



1200 East First
Carterville Missouri 64835
1-417-673-1341
William L Cline
City Administrator

October 12, 2021
RE: DNR Inspection, Unsatisfactory Findings Response

Dear Mr. Rader:

Thank you and the Department of Natural Resources for your aid and guidance for our city's water system. We appreciate the time invested to keep our system at its best and in compliance with all federal and state regulations. Our site inspection with Ms. Franklin was both thorough and very informative and we hope to exceed the standards laid out for municipal water systems.

I hope this response properly addresses all of the deficiencies and recommendations included in your report. Below are listed those items which have been corrected as well as our plans to address the remaining recommendations.

1. Discharge piping condition.

Our workers removed the chlorine injection system to clean, sand, and repaint the section of pipe that had rust and chlorine build up present. We believe the method used to inject disinfectant was poor in design as it allowed chlorine to run down this pipe anytime there was an issue with the line or the injector and leakage was present. We have installed a two inch offset saddle on this pipe to ensure if any future leaks arise, the chlorine will drip direct to the collection drain and not down the side of the piping until the leak may be repaired. (See attached photos)

2. Storage tank painting.

Our city has a long-standing contract with Suez (formerly utility services) and both exterior painting and internal epoxy coating were scheduled for 2021. Due to the workload on the contractor, they have not yet performed this maintenance and were only able to perform their annual inspection at this time. As the internal tower maintenance will require our tower to be offline for several weeks, we have pushed this back to Spring of 2022 when our second well can be online and both wells can be switched to VFDs to ensure continued service for the city. We believe the external painting will be performed sometime between now and when the epoxy work is performed. I have contacted Suez and informed them of your inspection results to try to expedite this work.

3. Sample tap at tower.

Our crew has installed a sample tap on the discharge line leaving the elevated tower just before the treated water enters the distribution system. I have spoken with Yvonne Franklin as it appears #3 and #4 on your report are referring to the same sample tap. There was however, another need for a raw water tap inside the well house that we discussed during the inspection. I will address that under #4 below. (See attached photos)

4. Raw water sample tap.

We have installed a sample tap inside our well house on the main line just after the wellhead but prior to disinfection. (See attached photos)

5. Water loss greater than 10%.

As we expressed during our inspection, we do not believe our water loss is as great as the records indicate. It has been suggested by Mr. Pump of Tiff City Missouri, who performs our well repairs that we are likely pumping far less water than indicated. He has stated that the 6" flow meter is at a minimum 25% inaccurate based on his testing. This meter was installed over 25 years ago and shows we are pumping far more gallons per minute than the pump was even rated for. Add to this the fact that at this time, there are no known leaks within our system and we feel confident you will see this number decrease very soon. In addition to our own daily search for leaks, we have also had Missouri Rural Water Association perform acoustic detection in our city around 2018 and only a couple minor leaks were found and fixed. We are currently awaiting a final construction permit from DNR and are already bidding a project to install a second well and just as importantly, to upgrade all telemetry on this existing well which will include a new metering system.

With that said, we do recognize that around 80% of our distribution system is greater than 50 years old and there are most certainly leaks we have not found yet. We also recognize that being a mining town there are likely leaks that never surface above ground as they leak into the mineshafts, which our town has no shortage of.

Armed with this knowledge our plan is to assume the worst, proceed as though this loss ratio is correct, and take the following actions...

- We have purchased an acoustic water leak detector similar to that, which is used by MRWA's leak detection department.
- We are requesting an additional visit from MRWAs' leak detection team to perform another survey of our city as they have far more experience using the equipment than our staff does.
- With the aid of the recent American Recovery Act funding, we are looking at the possibility of bringing in a contractor who can utilize ground-penetrating radar for more accurate detection. I am finding it difficult to acquire these services in the Midwest area and would welcome any referral that DNR may have for this service.

Additional Comments:

In reference to the failing to have a contingency plan.

Until May of this year our city employed Keith Simpson and I to serve as chief and backup operators for our system which fulfilled the contingency plan requirements. Upon the loss of Mr. Simpson I began the process of seeking a certified operator to hire for his replacement while also enrolling my two remaining employees in operator certification classes. Due to the lack of qualified applicants, we have been unable to hire a replacement; however, Carze Brown and Jedidiah Rearrick have both taken their DSI test in Springfield this October 5th and are now awaiting results. Our intention is to have three certified operators by November unless both of my employees fail to pass their exams. In the event that this occurs, we will be submitting to you a mutual aid agreement between Carterville and Duenweg for backup operator services while continuing our employees' education for a later testing date.

I understand that this portion of the report was addressed and needed no further response, but I felt it important to express that we feel our system did not fail to have a plan, but are instead a text book example of this plan in action.

Respectfully,

William L Cline



Administrator, City of Carterville







