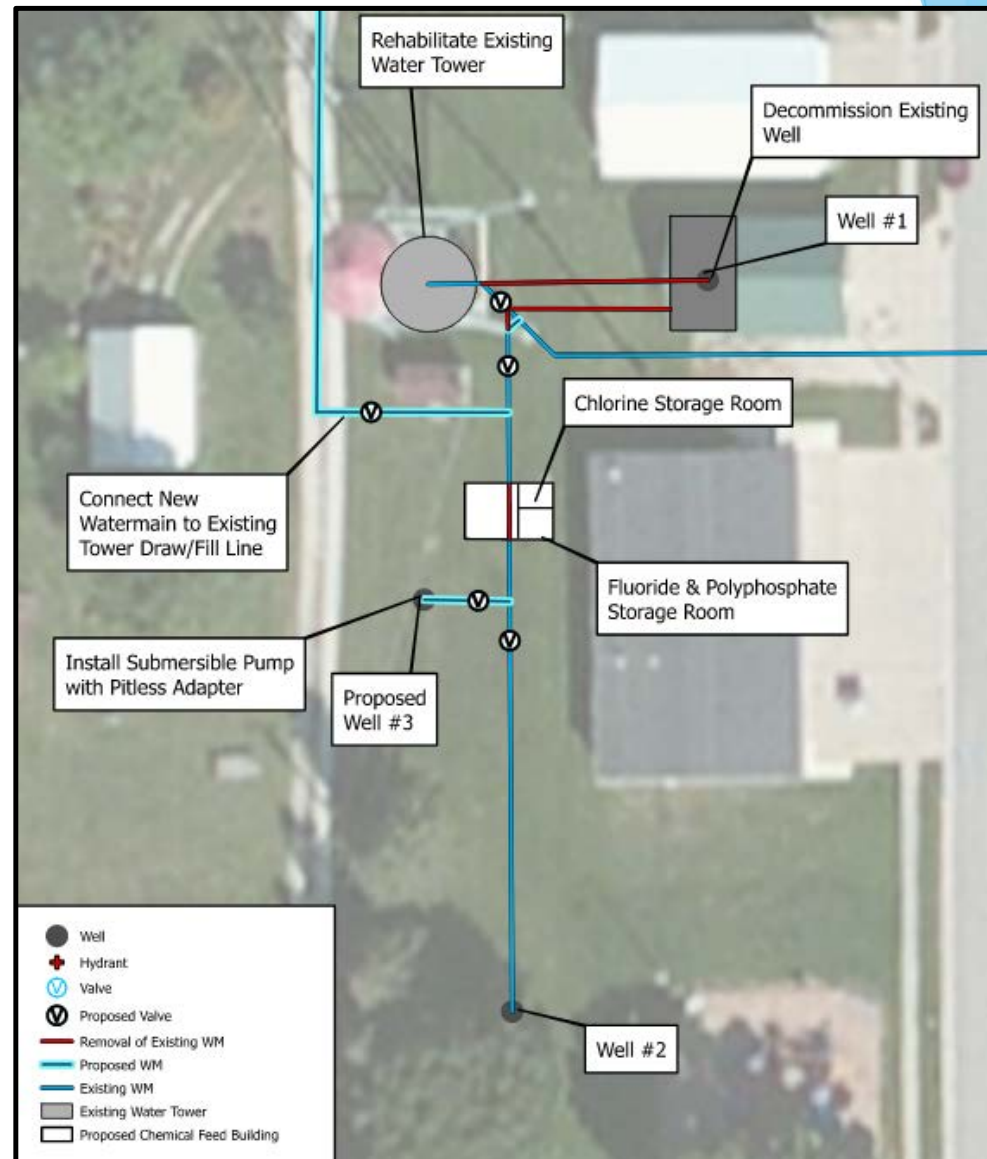
- ▶ Utility Replacement
 - ▶ Replace all aging watermains with lead joints, increase sizing for flows/pressures
 - ▶ Replace sanitary sewer in areas where PACP rating is 4 or 5 as well as where watermain is proposed to be replaced
 - ▶ Rehab sanitary sewer (CIPP Lining) where PACP rating is 3 (if not replacing)
- ▶ Drill new Well No. 3 to replace existing Well No. 1 (near Well No. 2)
- ▶ New treatment building for Well No. 2 and Well No. 3 (fluoride, chlorine, polyphosphate)
- ▶ Perform structural inspection and repaint water tower
- ▶ Replace aging equipment at wastewater treatment facility

Utility Replacement



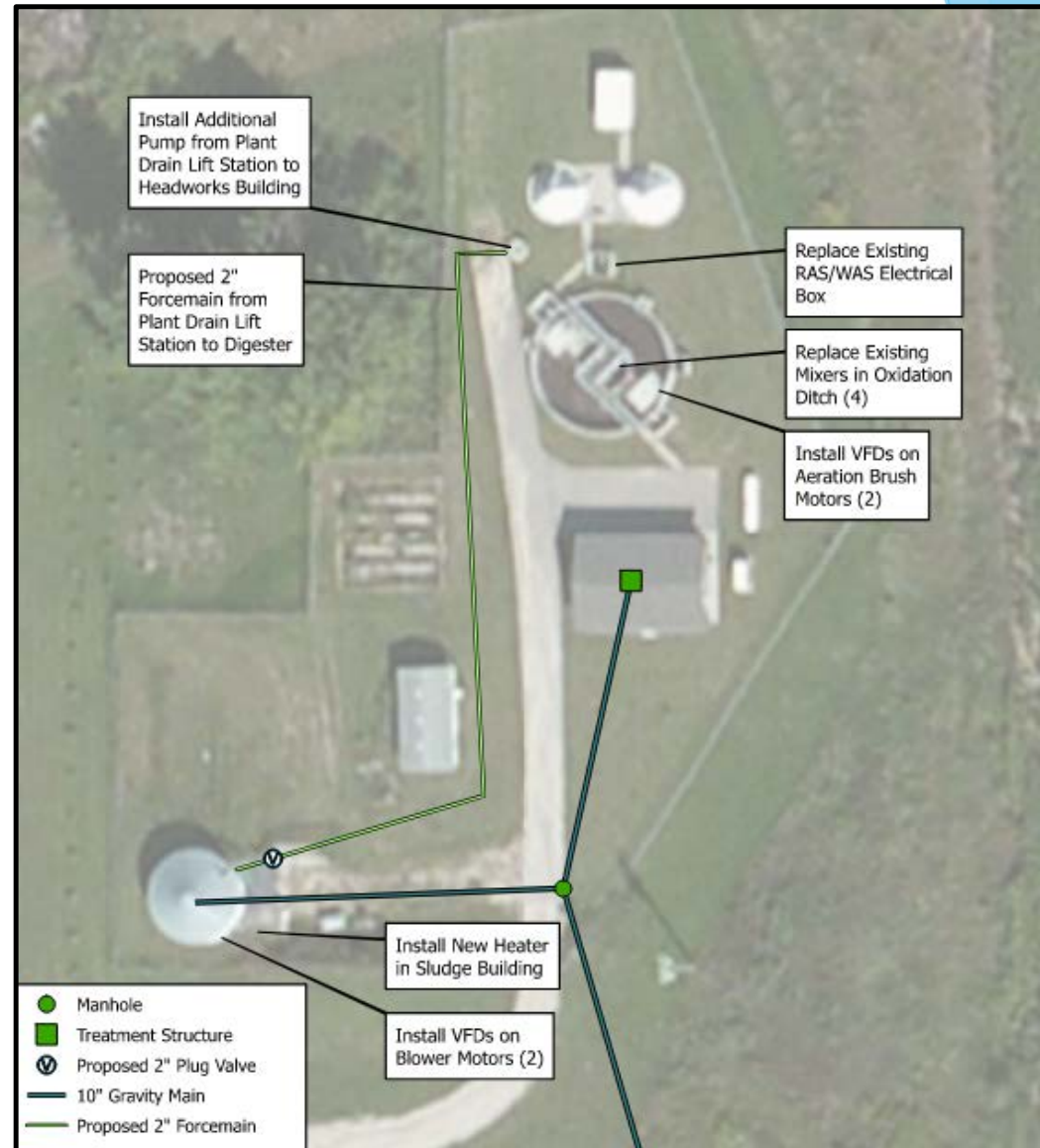
Well & Water Tower Upgrades

- Drill new Well No. 3 to replace existing Well No. 1
- New treatment building for Well No. 2 and Well No. 3
- Perform structural inspection and repaint water tower



Wastewater Treatment Facility Upgrades

- Replace aging equipment at wastewater treatment facility



Project Alternatives Evaluated

Alternative	1	2	3	4
Utility	Watermain Replacement, Sanitary Sewer Replacement and Rehabilitation with Lining	Watermain Replacement, Sanitary Sewer Replacement and Rehabilitation with Lining	Watermain Replacement, Sanitary Sewer Replacement and Rehabilitation with Lining	Watermain Replacement, Sanitary Sewer Replacement
Wells	Construction of New Well #3, Decommissioning of Well #1 and Construction of New Well House Building, Well #2 Improvements	Demolition of Well #1 Building and Construction of New Well House Building, Well #1 and #2 Improvements	Construction of New Well #3, Decommissioning of Well #1 and Construction of New Well House Building, Well #2 Improvements	Construction of New Well #3, Decommissioning of Well #1 and Construction of New Well House Building, Well #2 Improvements
Water Tower	Rehabilitation	Rehabilitation	Replacement	Rehabilitation
WWTF	Equipment Replacements	Equipment Replacements	Equipment Replacements	Equipment Replacements

Cost Eligibility with USDA-RD

Eligible Project Costs

- ▶ Repair/replacement of existing water and wastewater system components
- ▶ Sewer and water utility replacement
- ▶ Surface restoration (pavement, curb and gutter, etc.) necessary to complete utility replacement(s)

Non-Eligible Project Costs

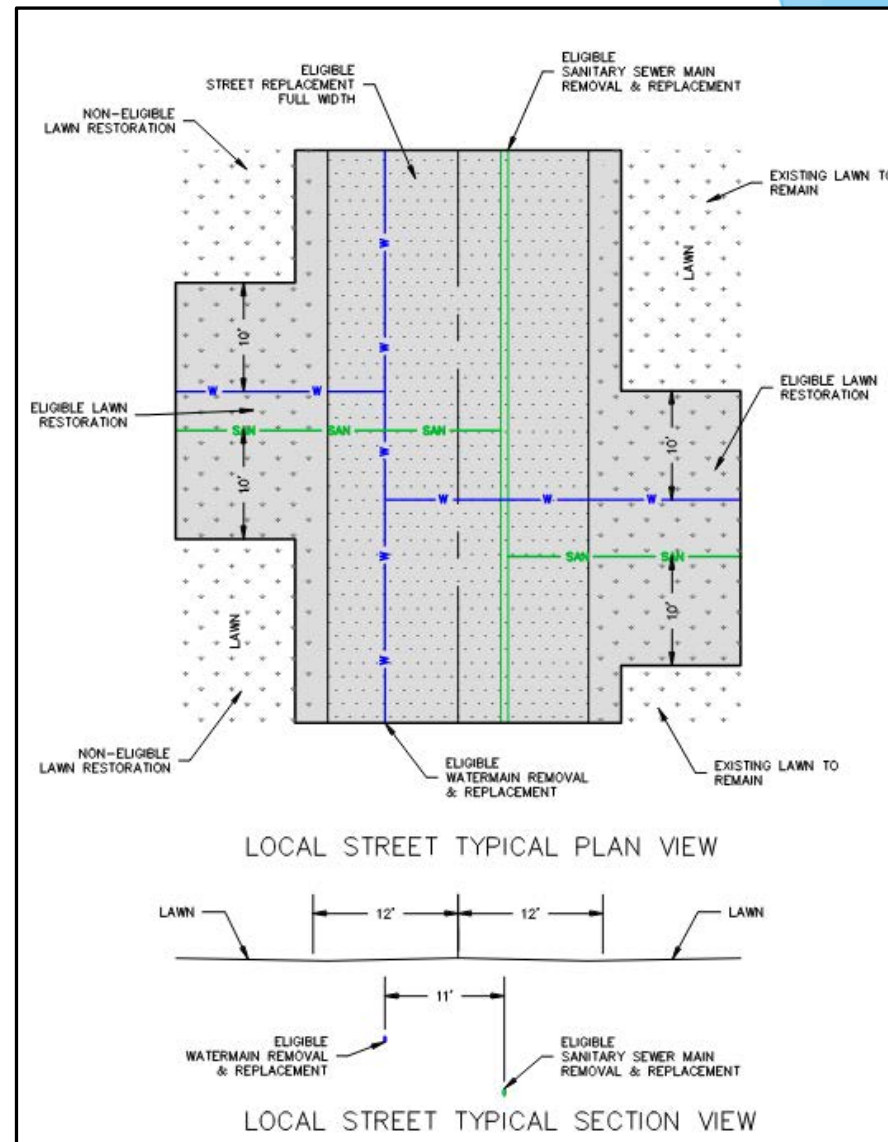
- ▶ Surface/Roadway restoration beyond what is necessary for utility replacement
- ▶ Expansion of existing service area for growth

USDA -RD Funding

Eligible vs. Non-Eligible

Local Roadway

- ▶ Non-Eligible Roadway Costs are Optional and for Future Consideration

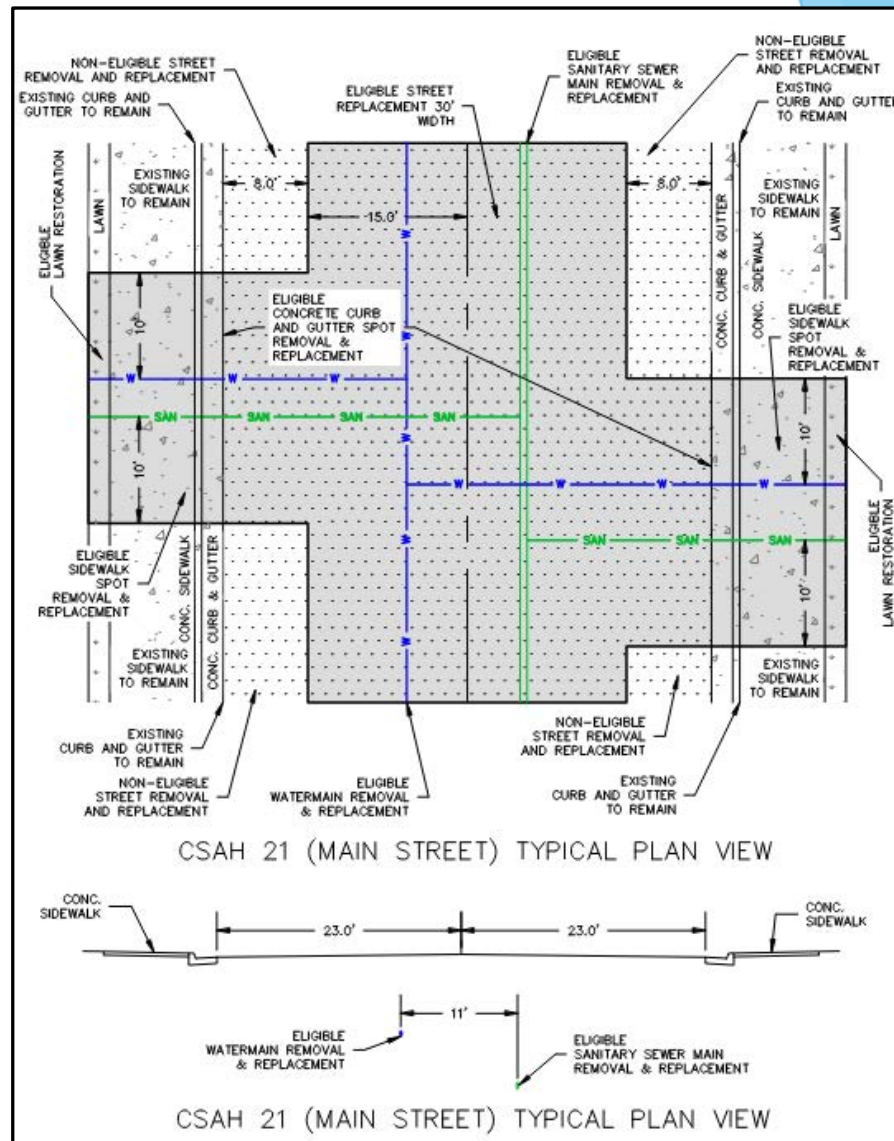


USDA -RD Funding

Eligible vs. Non-Eligible

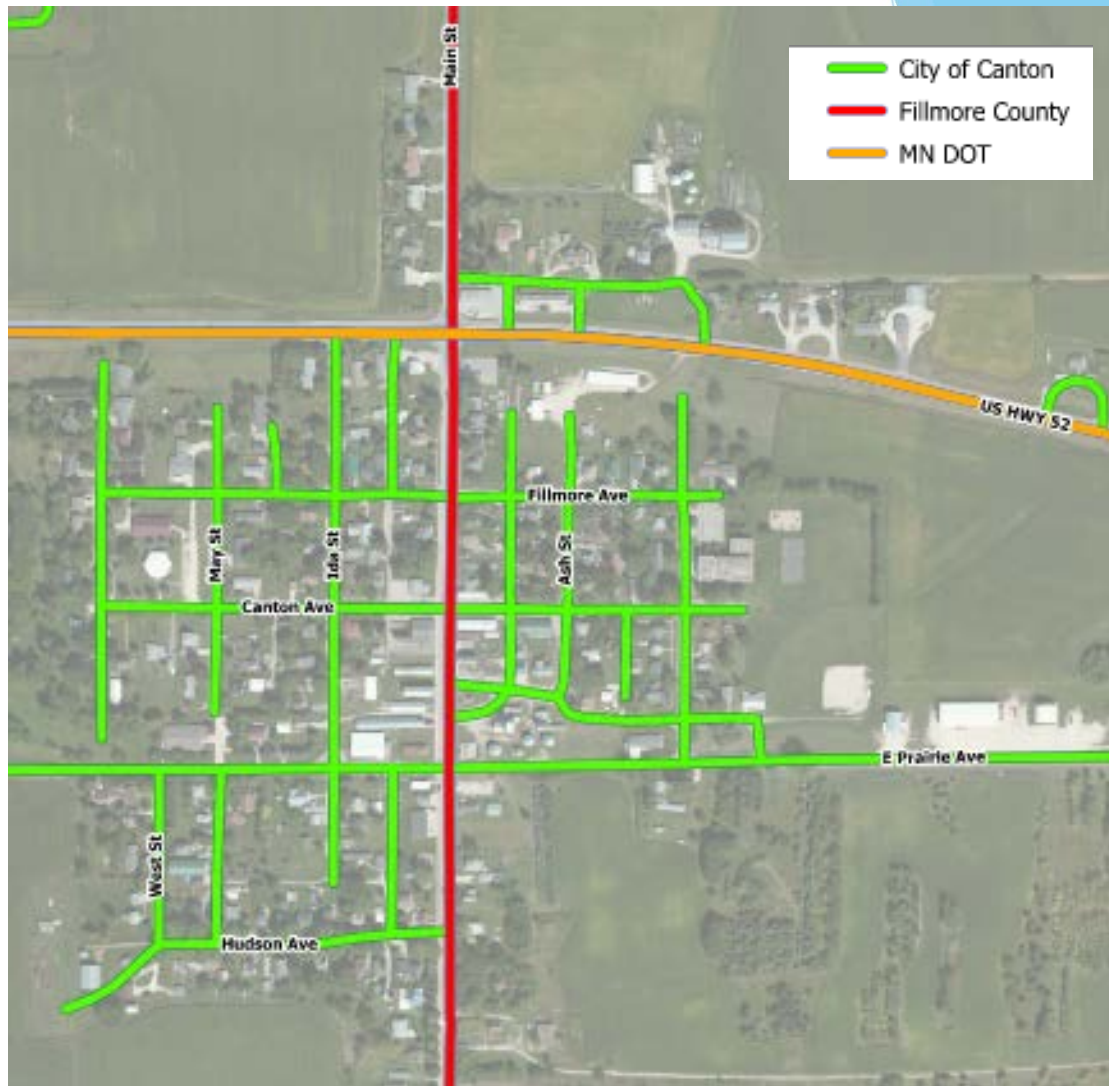
County and DOT Roadway

- ▶ Non-Eligible Roadway Costs are Optional and for Future Consideration
- ▶ Potential Cost Sharing
 - ▶ MnDOT - May Not be Interested
 - ▶ County - May be Interested



Fillmore County & DOT Funding

Potential Cost Sharing



Eligible Costs

Watermain Replacement	- \$ 4,756,000
Sanitary Sewer Replacement	- \$ 3,829,000
Well Improvements	- \$ 1,035,000
Water Tower Improvements	- \$ 610,000
<u>WWTF Improvements</u>	<u>- \$ 265,000</u>
Total	- \$ 10,422,000

(ROUNDED)

Non-Eligible Costs

City Roadway	- \$ 452,000
<u>County Road (CSAH 21)</u>	<u>- \$ 452,000</u>
Total	- \$ 904,000

Summary:

Funding Eligible:	\$10,422,000
<u>Funding Non-Eligible:</u>	<u>\$904,000</u>
Total Project Costs:	\$11,326,000

USDA -RD Funding

USDA-RD uses 3 categories of loan / grant funding ratios

- ▶ Poverty (25% Loan / 75% Grant)
- ▶ Intermediate (55% Loan / 45% Grant)
- ▶ Market (100% Loan / 0% Grant)

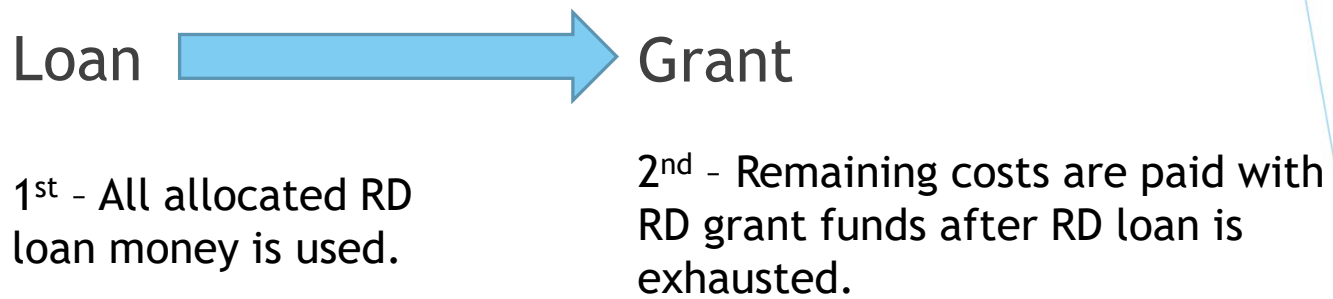
Criteria needed to be categorized as 'poverty'

- ▶ Median household income < 80% of rural average
- ▶ Special needs due to health and safety concerns

Canton will likely meet the criteria of 'poverty'

- ▶ Determination made by RD Staff

USDA -RD Funding Timeline



USDA -RD Funding

Anticipated Loan/Grant Package for USDA-RD (assuming poverty rate)

- ▶ Total eligible costs - \$10.4M
- ▶ RD Loan Amount - \$2.6M
 - ▶ Projected RD loan rate - 40 years at 1.5% interest
 - ▶ RD Loan equates to a rate increase of approx. \$37/month per user
- ▶ RD Grant Amount - \$7.8M
- ▶ Other funding source(s) needed for RD ineligible costs of \$904,000

Other Funding Options

- ▶ Mn Public Facilities Authority (PFA)
- ▶ Mn DEED - Business Development Public Infrastructure (BDPI)
- ▶ Mn DEED - Small Cities Program
- ▶ MnDOT Local Road Improvement (LRIP) Grant
- ▶ MN Rural Water (Interim Financing)
- ▶ State Bonding Bill

Next Steps

- ▶ Receive City input on Draft PER
 - ▶ Finalize PER with City Comments
- ▶ Submit PER to USDA-RD
 - ▶ WHKS to assist City with USDA-RD Application
 - ▶ Modify PER with USDA-RD comments
 - ▶ Receive PER approval from USDA-RD by October 1, 2022
 - ▶ MHI implications due to updated census data
 - ▶ 2010 MHI - \$28,750 / 2019 MHI - \$51,500
- ▶ Environmental Review in parallel with PER
- ▶ Keep Tabs on Other Funding Sources



Questions and Answers

Thank you!

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