

From: David Sloan
Sent: Wed, 4 Apr 2012 11:00:44 -0500
To: daniel.nix@wichitafallstx.gov
Subject: FW: Big Spring
Attachments: Big Spring Project Map_v02.jpg

DAVID W. SLOAN, P.E., BCEE
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From: David Sloan
Sent: Wednesday, April 04, 2012 10:55 AM
To: Daniel Nix (daniel.nix@cwftx.net)
Cc: Ignacio Cadena
Subject: FW: Big Spring

Daniel: Just to clarify: The City of Big Spring operates a conventional WWTP. The District (CRMWD) will intercept the effluent from the City's plant just prior to dechlorination, and pump it to their raw water production facility. That facility will include MF, RO and advanced oxidation (UV + peroxide). The RO and AO are included due to the pipe-to-pipe blending configuration and the high TDS of the water. Most people in the reuse field consider this a direct potable reuse configuration, although the definition is not consistent throughout the industry, and we have not called it DPR. This is thought to be the 2nd DPR in the US with a recent facility in Cloudcroft, NM being the first (I think about 0.5 MGD).

The District and TCEQ focused on the District's separate facilities and no upgrades were required to the City's facilities (WWTP or SWTP). We'll call you in just a minute.

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From: Ignacio Cadena
Sent: Wednesday, April 04, 2012 10:40 AM
To: David Sloan
Subject: FW: Big Springs

FYI.

From: Daniel Nix [[mailto:](mailto:daniel.nix@cwftx.net)]
Sent: Wednesday, April 04, 2012 10:22 AM

To: Ignacio Cadena
Subject: Re: Big Springs

Ignacio,

Thanks. This will definitely help. I do have a couple of questions and hope that I am not unduly tying you up from other responsibilities.

1) You mentioned aging infrastructure. Can you tell me how old the Big Spring WW Plant is?

2) Clarifiers. Do they have Primary and Secondary?

3) I am assuming that the sand filters that you mention are for the water and are not drying beds.

4) Do you know what their permit requirements are and if they are having trouble with the WW Plant, how many times they have violated that permit?

5) I would like to know what the Drinking Water Plant configuration (processes) are and how old that plant is.

6) So, the "tertiary" process for reuse are: pick up pre-dechlorinated wastewater effluent, run it through a UF system, run it through an RO system and then mix it with lake water for treatment through the drinking water plants. Do they have any disinfectants between the WW Plant and the lakes?

7) Why are they RO'ing the water after UF and before the lake? Is there a contaminant of concern, or is it simply overkill by the TCEQ?

On Wed, Apr 4, 2012 at 9:37 AM, Ignacio Cadena <ICA@freese.com> wrote:
Daniel,

To answer your question, the City of Big Spring WWTP process is a conventional WWTP. It has fine screens, grit removal, aeration basins clarifiers and sand filters. The solids are treated on drying beds but I think they recently added, or are in the process to add a belt press. They have a lot of operational issues at the plant due to aging infrastructure.

Attached is the Pilot Study Protocol Review Letter from Marlo. We discussed the additional sampling that was required by TCEQ to validate the Membranes while setting up the pilot study. You will see THM & HAA's in the sampling requirements because we are sending the chlorinated treated effluent to the tertiary facility before it was de-chlorinated. The city has constant chlorine feed set for the peak flow which means we saw big fluctuation in the chlorine residual during the day while piloting.

Let me know if you have any questions.

Ignacio Cadena, P.E.

Project Manager

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From: Daniel Nix [mailto:daniel.nix@wichitafallstx.gov]
Sent: Wednesday, April 04, 2012 7:59 AM
To: Ignacio Cadena
Subject: Big Springs

Ignacio,

As part of our preparation for our meeting with the TCEQ, Russell and I feel that we should be familiar with the Big Spring treatment configurations. So, is it possible that you could detail for me the normal (pre-wastewater reuse) treatment processes that Big Springs utilizes in its Wastewater Plant, the permit requirements for their Wastewater Plant and the treatment processes for its Water Treatment Plant? Also, can you detail what was added to all of these processes to allow them to reuse their wastewater effluent?

--

Daniel K. Nix
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