

BIGGS & MATHEWS INC.

Consulting Engineers

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February 22, 2012

Texas Commission on Environmental Quality
12100 Park 35 Circle MC-155
Austin, Texas 78753

Att: Joel Klumpp
Team Leader
Technical Review and Oversight

Re: City of Wichita Falls, PWS 2430001
Addition of Biocide Through MicroFiltration Equipment

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FEB 23 2012
TEXAS COMMISSION
ON
ENVIRONMENTAL QUALITY

Dear Mr. Klumpp,

In accordance with 30 TAC 290.39 (j), the City of Wichita Falls is notifying the TCEQ of a treatment process addition to the Microfiltration Plant located within the confines of the Cypress Water Treatment Facility at 4801 Big Ed Neal Drive, Wichita Falls, Texas 76310.

In 2008, the City of Wichita Falls completed construction and placed into service a Siemens designed MicroFiltration Plant. During the construction process, (2006) it was determined that corrosion was occurring on the 316 stainless steel equipment provided by Siemens and installed/operated by the Contractor. An investigation determined the corrosion to be caused by **non-pathogenic** Iron-Related Bacteria (IRB) and Sulfur-Reducing Bacteria (SRB) through a process known as Microbiological Influenced Corrosion (MIC). A lawsuit ensued that resulted in a "Settlement Agreement" between the City, Siemens and the Contractor. A key component of that "Settlement Agreement" required the City of Wichita Falls to perform testing on a variety of "biocides" to determine which one would give the optimum performance for the inactivation of the IRB and SRB species. The City of Wichita Falls has tested seven (7) different biocides and is nearing the completion of the final phase of testing with the optimum biocide being Chloramines.

Therefore, the City of Wichita Falls is notifying the TCEQ that it will be initiating the use of Chloramines through the Siemens MicroFiltration equipment only as a "biocide" to control **non-pathogenic** Iron-Related Bacteria and Sulfur-Reducing Bacteria. The City anticipates starting the "biocide" application in late March or early April of 2012. It should be noted that the City will not be requesting any disinfection credit for-CT compliance through the addition of the "biocide" process.

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Subsequent to the Chloramine biocide passing through the Siemens MicroFiltration equipment, it will be removed from the water using Sodium Bisulfite, so as to not adversely affect the Reverse Osmosis System Membranes that are downstream of the Microfiltration Process.

The anticipated chemical "Primary" injection point for the Chloramines (Biocide) is into the raw water influent at the center structure of the Membrane Clarifier which is upstream of the MicroFiltration equipment. In addition a secondary booster injection point will be located in the Clarifier Effluent Trough prior to the MicroFilters. (Two Biocide Injection Points).

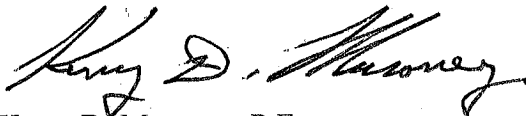
Based on a maximum plant flow rate of 18 MGD, the theoretical detention time through the Membrane Clarifier is 4 hours and 25 minutes, and based on the minimum plant flow rate of 3.6 MGD, the theoretical detention time through the Membrane Clarifier is 22 hours and 7 minutes. In addition, the calculated detention times through the Microfilters (before dechlorination) are 10 minutes at Maximum Plant Flow Rate (18 MGD) and 31 minutes at Minimum Plant Flow Rate (3.6 MGD).

Finally, current testing indicates that the Chloramine dosage across the Microfiltration Equipment will be less than 4 ppm, and it is our intent to utilize the existing TCEQ Approved chemical feed equipment and building currently located at the Cypress Water Treatment Plant.

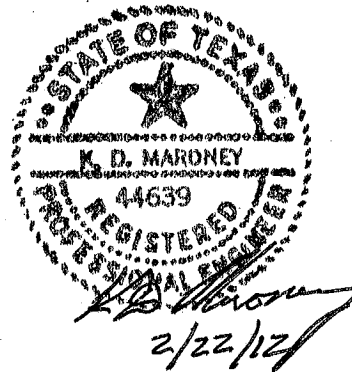
If you have any questions regarding this matter, please do not hesitate to contact me at (940) 766-0156 or Daniel Nix, City of Wichita Falls Public Utilities Operations Manager at (940) 691-1153.

Sincerely,

Biggs & Mathews, Inc. (F-834)



Kerry D. Maroney, P.E.



Cc: Russell Schreiber, P.E.; Director of Public Works
Daniel Nix, Public Utilities Operations Manager
Jack Schulze, P.E., TCEQ
TCEQ Correspondence File