CITY OF
FAYETTEVILLE
ARKANSAS

MEETING AGENDA

Water, Sewer, and Solid Waste Committee

July 9, 2019

5:30 P.M.

(Or immediately following Equipment Committee Session)

City Hall – Room 326

Committee: Chairman Mark Kinion; Council Member Sonia Gutierrez, Council Member Sloan Scroggin, Council Member Teresa Turk

Copy to: Mayor Lioneld Jordan, Don Marr, Paul Becker, Sondra Smith, Susan Norton, Chris Brown, Alan Pugh, Terry Gulley, Peter Nierengarten, Jeff Coles, Brian Pugh, Mark Rogers, Corey Granderson, Aaron Watkins, Greg Weeks, Mayo Miller, Tim Luther, Chris Buntin

From: Tim Nyander, Utilities Director

CALL TO ORDER

ROLL CALL

OLD BUSINESS:

1. Nutrient Trading Update

The Northwest Arkansas Nutrient Trading Research and Advisory Group (NANTRAG) met on June 21, 2019, and unanimously voted for a 60-day pause on any action of the group concerning Draft Regulation 37. The meeting minutes from June 21 have not been prepared or distributed at this time. The reason for the pause is to schedule another meeting within the 60-day timeframe to consider proposed revisions to the draft regulation from the Fayetteville Water, Sewer and Solid Waste Committee and from Beaver Water District. The 60-day pause will be from June 21st to Tuesday, August 20th, 2019.

The meeting to consider these comments will be held on Thursday, August 15, 2019 at 10 AM at a location to be determined. In order to properly consider any proposed revision(s), NANTRAG has requested that the proposed revision(s) be made available in writing by August 8, 2019. All of NANTRAG's meetings have been publicly noticed and open to the public as will be the August 15th meeting.

NEW BUSINESS:

2. Engineering Services Agreement for Round Mountain Standpipe Refurbishment.
Routine life-cycle rehabilitation of the Round Mountain water standpipe is recommended per recent water tank inspection services. This standpipe is located at 14360 Round Mountain Road in the southeast region of Fayetteville's water service area and has a capacity of 100,000 gallons. Tank inspections across Fayetteville's water system were performed by Garver, LLC in 2018 to fulfill state requirements. This agreement will allow Garver to design interior and exterior coating replacements (paint), tank repairs as needed, new handrails, cable safety systems, footing repairs, site safety elements, tank mixing, and other items to bring this water storage tank into compliance with modern health and safety codes. This agreement, in the amount of $59,600 includes all services needed from Garver for the engineering design, permitting, bidding, and construction management/observation.

STAFF REQUESTS THIS BE FORWARDED TO THE CITY COUNCIL FOR CONSIDERATION FOR APPROVAL

3. Spare Mole
The Biosolids Management Site utilizes a series of 6 solar houses, approximately 48,000 total square-feet, to partially dry wet biosolids prior to the thermal drying process for production of Class-A, biosolids fertilizer. Each solar house includes a robotic 'mole' unit specifically designed for simultaneously maintaining a homogenously layered, mixed and partially aerated layer of drying biosolids. The mole ensures physical properties of the spread biosolids are both optimal for the drying process and appropriate for prevention of undesirable odors.

The solar houses process nearly 25% of all biosolids annually, while processing nearly 40% during peak summer drying months. The biosolids drying process saves the city significant landfill costs annually, as well as allows for beneficial reuse of the biosolids material.

The city's solar houses drying system is a trade-marked product of Thermo-System GmbH, out of Germany. Since initial construction and system start-up in May 2011, The Parkson Corporation has been Thermo-System's exclusive parts and services representative for US customers. Recently, project staff were informed by Parkson that they will no longer be carrying the sole source rights of representation for Thermo-System GmbH products for US customers.

Parkson has offered the city discounted pricing on their in-stock Thermo-System products. An item of interest is a robotic mole unit, originally designed specifically for Fayetteville's drying system, available at 50% its original list price.

The solar houses, and subsequent mole units, have been in operation for just over 8 years. This service time translates to over 13,000 hours, or an estimated 35,000 miles, of operation per mole unit. In the past year, 3 of the 6 mole units have experienced frame stress fractures. Fortunately, the stress fractures have so far been repairable, but these damages could be indicative of extended component usage and the possibility of a more catastrophic failure. If a solar house were out of service for even eight months, while replacement units or

parts are on order (or unavailable), staff estimates at least 32 loads of biosolids would need be landfilled. At an average cost of $900 per load hauled to the landfill that equates to almost $29,000 - not include the additional fuel and labor for the landfill hauling.

The purchase of this additional mole unit could afford a replacement while the 6 existing units could be sequentially taken out of service, examined and refurbished if necessary.

Staff recommends purchase of the discounted mole unit as an available critical spare for assurance of continued solar house drying in the amount of *$47,500.00* plus applicable taxes and shipping.

STAFF REQUESTS THIS BE FORWARDED TO THE CITY COUNCIL FOR CONSIDERATION FOR APPROVAL

4. (2) Blower Rebuilds – West Side Facility

The solids removed from the Activated Sludge process at the West Side WRRF are temporarily stored in aerated tanks prior to dewatering. During this storage time, mechanical blowers mix and aerate the sludge to prevent solids settling and the microorganisms from dying. Five blowers are available to mix the contents of the two storage tanks.

Recent vibration analysis results indicated that two of the cyclo-blowers had hidden, internal points-of-failure requiring disassembly inspection and repair evaluation. The first unit's 'Alarm' Condition Level was determined to be an internal bearing failure, and damage to the rotary shaft. The damage will require re-sleeving, machining repairs and new seals. The quoted costs are $16,025 including shipping. Taxes are exempt on these units.

The second unit experienced a 'Danger' Condition Level during vibration analysis and has been shipped to a repair facility for disassembly, inspection and repair proposal. The reason for the 'Danger' Condition Level is still unknown and pending disassembly inspection results; a repair proposal is expected in the coming weeks. Repair costs are anticipated to fall under $20,000. In the event of catastrophic mechanical damage, and repair costs are more than the remanufactured unit, the City will purchase the remanufactured unit for $24,104, including shipping. This will give this project a total estimated price of $40,129. Staff recommends completion of the recommended repairs for this blower unit

Because it was necessary to have the certified repair facility disassemble the units to determine the extent of hidden and unknown damage to equipment already purchased, a bid waiver and/or formal sealed bidding is not necessary according to **Arkansas Procurement Law R6:19-11-203, Subsection 14 (EE) "hidden or unknown damages"**.

STAFF REQUESTS THIS BE FORWARDED TO THE CITY COUNCIL FOR CONSIDERATION FOR APPROVAL

5. Anoxic Mixer Replacement

The Noland Treatment Facility utilizes a series of 12 mixers in the biological treatment reactors for mixing together process influent with returned activated sludge (RAS). In recent years these 30+yr old mixers have required extensive rebuild corrective maintenance or in some cases replacement with refurbished units.

Recently one (1) anoxic mixer, that unexpectedly stopped operating, was shipped to Automatic Engineering for a damage-inspection and repair proposal. The inspection report found extensive wear damage to the internal gearbox, resulting in repair costs greater than a refurbished replacement unit. Automatic Engineering's has proposed replacing the broken gearbox-and-motor unit with a refurbished unit in the amount of $16,537.39. Staff recommends purchase of the refurbished Lightnin-brand gearbox-and-motor anoxic mixer as proposed by Automatic Engineering. Freight is estimated to be $300 for a total purchase amount of *$16,837.39*.

Because it was necessary to have the repair facility disassemble the units to determine the extent of hidden and unknown damage to equipment already purchased, a bid waiver and/or formal sealed bidding is not necessary according to **Arkansas Procurement Law R6:19-11-203, Subsection 14 (EE) "hidden or unknown damages"**.

STAFF REQUESTS THIS BE FORWARDED TO THE CITY COUNCIL FOR CONSIDERATION FOR APPROVAL

6. Odor Control Pump Replacement

The odor control system at the Noland Plant's solids handling building removes odors created from the belt-press dewatering process. The odor control system uses chemical scrubbers to remove odorous gases, primarily hydrogen sulfide (H2S), from the building's exchange air. A chemical solution is circulated with a pump to blend with the building's exchange air to remove odors.

Recent inspection of a failed chemical pump found the degree of internal wear\damage extensive enough that complete replacement of all components is necessary. The cost of an overhaul rebuild kit (parts only) compared to the cost of a new pump show a 20% difference in price. When including the labor costs associated with rebuilding the old pump, and the value of a standard warranty acquired with a new pump purchase, staff believes a new pump purchase is the best choice. The following quotes were received:

Jack Tyler Engineering	Little Rock, AR	$10,900
Vanton Pump & Equipment	Hillside, NJ	$11,250
R.C. Beach & Associates	Dunedin, FL	No Bid

Jack Tyler Engineering submitted a low bid of $10,900.00 for a new vertical-mount centrifugal pump Taxes and shipping are estimated to be not more than $1,700 for a total project cost of $12,600.

STAFF REQUESTS THIS BE FORWARDED TO THE CITY COUNCIL FOR CONSIDERATION FOR APPROVAL

7. Westside Conduit Repair

The West Side Treatment Facility utilizes a series of four biological nutrient removal reactors (bio-units) to treat the incoming wastewater. Since the facility's start-up in 2008, gradual settling of some asphalt and concrete surfaces have slowly occurred next to the bio-units. Four junction boxes near these areas have been damaged as a result and need to be replaced. Repairs are also needed for nearby electrical conduits also damaged by the settling.

Adjacent to the facility's biological treatment units, there are several areas where asphalt or concrete surfaces show signs of approximately 1-3 inches of sub-grade settling. Above the concrete or asphalt surfaces are electrical junction boxes attached to the bio-unit's exterior walls. As the impervious surfaces have slowly shifted in elevation, a downward pressure has been exerted on nearby electrical conduits resulting in both damaged conduit and junction boxes. Staff believes the shifting asphalt and concrete surfaces are the result of a very gradual settling of the subgrade-backfill going back to the facility's initial construction over ten years ago. Staff have not observed evidence suggesting the settling rate is increasing or the result of a suddenly recent occurrence. Also, area evidence points to the shifting surfaces being that of the concrete and asphalt (next to the biological basins) rather than settling of the basins themselves. It is our expectation the next 10 years will not repeat the same extent of subgrade settling. However, this repair proposal does include expansion fittings that will protect against the possibility of future damage.
Recently written quotes were requested of and submitted by three local vendors with Fleming Electric Inc. having the lowest bid. Crossland Heavy and King Electric both submitted higher pricing.

Fleming Electric, Inc.	$18,704.00
Crossland Heavy Contractors	$25,571.00
King Electric	$35,930.00

Staff recommends completion of the $18,704.00 in proposed repairs by Fleming Electric. Taxes are estimated to be $1,823.64 for a project total cost of $20,527.64.

8. Overview of WWTP Monthly Report

Discussion of May's Monthly WWTP Report

PRESENTATIONS

ANNOUNCEMENTS

The Arkansas Water Resource Conference is to be held in Fayetteville from July 30-31 at the Fayetteville Town Center

Each year, AWRC holds a watersheds and research conference. This conference draws over 100-150 researchers, students, agency personnel, municipal personnel, interested citizens and many other water quality stakeholders from around the State and region.

More information at https://arkansas-water-center.uark.edu/annual-conferences.php

ATTACHMENTS

Capital Projects Status Table

May 10, 2019 NANTRAG Minutes
NANTRAG Comment Responses
NANTRAG Final Proposed Draft Reg. 37
Garver Agreement and Round Mountain Pictures
Biosolids Mole
Blower Quotes and Pictures
Mixer Quote and Picture
Odor Scrubber Quote and Pictures
Conduit Repair Quotes and Pictures
May WWTP Report

ADJOURN
Next Water, Sewer, Solid Waste Committee meets on
Tuesday, August 13th, 2019, 5:30 p.m., Room 326.