

MEMORANDUM

TO: Hon. Mayor David McFadden, Village of Tuxedo Park

FROM: Joseph Zongol, PE, NICET III

DATE: December 14, 2022

SUBJECT: Capital & Infrastructure Project Status Update

Dear Mayor McFadden and Board of Trustees,

In accordance with your request, we have prepared this summary memo to provide an end of the year status update on the capital and infrastructure projects which Weston & Sampson has provided support to the Village:

- **Dam Safety Inspections:** Dam safety inspections were completed for the Tuxedo Lake, Pond 3, and Wee-Wah Dams. The results of the inspections were compiled within summary reports issued to the Village in October of 2022. The dams were generally in sound condition; however, some operational deficiencies were identified within the Wee-Wah Dam. The Village has implemented temporary measures to address these issues and is consulting with the engineer-of-record for the dam upgrades that were conducted in 2019 for long term repairs.
- **Trunk Sewer Investigation:** An investigation of trunk sanitary sewers that surround the lakes was conducted late last year and into 2022. The investigation focused on sections that were shown to be constructed with vitrified clay pipe, which is susceptible to infiltration. We are pleased to report that the investigation was completed well under the contract budget of \$91,600, with an invoiced total of approximately \$49,520. The defects identified from the investigation are currently in the process of being repaired within the Sanitary Sewer Evaluation Survey (SSES) project described in the next bullet.
- **Sanitary Sewer Evaluation Survey (SSES) project:** The sewer rehabilitation work within the vicinity of Continental Road, Clubhouse Road, Stable Road, Circuit Road, Serpentine Road (referred to as Sub-Basin 2), and Turtle Point Road (referred to as Sub-Basin 10), has been completed. The project was funded by an EFC grant and EFC financing. The project finished under budget and the remaining funds were used for additional sewer repairs on the trunk sewer on the west side of Pond 3, between the Pond and West Lake Stable Road, which were a result of the Trunk Sewer Investigation described above. The majority of those repairs were completed in November of 2022, with the remaining work anticipated to be completed in December 2022. Upon completion of this work, it is anticipated that the overall construction contract will finish under budget.

- **Tuxedo Lake Water Main Replacement:** The design of a replacement water main that crosses Tuxedo Lake is nearly complete and is expected to go to the Orange County Department of Health for Permitting. Once permitted, the project documents will be ready for construction once funding becomes available or in the event an emergency replacement is warranted. Due to the complicated nature of the replacement of this nearly 80-year-old section of critical infrastructure, which provides water to the southwestern side of the Village, this project was a proactive effort put forward by the BOT to reduce potential repair costs in the event that this pipe were to fail.
- **Mountain Road Water Main Replacement:** The design scope has been expanded to include replacement of the water mains within the Mountain Road, Schoolhouse Road, Schoolhouse Lane, Circle Drive, Spartan Place neighborhood. Topographic survey, underground utility location, and geotechnical evaluations are being conducted in the month of December, with design and permitting to follow in early 2023 once all of the field information has been obtained.
- **Water Treatment Plant DOH Coordination:** We have provided a response letter, on behalf of the Village, to the Orange County Department of Health's comment letter that resulted from their site visit in 2020. The response letter included proposed modifications to the water treatment plant's clearwell and a de-rating of the capacity of the plant to match its current physical water production capacity to address administrative issues noted. We are awaiting the DOH's acceptance of the response letter to implement the necessary modifications.
- **Town of Tuxedo Water System Pressure Monitoring:** Weston & Sampson supported the Village in selecting a pressure gauge that records pressures at the Town of Tuxedo pressure reducing valve station. This gauge records data and reports real-time information back to the Village to aid in determining if pressure spikes are the cause of water main breaks experienced within the Town of Tuxedo portion of the water system.
- **District Area Water Metering:** Weston & Sampson has been assisting the Village in trying to identify areas within the Village's water distribution system contributing to water loss. The concept is to separate the water system into smaller sub-areas and meter the water used vs. water billed. This approach allows for the Village to cost-effectively, self-perform a water loss assessment while being able to focus on specific areas of the water distribution system. The first area that is currently under analysis is within the Mountain Farm Road, Camp Comfort Road, and Ivy Road sub-area.
- **Stormwater Infrastructure Asset Mapping:** The Village maintains comprehensive GIS mapping for the water distribution system and sanitary sewer collection system. Detailed mapping is not available for the stormwater system, which drains to the Village's lakes. Weston & Sampson will be working with the Village DPW to locate and map the Village's stormwater system over the next 6-12 months. This mapping can then be used to aid in the implementation of stormwater treatment and green infrastructure technologies for stormwater runoff that enters the lakes.