CITY OF PALMETTO
CITY COMMISSION WORKSHOP MEETING
May 1, 2017
4:30 PM

Elected Officials Present:
Shirley Groover Bryant, Mayor
Brian Williams, Vice Mayor, Commissioner, Ward 3
Tamara Cornwell, Commissioner-at-Large 2
Jonathan Davis, Commissioner-at-Large 1
Harold Smith, Commissioner, Ward 1
Tambra Varnadore, Commissioner, Ward 2—(arrived at 4:54 p.m.)

Staff Present:
Mark Barnebey, City Attorney
Jeff Burton, CRA Director
Jim Freeman, City Clerk
Allen Tusing, Public Works Director
Scott Tyler, Chief of Police
Amber LaRowe, Assistant City Clerk

Mayor Bryant called the meeting to order at 4:30 p.m.

1. UNIVERSITY OF SOUTH FLORIDA (USF) STUDENTS PRESENTATION

David Francona, Salvatore Sferrazza, Beth MacKiewicz, Awet Tsegay, and AJ Gonzalez, gave a presentation to the Commission on the City's Potable Water Distribution Network. Their objectives were to assess the current water distribution system, assess future utility needs, recommend system enhancements, and design a plan for upgrades.

Ms. MacKiewicz discussed the galvanized steel and cast iron piping that is currently used in the City and indicated it needs to be replaced. She explained the positives and the negatives of these types of pipe. She displayed pictures of corroding pipe, stating that the priority is to replace the galvanized steel pipes due to its high susceptibility to corrosion, it is also prone to cracking due to external soil stresses, and has a short lifespan of 20-50 years. She highlighted the six sections in the City that are in need of repair more quickly than others. The total linear feet is approximately 2,700 feet of galvanized steel for replacing.

Two possible types of replacement piping discussed were PVC and HDPE piping. They are not susceptible to corrosion, they have less flow resistance compared to metal pipes, they have longer lifespans, and are easy to install

EPANET 2.0 was used to determine the water pressure at Snead Island at the peak hour of 7:00 a.m. This model showed 26psi of water pressure, which is good. Chlorine decay was also discussed and it was determined, via EPANET 2.0, that after running for three days it was .15 mg/L on Snead Island. The analysis for both the water pressure and chlorine decay were discussed with the results as follows:

- Link pressures 26-70 psi were observed
- Lowes pressure in West Palmetto due to high head losses
- Significant Chlorine Decay in West Palmetto
- Stagnation due to dead ends and lower demand in southwest Palmetto

Future utility needs for the City will be in the new development, Sanctuary Cove. There will be construction of 100-150 dwelling units with an expected resident growth of approximately 10 percent. It will need to be determined if the existing pressures from the Manatee County interconnects will meet future demand. With extension pipes installed into Sanctuary Cove, it is estimated that the pressures would be about 67 psi during peak 7:00 a.m. use time.

The team's recommendation was to replace the galvanized pipe in sections, replace the cast iron pipe in sections, add disinfectant injection points, and loop the dead ends together. The cost estimate to install HDPE by horizontal directional drilling would be $476,000 with a cost of $479,000 to replace with PVC pipe by horizontal directional drilling. Sustainability evidence shows that HDPE piping is better in the long term.

Commissioner Smith requested a copy from Mr. Tusing of the records regarding piping in the City and what has already been replaced. Mr. Tusing asked that Commissioner Smith come by his office this week to review the maps and project files.

Commissioner Williams complemented the USF students on their presentation.

Mourad Daoudiya, Paul Easton, Kirill Gorivenko, Max McAmis, and Nathan Youngblood, made a presentation to the Commission on Wastewater Treatment Facility Analysis/Biosolids Management Options. This group's objective was to prepare a capacity analysis report for the City's wastewater treatment facility (WWTF) and to give alternative dewatering methods. A feasibility study was also prepared by this team.

The background of the WWTF was discussed. The permitted capacity is 2.4 million gallons a day with a permitted reuse capacity of 2.1 million gallons a day. Future expansion is to install an equalization tank with a proposed size to be 2 million gallons; this is to help with diurnal flows.

The past three years of flow data was used for their analysis. Per capita flow is applied to the projected population to determine the future flows to the treatment facility for 2020, 2025, and 2030. The different processes that the WWTF uses was discussed. The facility has met effluent standards for years 2014-2016.

Phase I findings included the replacement for overdue equipment. The equipment needed to be replaced included a fermentation tank, fine air diffusers east/west and IRP Pump 7.5hp (all were 4 years past their design life) with the 40hp blower in the digesters at its design life currently. A reuse pump is scheduled for replacement this year. It was recommended that a disk filter is considered in addition to the current sand filter to increase the capacity instead of building a new concrete chamber and bridge filter.

Dewatering alternatives were discussed and included a belt filter press, centrifuge, screw press, and the rotary fan press. Vendors were solicited for pricing of the alternatives with the lowest cost to operate being the centrifuge and the lowest unit cost being the screw press.

Advantages and disadvantages of Class B to Class AA biosolid production was discussed with the two choices critiqued being solar drying and lime stabilization. Current WWTF space allows for solar drying greenhouses. It was suggested that a local fertilizer plant or farmer could pick up class AA biosolids.

The final recommendations made were:

- Adhere to Veolia's current asset management schedule
- Proceed with a request for information (RFI) on disk filter for tertiary treatment
- Recommend purchasing a screw press system at total cost of $429,858
- Supplemental annual drying savings at 75 percent solids: $80,420
- Supplemental biosolids system costs: 20 year/6 percent annual percentage rate

Najia Elmansori, Justin Jordan, Erik Reinbolt, Tyler Sweetland, and Linh Pham gave a presentation on the reclaimed water assessment they performed. Their objective was to increase sustainability, improve self-sufficiency, and maximize economic efficiency. It is proposed to continue installing the pipe using the horizontal directional drilling with PVC or HDPE piping.

The City uses vertical turbine pumps (VTP) that have a 15-25 year life expectancy and are low maintenance. At the WWTF there is a high service pump station that was installed in 1998 with 100 horse power (HP) VTP and two 40 HP VTP.

The following alternatives were discussed:

- Distribution network:
  - No action
  - Phased expansion
- Distribution Pump System
  - No action
  - Refurbish existing pumps
  - Install new pumps

The phased expansion would improve self-sufficiency, increase revenue and has low operations and maintenance costs. The alternative of refurbishing the exiting pumps would prolong the life expectancy, lower the current cost of operations and maintenance, and improve the efficiency. If the new pumps were installed, the City would have the full life expectancy of the 15-25 years, with a decrease in the current cost of operations and maintenance, and have higher efficiency. An overview of pump alternatives was discussed.

The group recommended that the City choose to implement a phase expansion for the distribution network and to install the new pumps for the system.

Mayor Bryant adjourned the meeting at 5:42 p.m.

Minutes approved: June 5, 2017

James R. Freeman

James R. Freeman
City Clerk