



## Engineering & Public Works Department

**SUBJECT:** 2021 Sewer Televising and Cleaning Program

**MEETING DATE:** February 23, 2021

**FROM:** [Brigitte Berger-Raish](#), P.E., Director of Engineering and Public Works  
[Dan Manis](#), P.E., Village Engineer  
[Danielle Horn](#), P.E., Project Manager

**BUDGET IMPACT:**

Contract Cost:	\$279,000
Budget:	\$279,000
Over/(Under) Budget	\$0

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**Recommended Motion**

Move to approve a contract in an amount not-to-exceed \$279,000 with American Underground, Inc., Glenview, IL, for the 2021 Sewer Televising and Cleaning Program.

**Background**

Sewer televising identifies deteriorated pipe and sewers that have obstructions caused by mineral deposits or tree root intrusions. This allows Engineering and Public Works Department staff to plan repairs to deteriorated sewers. In addition, the Metropolitan Water Reclamation District mandates that local long-term Operations and Maintenance programs contain sewer maintenance cleaning and inspections.

Routine cleaning is a vital component of maintaining the existing sewer system to its maximum effectiveness. Prior to televising, the contractor cleans the sewers with a high-pressure water jet and then determines if the sewer requires additional heavy cleaning or root cutting before performing the inspection. The 2020 televising and cleaning program removed 35.12 tons or approximately 200 cubic yards of debris from Village sewers and inspected 19.5 miles of sewer pipe, approximately 12% of the Village’s sewer system.

In addition, sewer televising assists the Engineering and Public Works Department to determine which sewers benefit from sewer lining. Sewer lining involves the trenchless rehabilitation of deteriorated sewer pipe in which a flexible lining is inserted into an existing sewer through a manhole and is heat cured. Sewer lining is economical, non-invasive and reliable. However, sewers have to be in a “round” (non-collapsing or oval) condition otherwise sewer lining is not an option.

Both the capital and operations sides of the Engineering and Public Works Department work together to establish the locations for televising. Candidates for this program are sewers that fall in one or more of the following categories:

- Sewers that are prone to surcharging during rain events;
- Sewers under streets that are scheduled for resurfacing;
- Sewers that are planned for the sewer lining program;
- Sewers that are within public utility easements that are difficult to access; and
- Sewers that are within the basin programmed for the current year’s cleaning.

This program will televise and clean approximately 14% (22 miles) of sewers throughout the Village in the sanitary, storm, and combined sewer systems, including approximately 5 miles of large diameter sewers (larger than 36”).

**Discussion**

In 2015, the Village was one of seven municipalities participating in the Municipal Partnering Initiative (MPI) sewer televising and cleaning bid that was led by the Village of Glenview. The MPI allows area communities to collectively bid similar work to take advantage of economies of scale. Other participating communities in this group were Kenilworth, Niles, Lincolnshire, Vernon Hills and Northfield. The bid established pricing for up to five years. For the past two years, American Underground has agreed to honor the same pricing from the previous year.

This year’s program will concentrate on 2022 and 2023 Road Program Streets, large diameter sewers, as well as the regular basin cleaning and televising rotation for this year. By completing sewer televising for the anticipated 2022 and 2023 Road Program Streets this year, point repairs can be completed and sewers lined where necessary in advance of the street resurfacing.

American Underground has performed well for the Village in the past, including Sewer Televising and Cleaning Programs since 2012 and has agreed to hold unit pricing for 2021. For these reasons, the Engineering and Public Works Department recommends awarding the 2021 Sewer Televising and Cleaning Program to American Underground.

2021 Sewer Televising and Cleaning Program will begin in March and be completed in June.

**Budget Impact**

The 2021 Sewer Maintenance Program is allocated to the below account within the Sewer Fund. The budget includes line items for \$190,000 for sewer televising and cleaning plus an additional \$50,000 for large diameter sewer televising and \$39,000 for an additional 5.5 miles of cleaning and televising to reach the best management practice of cleaning sewers on a 7-year cycle.

Description	2021 Budget	Contract Amount	Account Number
Sewer Fund – Sewer Maintenance	\$366,500	\$279,000	40807090-425300

The remaining balance in the sewer maintenance account will be used for catch basin cleaning and other storm sewer repairs as part of other Village contracts.

**Documents Attached**

1. 2021 Sewer TV and Cleaning Pricing
2. CIP Detail Sheets

**VILLAGE OF WILMETTE**  
**2021 SEWER TELEVISION & CLEANING**  
American Underground, Inc.  
P.O. Box 569  
Glenview, IL 60025

**ESTIMATED QUANTITIES**

Item	Pay Item Description	Qty	Unit	Unit Price	Extension
1.	CCTV Inspection of Storm Sewers (6" to 42")	30,000	LF	\$1.57	\$ 47,100.00
2.	CCTV Inspection of Sanitary Sewers (8" to 12") with Concurrent Dyed-water Flooding		LF	\$2.23	\$ -
3.	CCTV Inspection of Sanitary Sewers (15" to 18") with Concurrent Dyed-water Flooding		LF	\$2.29	\$ -
4.	CCTV Inspection of Sanitary Sewers (8" to 12") (no dyed-water flooding)	38,000	LF	\$1.35	\$ 51,300.00
5.	CCTV Inspection of Sanitary Sewers (15" to 18") (no dyed-water flooding)	14,000	LF	\$1.35	\$ 18,900.00
6.	CCTV Inspection of Sanitary Sewers (21" to 30") (no dyed-water flooding)	10,000	LF	\$1.71	\$ 17,100.00
7.	CCTV Inspection of Sanitary Sewers (Large Diam., > 30") (no dyed-water flooding)	11,000	LF	\$1.89	\$ 20,790.00
8.	Sewer Condition Evaluation	117,999	LF	\$0.18	\$ 21,239.82
9.	CCTV Inspection of Storm Sewers (48" to 72")	15,000.00	LF	\$1.89	\$ 28,350.00
10.	CCTV Inspection of Sanitary Sewers (21" to 30") with Concurrent Dyed-water Flooding	-	LF	\$2.95	-
11.	CCTV Inspection of Sanitary Sewers (6") (no dyed-water flooding)	-	LF	\$1.95	-
12.	Root Cutting (8" to 12")	7,000	LF	\$0.58	\$ 4,060.00
13.	Root Cutting (15" to 18")	1,998	LF	\$0.95	\$ 1,898.10
14.	Root Cutting (21" to 30")	247	LF	\$6.00	\$ 1,482.00
15.	Heaving Cleaning	175.0	Crew Hours	\$375	\$ 65,625.00
16.	Emergency CCTV Inspection (no dyed-water flooding) Sanitary or Storm Sewer (8" to 42")	3.00	Crew Hours	\$385	\$ 1,155.00
<b>Total Contract:</b>					<b>\$ 279,000</b>



## Sewer Maintenance

### Budget Projection

Funding Source	2021	2022	2023	2024	2025	Total	2026-2030
Sewer Operating	366,500	378,000	389,000	353,000	364,000	<b>\$1,850,500</b>	2,051,000

### Project Status

Critical	Recommended	Contingent
X		

### Funding History

Year	Amount
2020	\$322,000
2019	\$231,700
2018	\$230,443
2017	\$211,500
2016	\$174,480

### Project Description and Justification

A multi-year effort targeting sewer maintenance, including contractual maintenance of drainage structures, emergency, and road program sewer point repairs. The following sewer maintenance improvements are recommended in 2021:

- \$50,000 is budgeted for a contractor to perform repairs to sewers that are over 10 feet in depth and cannot be repaired by Village crews and emergency sewer repairs and improvements for the combined, sanitary, and storm sewer systems identified during the budget year.
- \$37,500 to clean approximately 350 drainage structures in order to obtain a five-year cleaning cycle (an additional 350 are cleaned by in-house crews).
- \$190,000 to cover the cost of televising and cleaning approximately 13.5 miles (9%) of main line sewers using contractual services. The Village's sewer systems contain 57.5 miles of storm sewer mains, 49.0 miles of sanitary sewer mains, and 55.8 miles of combination sewer mains. In addition to the contractual sewer televising, the Village's in-house Water/Sewer crew cleans at least 2% of the total sewer system. The Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) mandates that a long term (O&M) Program be developed. The O & M program includes maintenance, cleaning and rehabilitation. At this time the MWRDGC does not require specific percentage of sewer cleaning. However, based on the age of the Village's sewers, the best management practices would be to clean the sewers once every 7 years or 14% per year.
- \$39,000 to clean an additional 5.5 miles of sewers to achieve the Village's annual goal. The sewer cleaning and televising contractual services is completed through participation in the MPI, which allows the Village to leverage competitive pricing through joint bidding with other local municipalities. The past 6 years have been completed under a contract that was bid in 2015, which provided pricing for 3 years and allowed for two subsequent years of contract extension at the 2017 pricing. One additional contract extension at the 2017 pricing was utilized for the 2020 program. It is anticipated that new pricing will be established for 2021. Additionally, it is advantageous to the Village to begin



collecting GPS data for sewer service locations. An additional amount is included with the \$39,000 to allow these services to be added to the bid.

- \$50,000 has been included in 2021 to continue televising large diameter sewers. Large diameter sewer cleaning and televising will allow the Village to assess the state of the critical infrastructure and rehabilitate the sewers as necessary in advance of a potential failure. It is far less costly to rehabilitate sewers in advance compared to an emergency repair, which has the potential to impact much more in terms of public and private property. Staff began inspecting approximately 25% of the large diameter sewers in 2020 and proposes to continue inspecting 25% of the large diameter sewers annually over the next 3 years to assess the current condition. After that, an annual program matching that of the regular sewer cleaning and televising program is proposed for the large diameter sewer cleaning and televising.

A summary of the large diameter sewers and total lineal feet throughout the Village is included here:

Diameter	Sanitary	Storm	Combined	Total
36-48"	7,369	5,997	21,321	34,687
54-66"	-	7,375	14,498	21,873
72-78"	8,502	8,922	7,218	24,642
84-96"	-	3,666	2432	6,098
102-120"	1,934	3,339	-	5,273
<b>Totals</b>	<b>17,805</b>	<b>29,299</b>	<b>45,469</b>	<b>92,573</b>

## Project Update

Additional funding is included to allow for increasing the annual program to clean sewers on a 7-year cycle instead of a 10-year cycle, for televising and cleaning large diameter sewers, and to collect GPS data for laterals. Budget projections for FY 2021-2024 have been updated. A projection for 2025 was added, as well as future projections for 2026-2030.

## Project Alternative

This project is critical since a reduction in maintenance of the sewer system can ultimately lead to sewer back-ups and increased flooding. Portions of the work correlate to the Village's mandated National Pollutant Discharge Elimination System (NPDES), the Combined Sewer Overflow (CSO) permits, and annual Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) long term maintenance program. The alternative would be a reduction to these contractual services which would place the Village in non-compliance unless additional personnel and equipment were added so the Public Works staff could perform the work in-house.

## Budget Impact

*This is a Recurring Expense*

There are no additional costs associated with this project.

Account Description	Sewer Operating – Sewer Maintenance
Account Number	40807090-425300