

CITY COUNCIL CONFERENCE MINUTES

January 22, 2019

The City Council of the City of Norman, Cleveland County, State of Oklahoma, met in a conference at 5:30 p.m. in the Municipal Building Conference Room on the 22nd day of January, 2019, and notice and agenda of the meeting were posted at the Municipal Building at 201 West Gray and the Norman Public Library at 225 North Webster 48 hours prior to the beginning of the meeting.

PRESENT: Councilmembers Bierman, Carter
(arrived 5:48 p.m.) Castleberry, Clark,
Hickman (arrived 5:56 p.m.), Holman,
Scott, Wilson, Mayor Miller

ABSENT: None

Item 1, being:

PRESENTATION AND DISCUSSION REGARDING THE POTABLE REUSE PILOT PROJECT.

Mr. Ken Komiske, Director of Utilities, said the next big water source will be Indirect Potable Reuse (IPR) where highly treated effluent from the Water Reclamation Facility (WRF) will go into the Lake Thunderbird reservoir. He said key to that is finding out what the reservoir is and what is in the reservoir. He introduced Dr. Kyle Murray from the University of Oklahoma (OU) Mewbourne College of Earth and Energy, who will be discussing the pilot project that will help find answers to these questions.

Dr. Murray said the information being shared tonight has been shared with the cities of Midwest City and Del City and the Governor's Conference on Water. He said Lake Thunderbird is used by Midwest City, Del City and Norman for drinking and recreational purposes. He said the pilot project for Lake Thunderbird was funded by the Central Oklahoma Master Conservancy District (COMCD) and sampling began in 2016 and was completed in 2017. In addition to the work for COMCD, other projects relevant to water reuse that Norman is considering included a study of Constituents of Emerging Concern (CEC) in the primary and secondary effluent, a study of the water treatment system, and a study of mixing secondary effluent with sediment to find its effect.

Dr. Murray said samples were taken with a stainless steel sampler and gloves were used to avoid contamination of compounds being analyzed. He said samples were taken from six sites with roughly 100 compounds analyzed and there were approximately 80 compounds detected in the primary effluent, 60 compounds in the secondary effluent, and 40 compounds from the Lake. Compounds analyzed included pesticides, industrial, pharmaceutical/personal care products (PPCPs), hormones, and other, i.e., caffeine, insect repellent, artificial sweeteners, nicotine, etc. He said some of the compounds are being lost by interacting with sediment and exposure to photo degradation and while little industrial compounds were detected, PPCPs are still prevalent.

Dr. Murray said concentrations detected in Lake Thunderbird were higher for 14 out of 17 benchmark compounds when compared to concentrations observed in 2017 after a 15 day microcosm study with Dave Blue Creek and Photosynthetically Active Radiation (PAR). Lake Thunderbird concentration is higher (dirtier) than naturally attenuated effluent.

Dr. Murray said in summary, percentages of detections in Lake Thunderbird by class include pesticides – 31.4%; industrials – 9.0%; PPCPS – 2.3%; hormones – 2.6%; and others – 18.9%. Lake Thunderbird CEC concentrations versus eleven (11) health standards equal zero exceedances. A typical water reclamation facility with primary and secondary treatment will reduce concentrations and remove a very high percentage of CEC. He said potable reuse of municipal wastewater is feasible and safe with or without advanced treatment or ultra-filtration.

Mayor Miller said she spoke to the Mayors of Del City and Midwest City and they had been very concerned about the CECs and this presentation was very helpful when discussing reuse to their communities.

Mr. Komiske said there are CECs in Lake Thunderbird and the WTP is able to remove approximately 85% of the CECs, but the goal is to basically put drinking water into Lake Thunderbird so that is why the pilot study is being done. He said a pilot project is a small scale preliminary study conducted in order to evaluate feasibility, time, cost, adverse events, and effect to predict an appropriate capacity and improve upon the study design prior to performance of a full-scale project.

Mr. Komiske said the pilot treatment processes will be a mix of full-scale facilities and pilot scale modules that will utilize an available high quality work area. He said profiling individual performance requires comprehensive sampling before and after each process. The piloting approach includes multiple technologies to optimize full-scale configuration that includes phased implementation, plug-and-play configuration, and integration with WRF, and hands on experience for WRF Staff. He said one aeration basin will be taken out of service to be used for the pilot project and one decommissioned secondary clarifier unit will be used for the pilot project as well.

Councilmember Wilson asked how the pilot program will be funded and Mr. Komiske said the budget is in place through the WRF without changing water or sewer rates. He said there will be reviews from the Oklahoma Department of Environmental Quality (ODEQ), Oklahoma Water Resources Board (OWRB), and OU. He said Norman needs to have buy-in from Midwest City and Del City because they share Lake Thunderbird so Staff would like to create a committee with representatives from Norman, Midwest City, and Del City to help with the project. He said a review committee can track progress, check milestones, and communicate to their respective communities.

The IPR has the potential to improve the water quality in Lake Thunderbird, be a drought proof water source, and provide valuable lake quality data. He anticipates placing five million gallons per day (MGD) in the reservoir when the reservoir is not full. He said the IPR Permit will be a “living permit” and the first of its kind. This permit will look at the technologically based limits, such as what can we treat, how well can we treat it, and ensure water quality limits are being met. The water quality samples will be taken at various times of the day and night as well as different seasons.

Councilmember Clark asked if Norman will receive funding from ODEQ or OWRB since Norman will essentially be performing a pilot project for the state and Mr. Komiske said no, there are people in both groups that are anxious to move forward with IPR, but there are also those that think it is not a good idea and do not want to do this. He said Staff has applied for grants, but has not been notified of approval or disapproval yet.

Mr. Komiske said anytime it looks like things are not working, ODEQ and OWRB can pull or change the permit limits so Staff needs to make sure they are preserving the quality of reservoir and doing what is supposed to be done.

Councilmember Wilson said once the monitoring is implemented on a regular basis, can the City make that part of the public message on water (in layman's terms) to show the communities that this project is helping Lake Thunderbird and Mr. Komiske said of course.

Councilmember Hickman asked if the reuse project will improve the quality of the water in Lake Thunderbird and Mr. Komiske said yes. Councilmember Hickman asked how long it will be before the City has data to see how the study is affecting Lake Thunderbird and Mr. Komiske said it is hard to say because everyone has to be on-board about how the testing is performed as experts have different ideas of how testing should be performed. He felt it could take at least five years.

Councilmember Holman said a few years ago he and Mayor Miller, before they were even on Council, served on the Strategic Water Supply Committee exploring Norman's future water resource options and the primary goal was to make Norman water independent without relying on other cities, such as Oklahoma City. He said the only way to do that was to find a way to use some of the eleven (11) million gallons of daily treated effluent going into the Canadian River and using that to supplement Lake Thunderbird.

Councilmember Hickman said the pilot project is a great idea and he loves that the City is obtaining this data on water quality, but wants to be sensitive to how this may affect wildlife and stream life.

Items submitted for the record

1. PowerPoint presentation entitled, "City of Norman Proposed Pilot Project Discussion," dated September 18, 2018

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The meeting was adjourned at 6:25 p.m.

ATTEST:

City Clerk

Mayor