



## CITY OF WASHINGTON, ILLINOIS Public Works Agenda Communication

**Meeting Date:** 02-07-2022

**Prepared By:** Kevin Schone – Public Works Director  
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**Agenda Item:** Overview of Public Works – Employee and Equipment Considerations

**Explanation:** The Public Works Department consist of the Public Works Director, Utilities Superintendent, Street Department, two Water Treatment Facilities, one Wastewater Treatment Facility (there were two until 2020), a Distribution and Collections Department and one Mechanic.

In addition to the Public Works Director and Utilities Superintendent there are currently 23 full-time employees, with one open position in the Distribution and Collections Department. There is also a seasonal Cemetery Sexton, 3 seasonal mowing employees, and anywhere from 2-5 short-term employees each year.

### STREET DEPARTMENT

The Street Department consist of 10 full time employees. Of these 10 employees, 1 is assigned to the Engineering Department as the Engineering Technician, and 1 is assigned to the cemetery. The employee assigned to the cemetery also floats between the police department and City Hall doing light maintenance work as well as working with the mechanic on different projects, both of these positions are required to participate in Winter Operations. There is also a seasonal Cemetery Sexton, 3 seasonal mowing employees, and 1-2 short-term employees in addition to the 10 FTE. The Cemetery Sexton position will become the responsibility of the Street Department Supervisor upon the retirement of the current sexton and the number of seasonal mowing positions will remain the same at that time, only two will be needed until the Sexton retirement.

The Street Department is responsible for the maintenance of 79 miles of roadway, curb and sidewalk maintenance, street sweeping, 51 miles of storm sewer, 1816 stormwater inlets, detention basins, 600 storm water manholes, cemetery maintenance and sexton duties, mowing of city owned properties, snow removal, bi-annual brush pick-up, and hundreds of miscellaneous service requests each year.

At this time the department is sufficiently staffed.

## Project Considerations for the 22/23 FY Street Department Budget Include the Following:

- **Overlaying of cemetery alleyways (In House)** 637 tons, approximately \$47,775.00
- **Overlaying of various alleys (In House)** 326 tons, approximately \$24,450.00
- **Overlaying of Parr Hue Lane (In House)** 188 tons, approximately \$14,100.00
- **Replacement of curb and driveway approaches on Belaire** (Possibly through Concrete Assistance Commodities Bid) Approximately \$80,000.00

**\*The asphalt projects can only be completed if Public Works is able to secure an asphalt paver. Paver rental cost approximately \$12,000. If a paver cannot be secured, crews will work on ADA ramps and inlet replacement or repairs.**

## Stormwater Considerations Include the Following:

- **Open cut or lining of storm sewer on Oakwood.** This was originally planned for the 20/21 budget but due to the Covid-19 was held off and funds were used for other projects such as the Gilman sump collection project. It was also thought some of these funds could be used for storm culverts under the railroad south of Hilldale, however after visual inspection of those culverts they were deemed to be in good shape. The project was budgeted for again in 21/22 however estimates for this work came in \$30,000 over the budgeted amount of \$120,000 and the project was once again held off. Staff will look at other options for this needed project such as open cutting. If lining is done staff would be budgeting \$175,000.
- **GIS Location of Utilities with GPS Unit/Storm sewer mapping, inspection and cleaning** – This will be used to create more accurate utility locations and mapping. This is an ongoing project that needs to be completed to assess the condition of the storm sewer system for any future repairs or replacement. This work will be in partnership with the Engineering department
- **Ditch cleaning and culvert replacement in Beverly Manor, Felker's Addition, and South Annex** (Most likely will only complete one of these projects due to scope). The ditches in these areas have been neglected for years and cleaning with possible culvert replacement is needed moving forward. \$50,000 was planned for in the 21/22 budget but pulled back to reduce the impact to the budget. Staff will likely budget this amount, possibly more if needed, to get some of this work completed. (Also included in Engineers Overview)
- **Other projects as needed.** (Example – Kern Road stormwater improvements in 21/22)

## WATER TREATMENT

The Water Treatment Department consists of two Treatment Facilities with 3 full time employees. They are responsible for the production of water, sampling and testing to assure water quality, reporting to State Agency's, service request for residents, and plant

maintenance. Water treatment requires a certified class B operator to be compliant with State regulations.

A third employee was added to this department in 2014 to help with weekend shift rotation and to assure the plant was staffed sufficiently when employees were on vacation or out for illness. They were also to be a floater in the Street Department during Winter operations or other larger projects.

Staff has better utilized this position for water leaks and snow plowing, and now that the new camera and software have arrived, the Distribution and Collection crews will begin televising to identify sewers in need of repair or replacement and meet the commitments of our CMOM (Capacity, Management, Operations, and Maintenance) program. This third position will assist in these operations when needed to assure work progresses.

The Water Treatment Facility is sufficiently staffed.

**Projects Considerations for the 22/23 FY Water Treatment Budget include the following:**

- **Paint Well houses and generator building** Complete painting in house. **Update** - One building was completed in 2021.
- **Replacement of dehumidifier at treatment plant #2** – Original to the plant construction, this unit has failed and the cost of replacement is close to \$80,000. **\$100,000 budgeted. Update** – This project will start February 2022 and be completed in this fiscal year.
- **Water Tower #1 and #2 Inspections** – Tower #1 was warrantied for one year after completion of the painting project in 2020; staff had the tank inspected before that to assure there are no issues. Tower #2 has some areas where the paint has come off on the north side of the tank. Staff believes this is due to the tornado and wants to be sure the tank can be cleaned and touched up and not something more than that. It has been approximately 10 years since tower #2 was painted. **\$10,000. Update** – Inspections have been completed on both towers. Any painting or improvements can be safely deferred for 2 years; however, staff will plan to have tower #2 cleaned in FY22/23. **\$7500**
- **Filter Softener Replacement at WTP #2** – The media in the vessels are past due to be replaced. Over the years the media losses its ability to Filter and Soften the water and is then needed to be replaced. To remove and depose of old media, inspect, and install new media is estimated to be **\$550,000**
- **Water Quality Study which includes Nitrification Action Plan** – This is a recommendation in the CIP that will help the city determine if there are water quality issues lurking in the system. **Update** – The Water Quality Study is in the final stages with a table top study being required by the IEPA. If switching WTP#1 to a free chlorine system, cost is estimated at **\$300,000** including engineering.
- **Upgrades to SCADA Communications WTP #2 and Wells #11 & #12.** Repairs were made in 2021 after an ice storm damaged equipment. Further improvements were recommended at that time to improve dependability however staff wanted to

determine whether or not these improvements were needed before moving ahead with a more expensive alternative. The project will make the communications more dependable. **Approximately \$65,000 (Device Net to Fiber Connection)**

- **SCADA Master Plan** – It is recommended that we have an evaluation of our current SCADA equipment and develop a Master Plan, CIP Plan, for SCADA Updates and Equipment Upgrades for the next several years. Evaluation and Master Plan Estimated **\$25,000**
- **Other Considerations.** Water salesman

## WASTEWATER TREATMENT

The Wastewater Treatment Department consists of one Treatment Facility with 4 full time employees. Until recently they operated 2 treatment facilities, the second plant was decommissioned in 2020. Plant personnel are responsible for sampling and testing, process control, sludge production and hauling, facility and grounds maintenance, and reporting to the IEPA. The wastewater treatment facility requires a class 1 wastewater certificate to be compliant with State regulations.

Staff feels this department is adequately staffed with the addition of tankage and equipment at plant two and the closure of plant one.

### Project Considerations for the 22/23 FY Wastewater Treatment Budget Include the Following:

- **New generator** – The generator is original to the 1970's build and staff is being told that parts are harder to come by. This was identified in the CIP. **\$250,000 Update** – The generator has been ordered but will likely roll over to the 22/23 FY
- **Phase 2B sanitary trunk line** –The Engineering Department has taken control of this project, and pending an independent report, will help determine our path forward.
- **Demolition Work At WWTP#1** – Phase 1 of the demolition work at the old wastewater treatment plant has been completed. This year calls for several structures to be demolished and the filter building interior to also be demolished. Committee may decide not to complete both projects. Some work has been completed on the filter building demo however staff would like to maintain funds for possible improvements. **\$76,000 (Structures) and \$50,000 (Demo/Improvements).**
- **Inspection and Maintenance of Sludge Storage Tank** – The sludge storage tank was inspected in 2017. Some minor repairs were completed to the outside of the tank. It was recommended that the inside have repairs completed as well in the future. Inspection and repairs are estimated to be **\$45,000**
- **Repair of the Concrete Catwalk above digesters WWTP #2** Concrete is original to the plant and is crumbling and is approaching its design life of 50 – 75 years. CMT sent their structural people to inspect it. They recommended repairs for around **\$30,000**, which will buy another 10 years, or full replacement for **\$304,000**.

- **SCADA Master Plan** – It is recommended that we have an evaluation of our current SCADA equipment and develop a Master Plan, CIP Plan, for SCADA Updates and Equipment Upgrades for the next several years. Evaluation and Master Plan Estimated \$25,000

## DISTRIBUTION and COLLECTIONS

The Distribution and Collections Department currently consist of 5 full time employees with one open position, and 1-2 short-term employees during the summer months. They are responsible for infrastructure between the water treatment facility and the wastewater treatment facility.

On the Distribution side they are responsible for 85 miles of water main, 1315 valves, 672 hydrants, including hydrant maintenance which includes semi-annual flushing, service request for service interruptions, and main breaks.

On the Collections side they are responsible for 79 miles of sanitary pipe, 6 lift stations used for the conveyance of wastewater, jetting and TV inspection of sanitary lines for maintenance, sewer main breaks and inspection, maintenance on over 1600 manholes, and all JULIE locates in the corporate limits of Washington.

Staff will be deferring consideration for an additional employee in **FY 23/24** as suggested last year until more televising and jetting is completed to determine how much can be accomplished with the current staffing levels.

Staff had also recommended purchase of a Wachs valve turning machine in **FY 22/23** to complete the valve turning in house but will be looking at less expensive options before moving forward with the request for the valve turning machine. **Electric Valve Wrench \$5,000. Wachs Valve Turn Machine \$40,000**

## Project Considerations for the 22/23 FY Distribution and Collections Budget Include the Following:

- **Water Main Replacement** – This could be in-house if time allows or contracted for any problems in the heat map area. **\$150,000**
- **Sewer Main Replacement and CIPP Main Lining** – Staff continues to inspect manholes and sanitary sewer lines to determine if pipes can be lined. This could save money on reconstruction if the sewer lines were lined so only water is left to be addressed in a reconstruction project. The cleaning and televising work to be done is part of the City's CMOM program as outlined in the NPDES Permit for Wastewater Treatment Plant #2. **Sewer Main Replacement \$45,000 & CIPP \$330,000 (Includes prep work)**
- **GIS Location of Utilities with GPS Unit** – I believe this is also identified in the Engineer's report and is an important part of the Distribution and Collections Department. It gives us good data to use when planning projects.

## FLEET MAINTENANCE

The city has 1 full-time mechanic whose is responsible for the maintenance and repair of all City vehicles including heavy equipment, police vehicles, and small equipment, there are approximately 64 cars and trucks, 2 backhoes, 2 skid steers, 8 mowers, and other numerous pieces of equipment in the fleet. The mechanic also assists other departments as needed and participates in the snow removal rotation.

### Equipment Considerations for the FY 22/23 Budget Include the Following:

- **Hydraulic Excavator** – Public Works has increasingly used a rented excavator to enter into creek beds to clear obstructions, repair eroded creek banks with riprap, repair damaged manholes in creek beds, and complete the annual brush burn at the Dieble Road Detention Facility. FY21/22 budgeted approximately \$7500 for excavator rental. These excavators are not always available on short notice so if there was an emergency, and an excavator is not available, a contractor would need to be called, this is likely to exceed the cost of the rental and the city has qualified operators if we owned our own equipment. Public works has a 20ton tag trailer capable of transporting an excavator to wherever it is needed. **\$160,000 used, \$190,000 new.** (A mini excavator could also fill a need in PW's \$75,000) \*Discussion\*
- **Backhoe** – One of the two backhoes is due to be replaced in FY22/23. **\$135,000.**
- **Plow Truck** – One plow truck is scheduled to be replaced in FY 22/23 **\$162,000.** This will likely roll over into the 23/24 budget year as I have been told orders are at 18 months lead time.
- **Skid steer** – The Cat skid steer at the wastewater treatment plant is due for replacement in FY22/23. **\$63,500**
- **Fleet Vehicles** - There are approximately 11 vehicles in PW's that will be replaced through the Enterprise agreement.
- **Sewer Jetting Machine (Easement Machine)** – Used for rear yard sanitary sewer cleaning and other hard to access areas such as creek and wooded areas. This machine is 20 years old and has been deferred for 5 years. It is staff's opinion that the easement machine can again be **Deferred.**
- **John Deere Mower 72" 1500** – This mower is used at the wastewater treatment plant and is backup for the street mowers. Moving forward we may have to tweak the replacement schedule to replace the mowers more often. These mowers are mowing approximately 80 acres a week, sometimes all summer, so they are getting heavy usage. Approximately **\$30,000**
- **Other Considerations.** New fuel tank, Message Board, Brine tank, and taller salt shed door.

### Building Maintenance Considerations for the FY 22/23 Budget include the following:

- **Replace Roof/Reskin Building at the old filter building located at the old wastewater treatment #1 treatment plant.** It is believed this roof is original to the building. The roof has been visually inspected and appears to be in good condition however money should be budgeted to replace if needed. Other considerations include metal fasteners and painting. **\$45,000 Roof \$38,000 Reskin** (This money could be part of money indicated in wastewater project considerations above)
- **Card Pass at the street department.** – The idea is to install card pass at each department where practical so that clearance to the buildings can be denied after termination or when certain buildings are restricted. Public Works will look to get this accomplished at other facility doors over the next few years. **\$25,000 FY22/23**
- **Jefferson Street Shop/Evidence Building.** – Tuckpointing was budgeted and then cut to reduce expenditures in 21/22. Depending on future plans for evidence this needs to be done. **\$40,000**

**Fiscal Impact:** TBD

**Recommendation/**

**Committee Discussion Summary:** Staff is seeking feedback on the projects and building maintenance considerations listed above and believe they are needed. Some of the projects are in the Capital Improvement Plan and some are projects that have been neglected for years such as ditch cleaning and culvert replacement.

Staff is also seeking feedback on the equipment listed above that will allow us to do more work ourselves, when we need to, and allows us to not be dependent on if a piece of equipment is available for rent. Staff recognizes the need to be fiscally responsible and is deferring equipment that is scheduled for replacement when it is determined the piece of equipment is in good condition.

**Action Requested:** Direction for submitting a budget with the items addressed in this memo.