

Silver Lake USDA- RD Project Public Meeting

**City of Silver Lake
Infrastructure Improvement Project**

Thursday, June 4, 2020 at 6:00 p.m.



Goals and Agenda

- Project Drivers
- Efforts to Date
- Potential Project Scope identification and discussion
- Review USDA Rural Development process
- Review Schedule
- Questions

Project Drivers

- Sanitary Sewer and Water supply systems have major deficiencies
- Water Tower of inadequate size and needs updates
- Water quality complaints and concerns
- Wastewater Treatment Ponds over capacity and needs updates
- Storm drainage issues need to be addressed
- Many streets nearing need for major rehab
- Limited funding makes prioritizing difficult

Efforts to Date

- Identified 4 Priority Projects in 2011 (*completed*)
 - Grove Avenue Street and Utility upgrades
 - TH 7 Sanitary Sewer (high I/I)
 - Hydrant Replacement
 - Water Meter Replacement
- Results
 - I/I significantly reduced
 - Safety improved
 - Accurately measuring sewer/water usage
- Subsequent Review
 - Reviewed storm sewer system issues
 - Completed Facility Study
 - Identified USDA-RD Process as recommended option
 - Completed survey of priority projects
- Recent Work and Work in Progress
 - Smoke testing sanitary sewer system in 2017
 - Hydrant repair/upgrade
 - Completed Wellhead Protection Plan
 - Pumps regularly replaced or rebuilt on LS
 - Electrical system upgrades to wells
 - Install radio systems in wells and lift stations
 - Install new fluoride system for water treatment
 - Replacing valve on WW pond
 - Televising sewer system
- ***Completed survey for Mayor and Council to rank identified needs***

Survey Response

Project	Rank					#		
Infrastructure Improvements	H	H	H	H	H	1		
Cleveland Ave LS	H	H	H	H	M	2		<u>Priority Rank</u>
Water Tower	M	H	M	M	M	3		H = High (include)
Water Treatment	M	MH	M	M	M	4		M = Medium (consider)
WWTF Improvements	H	MH	M	L	M	5		L = Low (don't include)
Municipal Facilities	L	H	L	L	M	6		
Industrial Park Dev.	M	L	L	L	L	7		
Trail and Hwy Crossing	ML	L	L	L	L	8		

USDA-Rural Development Process

- City can't keep up with needs using typical funding resources
- City has reviewed multiple scenarios for addressing needs
- RD Process allows for financing over 40 years as well as significant potential grants
 - Grants based on financial need
 - Once City meets “affordability” levels additional investments eligible for grants
 - Focus on a full review all potential needs to maximize potential grants and avoid surprises

Wastewater Treatment System

- Stabilization Ponds (3 cells)
 - Located NE of City
- Significant Issues Identified
 - MPCA review indicates likely violations due to condition/capacity
 - Maintenance and rehab required
 - Discharge flow is above capacity
 - Target flow is 80% of facility capacity in order to allow for growth
 - Could prevent future development
 - Could require major WWTF expansion
 - Addressed most effectively by reducing I/I



Infrastructure Improvements

Sanitary Sewer

- Sanitary sewer I/I reduced, but still an issue
 - Inflow (surface water) / Infiltration (leaky pipe)
 - Overflows from LS significantly reduced
 - Clay lines have condition and I/I issues
 - Most non-PVC pipe has open joints
 - Significant offset joints and poor pipe conditions
 - Services in worse shape
 - Often concrete field tile
 - Safety issue regarding wells, etc.

JOM(Joint Offset Medium)
Counter: 177.7'

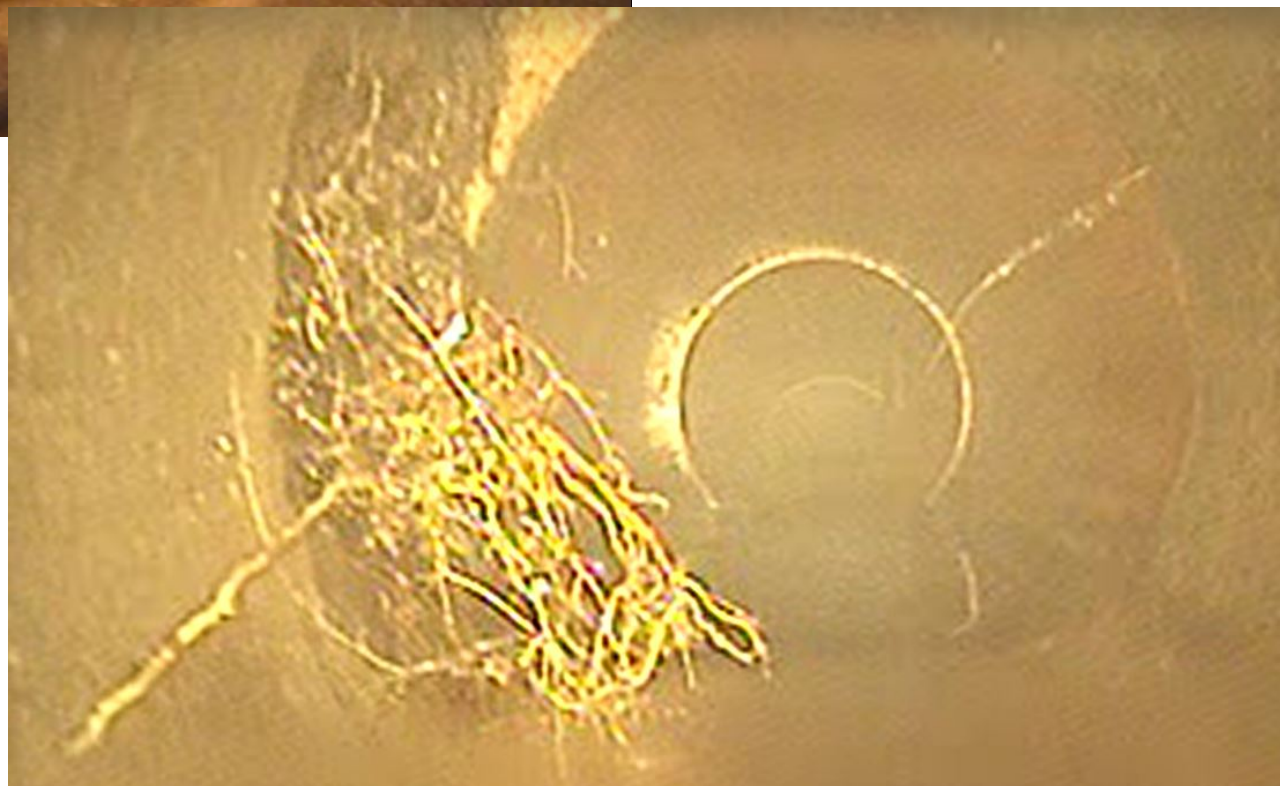
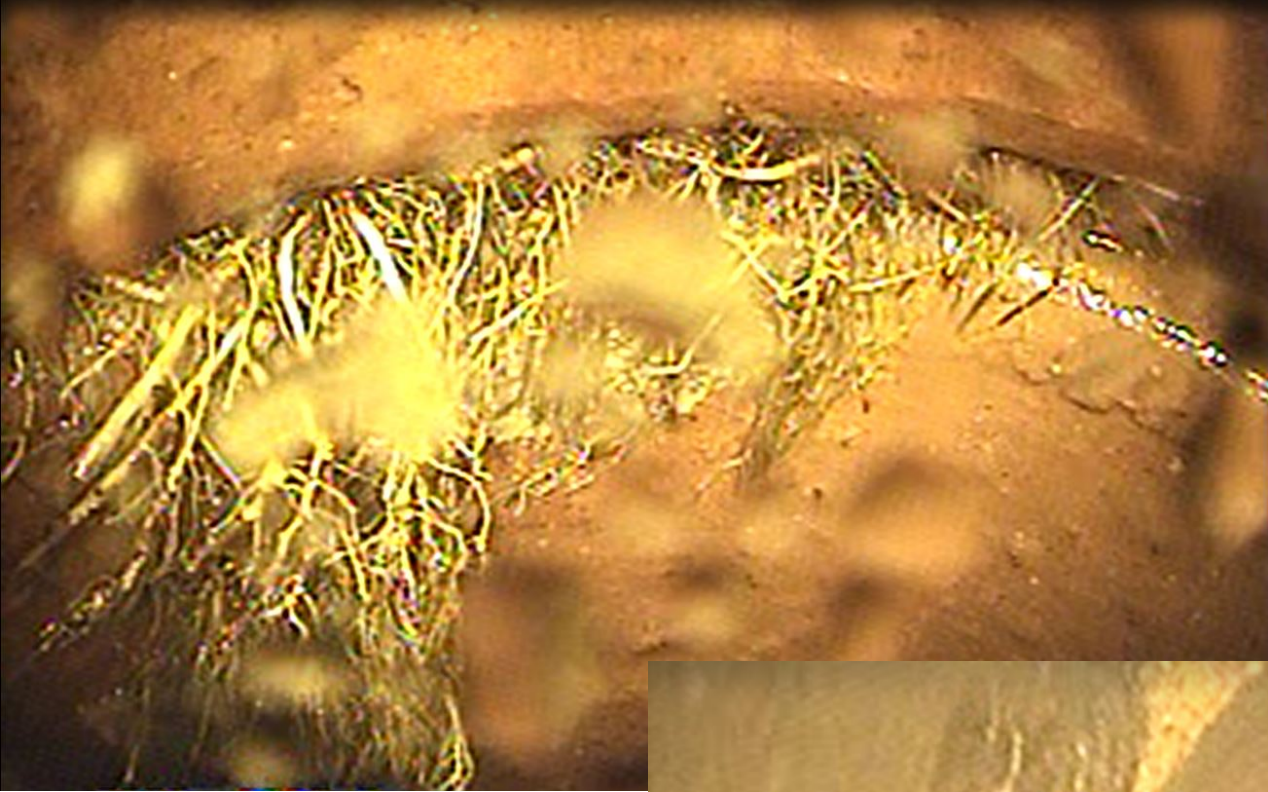
From: To:

Remarks:





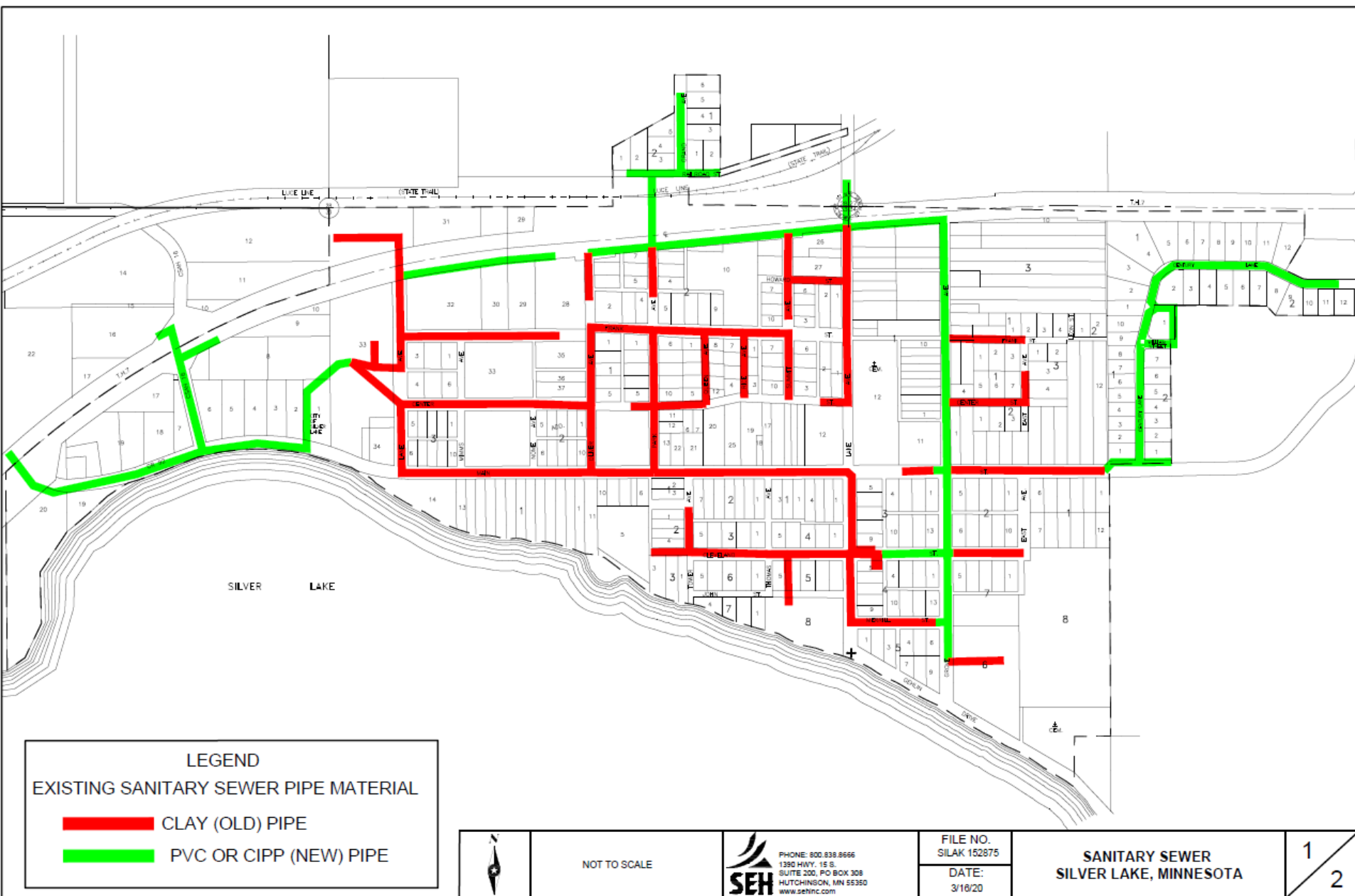
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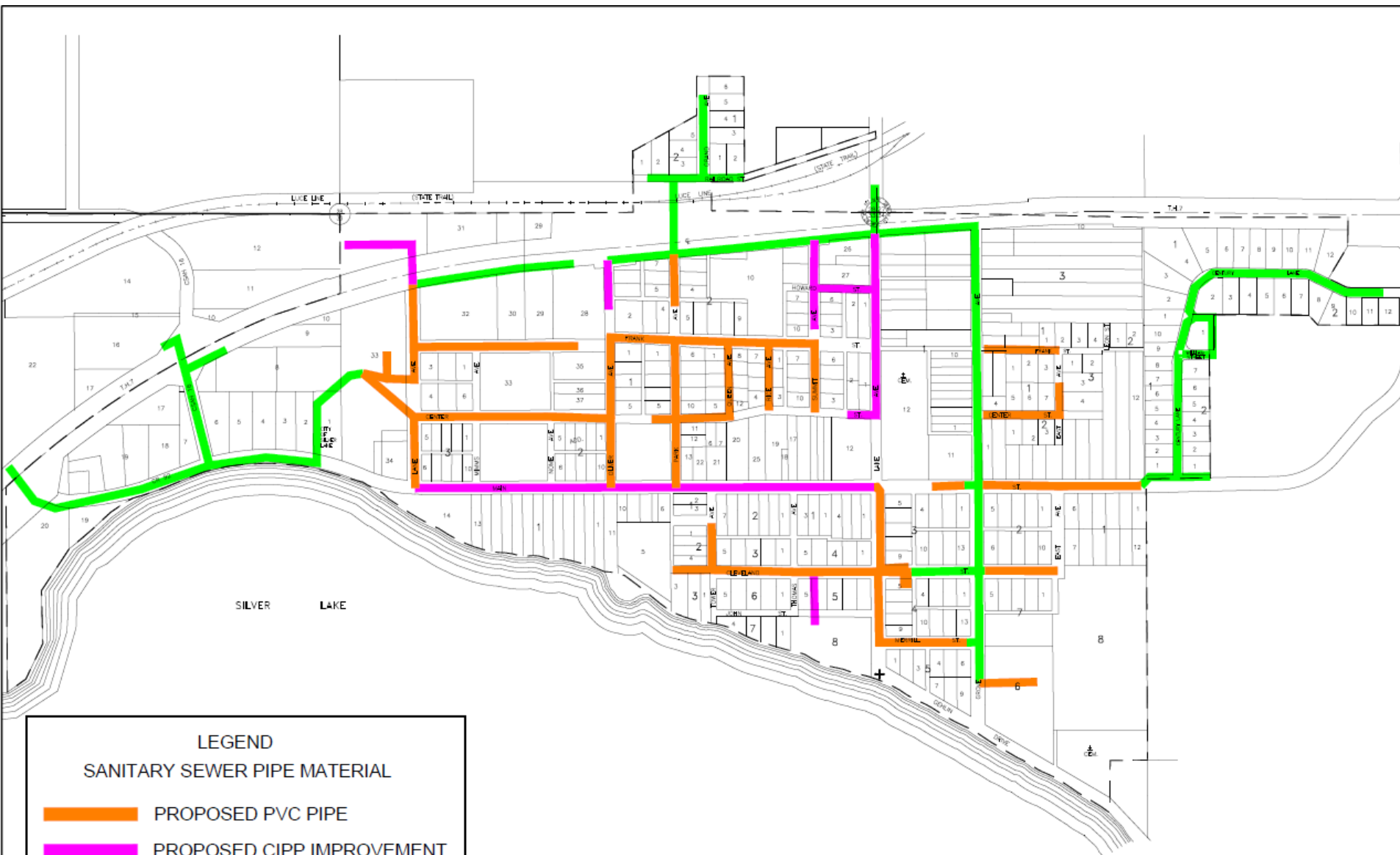


Infrastructure Improvements

Sanitary Sewer

- Reviewing options for correction
 - Lining
 - Offset joints and conditions can make lining difficult
 - Lining services more expensive, may not be feasible
 - Open Cutting
 - Requires repair of street
 - Allows for potentially less expensive process
 - Service replacement to homes
 - Needed to address I/I and condition issues
 - Likely able to get additional grants/funding





LEGEND

SANITARY SEWER PIPE MATERIAL

- PROPOSED PVC PIPE
- PROPOSED CIPP IMPROVEMENT
- EXISTING PVC OR CIPP PIPE



NOT TO SCALE



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FILE NO.
SILAK 152875

DATE:
3/16/20

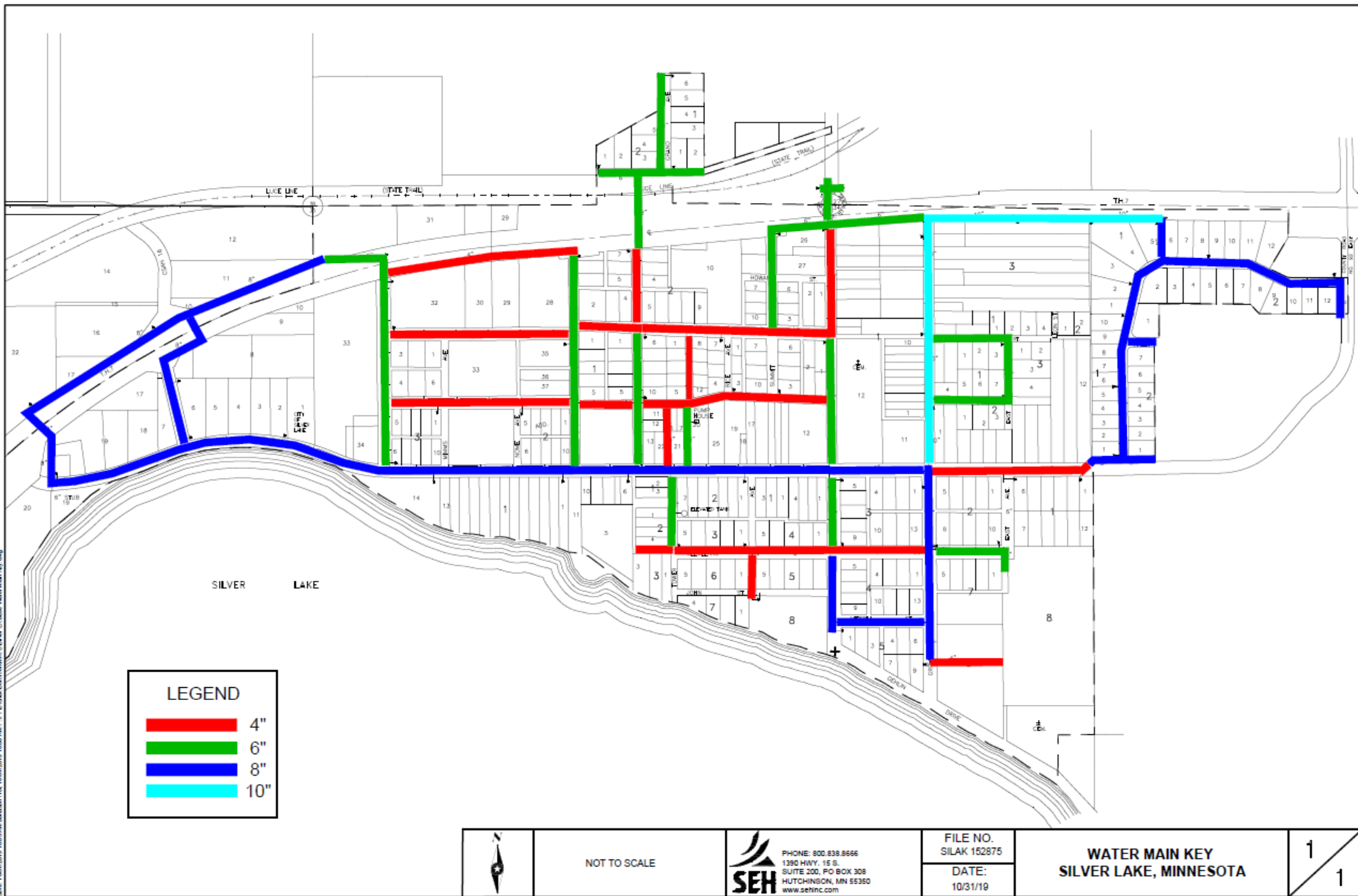
SANITARY SEWER
SILVER LAKE, MINNESOTA

2
2

Infrastructure Improvements

Water System

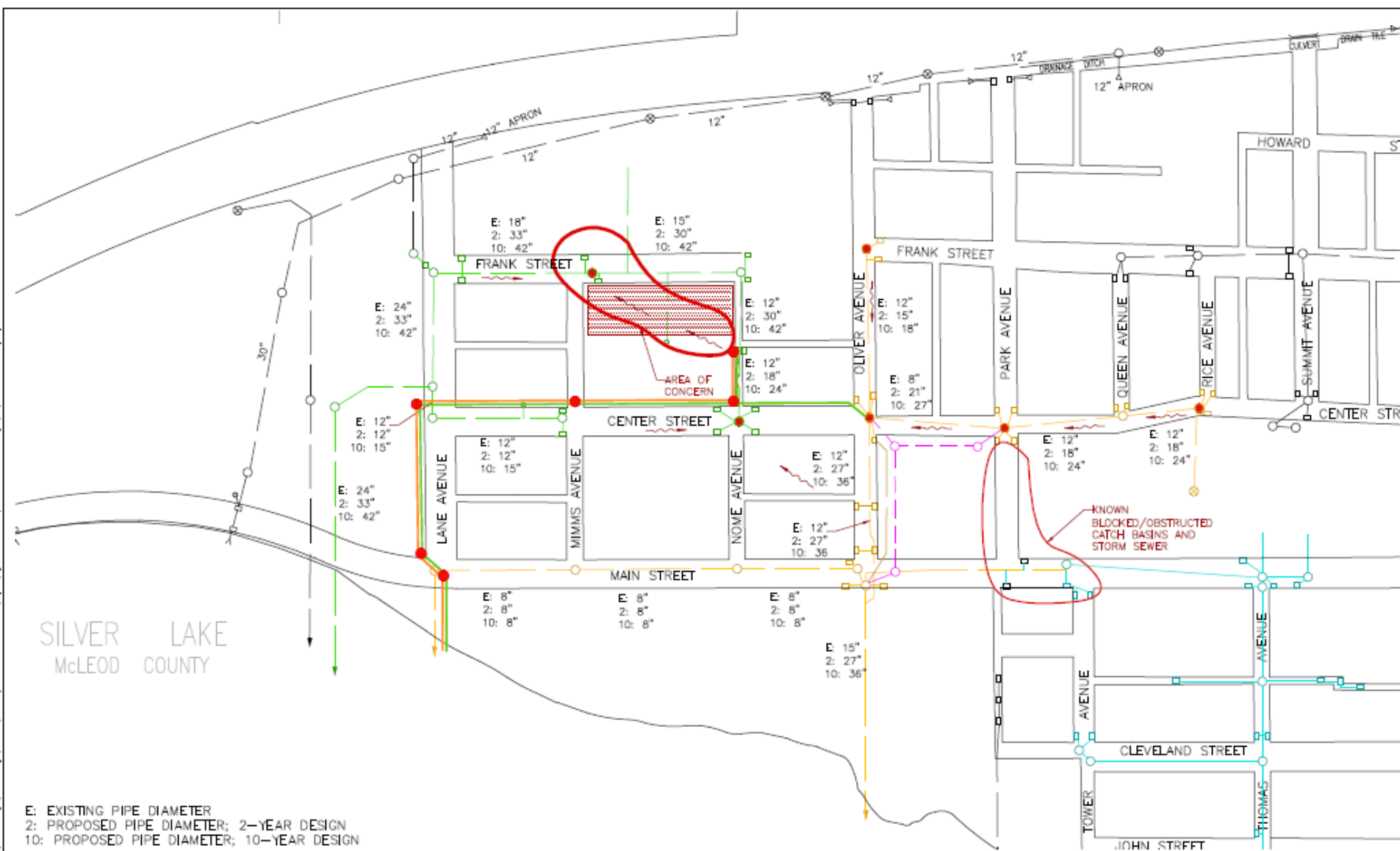
- Waterman is older and under-designed
 - Too small in some cases, not always looped
 - Focus on providing adequate service pressure and safe fire flow volumes
- Services
 - Older services may have safety/condition issues
 - Services likely to be disturbed during Sanitary sewer and storm sewer construction



Infrastructure Improvements

Storm Sewer

- Much of system is old sanitary sewer (small)
- Study completed in 2018
 - Identified extensive problem areas, as well as existing vs. appropriate pipe sizes
 - Noted project of over \$700,000 to address some of the worst issues, determined to be unfeasible
- Complications
 - Lake vs. ground levels allow for minimal grades
 - Requires pipe to be larger
 - Storm improvements will require street reconstruction



Infrastructure Improvements

Street Improvements

- Mill/overlay completed in 1997 w/20+ year life
- Notes
 - Street rehab options based on condition of the street, as well as utilities underneath.
 - Consideration mill/overlay, reclamation, or total reconstruction.
 - Reconstruction costs partially covered by RD if over infrastructure.
 - Additional Street improvements require City bonding
 - Recommend consideration of narrowing some streets to save costs for City and residents

Lift Station (LS) Improvements

- Issues
 - Cleveland Avenue LS
 - 1951 Construction, with several updates
 - Force main is undersized, has a history of breaks
 - System backs up on Main Street, circulating flows
 - Main Lift Station
 - 30 years old, condition need to be reviewed
 - Consider adding flow meters

Water Tower

- 1916 Tank needs rehabilitation or replacement
 - Storage capacity below recommendations
 - Current tank is 60,000 gallons and should be closer to 150,000 gallons
 - Eligible for historic designation
 - Process requires study and documentation
 - Community significance reviewed
 - Could “decommission” and leave in place, or consider demolition



Water Tower

- Multiple Options Reviewed
 - New Elevated Storage Tank
 - Would decommission or demolish old tank
 - Proposed to be located near Auditorium
 - Moderate cost
 - New Standpipe Storage Tank
 - Would decommission or demolish old tank
 - Proposed to be located near Auditorium
 - Lowest estimated cost
 - Rehabilitate Current Tower and add underground storage tank
 - Preserves Tank
 - Highest overall cost



Water Treatment

- Pilot Study was conducted in 2006
- Iron and Manganese exceed EPA and MDH Secondary Standards.

Parameter	Water Quality <i>mg/L</i>	Secondary Limit <i>mg/L</i>
Iron	0.90	0.30
Manganese	0.11	0.05

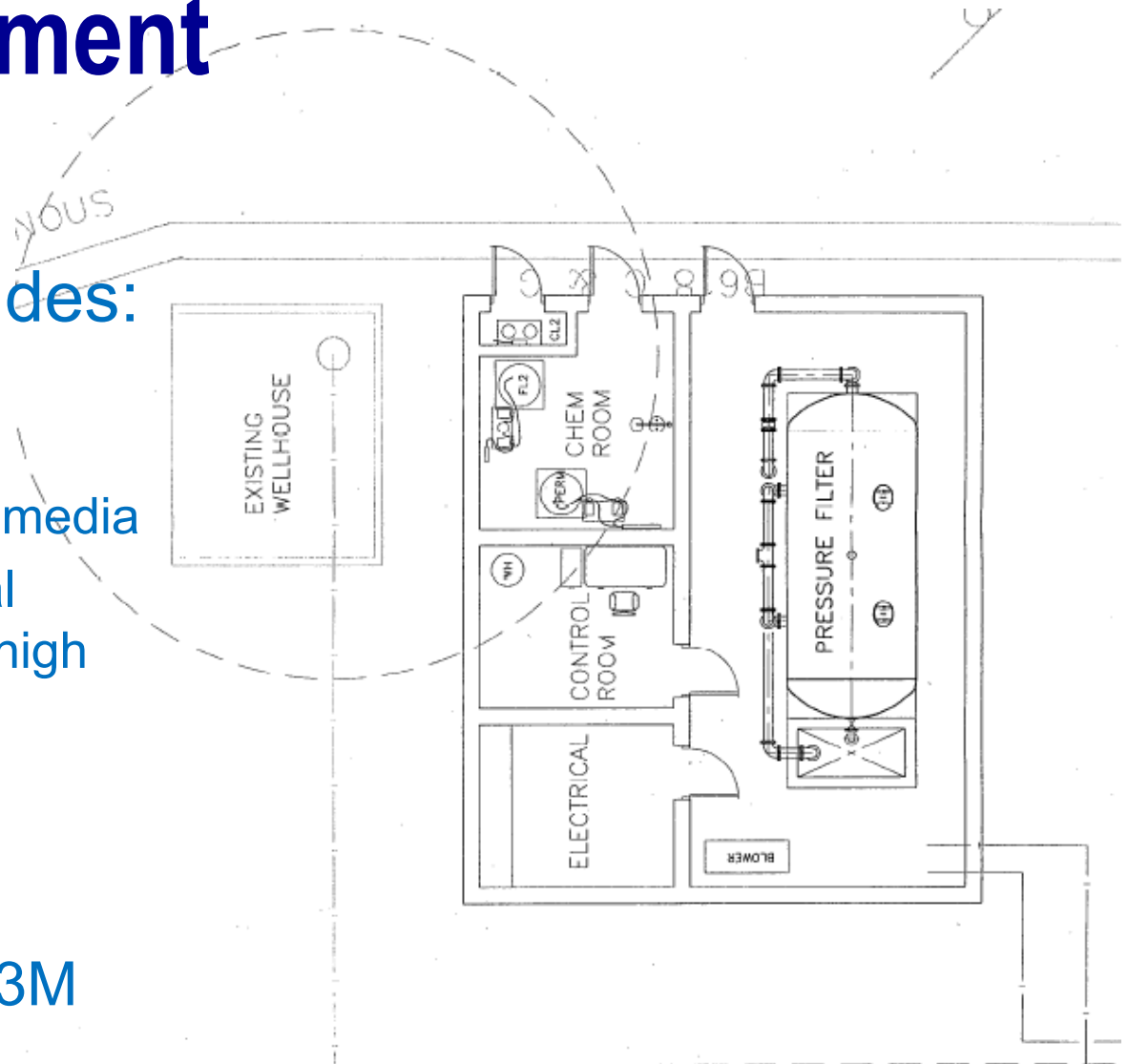
- Issues include:
 - High ammonia in water
 - Unpleasant taste
 - Odor complaints
 - Staining of fixtures, laundry, etc.

Water Treatment

- Recommended Treatment Includes:

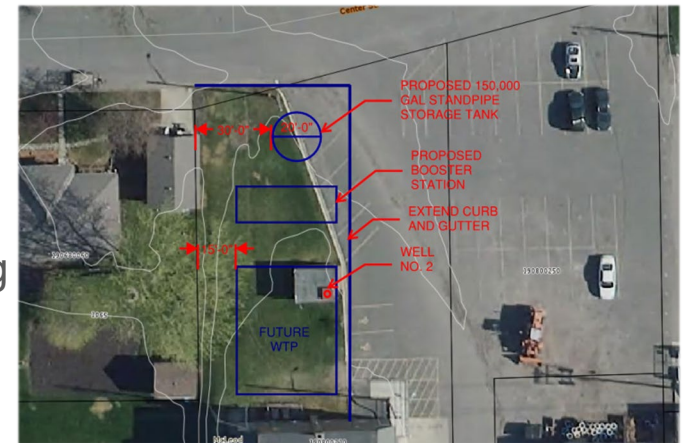
- Oxidation with Permanganate
- Filtration granular media
- Evaluate biological treatment (due to high ammonia)
- Disinfection
- Aeration

- Estimated Cost: \$3M



Water Treatment

- Wells need maintenance or replacement
 - Clean/inspect to determine needs and next steps
- Well No. 1
 - Construction in 1964
 - Located north of City Hall
 - Supply: 250 gallons per minute (360,000 gallons per day)
 - Depth: 240 feet with 10 inch casing
- Well No. 2
 - Construction in 1974
 - Located under the water tower
 - Supply: 275 gallons per minute
 - Depth: 240 feet with 10 inch casing
- Demand
 - Average Day: 75,000 gallons
 - Max Day: 126,000 gallons (2010)



USDA-Rural Development Process

- Long and detailed process!
 - Preliminary Engineering Report (PER) and Environmental Review (ER)
 - Identifies long-term potential infrastructure needs
 - Requires review of alternatives and financial analysis
 - ER includes environmental and cultural review
 - Process can take up to a year
 - Final proposed work plan may be completed in phases, depending on funding and RD approvals
 - **Don't need to complete all work noted in the PER**
 - **Can't complete RD work not in the PER**

USDA-Rural Development Process

- Long and detailed process!
 - Potential funding proposal developed as part of submittal to USDA-Rural Development
 - RD must approve PER/ER and recommend scope
 - City may select initial scope and phasing
 - Will have additional Public Meetings this fall
 - Design likely to start in late 2020
 - Plan approval expected in mid-to-late 2021
 - Construction would likely start in 2022

Funding USDA-RD Projects

- **Funding**

- RD Grant *Estimated at 25 – 45% of eligible water and wastewater costs*
- RD Loan *Remaining eligible costs. Spread over 39 years*
- City Share *Ineligible costs*

- **City share/Loan payments**

- Assessments
 - Applied per City policy
- General obligation bonds (taxes)
 - Generally paid over 20 years
- Utility fees
 - Rates based on “affordability” standards
- RD Community Facility Loans
 - Covers ineligible street costs

Date	Description
August 19, 2019	Council Meeting: Approve Preparation of Preliminary Engineering Report (PER) and Environmental Report (ER)
May 2020	Engineer: PER/ER Draft 1 Completion
June 2020	City/Engineer: Submit PER for Review to USDA-RD
August 2020	City/Engineer: Application Submittal
Sept. – December 2020	USDA-RD: Approve PER/ER (4 to 6 months)
Oct. 2020 – Jan. 2021	City/Engineer: Authorize preparation of Plans and Specifications
June - August 2021	Engineer: Submit Plan & Specifications to USDA-RD
August - Oct. 2021	USDA-RD: Approve Plans & Specifications for bidding
Late 2021/Early 2022	City/Engineer: Bid Opening for 2022 construction

