



STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES

Columbia Environmental Field Office
1421 Hampshire Pike
Columbia, TN 38401
1-888-891-8332

June 12, 2023

Hon. Gary Jacobs, Mayor
Town of Centerville
PO Box 238
Centerville, TN 37033

Certified Mail
Return Receipt Requested:
9489 0090 0027 6522 4034 31

Re: **Sanitary Survey Community Water System**
Centerville Water System
PWSID #0000103
Hickman County

Dear Mayor Jacobs:

During the period from May 25 through June 7, 2023, Will Pride, Lane Smith, and Brock Glass from the Division of Water Resources (DWR) visited the Centerville Water System and performed a Sanitary Survey. The survey consisted of a records review to document the operational performance of the system and an on-site inspection of the water treatment and distribution system. The survey covered the time period from May 2021 – May 2023. The Division would like to thank Wayne Carroll and Erik Hassell for their courtesy, willingness to work with the Division, and timely responses to Division requests. In accordance with the Sanitary Survey Manual the Centerville Water System earned 598 points out of a possible 599 points for a numerical score of ninety-nine percent (**99%**). This rating retains the Centerville Water System in the State's "**Approved**" category.

The issue identified in **item number 3, Section 6, Subsection B. Inspection and Maintenance of Reservoirs, Tanks and Clearwell** is a significant deficiency, identified in Rule 0400-45-01-.39(24)(b) as having the potential for causing the introduction of contamination into the water delivered to consumers. In accordance with Rule 0400-45-01-.39(24)(c) the system must respond in writing no later than 45 days after the receipt of this letter, indicating how and on what schedule the system will address the significant deficiency. However, the system should address all instances of noncompliance identified in the letter.

The following deficiencies, comments, and/or recommendations as outlined in the attached Sanitary Survey Rating Form were identified during the survey and should be addressed as applicable:

1. Section 1: System Management and Operation

• Subsection H. Emergency Operations Plan

Rule 0400-45-01-.17(7) requires systems to include a drought management plan (DMP) as part of the emergency operations plan (EOP). The plan shall be reviewed, updated, and submitted to the Division at least once every three (3) years. An updated plan is now due. Please submit an updated DMP and EOP to the Columbia Environmental Field Office by August 15, 2023.

2. Section 3: Source

• Subsection B. Intake

It was recommended in both the 2019 and 2021 sanitary survey letters that a staircase be installed at the intake pump house to allow safer access to the second floor where the pumps are located. Currently, the raw water pumps must be accessed by climbing a ladder attached to the outside of the pump house intake structure. This is a safety concern, especially at night and during adverse weather conditions. The Division of Water Resources continues to recommend that the ladder be replaced with a steel staircase to afford better access to the upper level of the pump house.

3. Section 6: Finished Water Storage

• Subsection B. Inspection and Maintenance of Reservoirs, Tanks and Clearwell

It was observed during the survey that the cable for the clearwell level indicator extended through an approximate $\frac{3}{4}$ inch gap in the pipe cover. This gap is considered a significant deficiency, identified in Rule 0400-45-01-.39(24)(b) as having the potential for causing the introduction of contamination into the water delivered to consumers. Plant personnel worked quickly to address this issue after it was brought to their attention. The opening was sealed by the second visit to the water plant. Please include a photo of the repair with the required written response.

The November 2021 clearwell inspection report noted that the interior ladder is severely corroded. The report also notes corrosion on the interior metal piping. The system should plan to have the ladder replaced and the interior metal piping painted.

The 2017, 2019, and 2021 sanitary survey letters noted the poor condition of the Bells Branch (Fairfield) Tanks. The inspection reports from June 2018 note extensive interior coating failures. There is extensive deterioration of the exterior coatings, as well. The 2019 and 2021 sanitary survey letters also recommended that the overflows be extended down to the ground as specified in the Division's Design Criteria. During the 2021 sanitary survey, system personnel reported plans were being made for the renovation of the two tanks. To date, there have been no plans prepared for the painting and renovation of the tanks.

During the most recent inspection the progress of having the tanks painted was discussed. System personnel stated that abandoning the Bells Branch Tanks in favor of building a new, larger tank to serve the growing water needs of the area has been discussed with city leaders. However, funding for such a project is uncertain at this time. The Town of Centerville must provide a written plan by September 15, 2023, detailing a timeline of how it will address either

renovating the two existing Bells Branch Tanks or construction of a new tank to replace the two tanks in question.

The 2021 inspection report for the Mobly Ridge Tank, aka Center Star/Shady Grove Tank, noted heavy rust on the interior piping and recommended both the interior and exterior of the tank be painted. The system should continue to monitor the condition of the tank and make plans to have it painted, as needed.

4. Section 8: Distribution and Cross Connection Control

- **Subsection H. Percent Estimated Water Loss**

Based on information provided by the system, the Centerville Water System's water loss has increased from approximately 25% in 2021 to approximately 45%. This is a significant increase. The sources of water loss within the system should be investigated and addressed.

General Observations, Comments, and Other Recommendations

1. The Centerville Water System now has a total of 4,250 connections serving an estimated population of 11,348. The number of bacteriological samples required to be collected from the distribution system remains ten (10) each month.
2. The updated Monitoring Program for the system in accordance with Rule 0400-45-01-17(3) is enclosed.
3. In accordance with Rule 0400-45-01-14(1)(a), State approval for the analysis of free chlorine residual, pH, alkalinity, and temperature is hereby granted to Mr. Harry Lane. Approval for the analysis of turbidity is granted to Mr. Wayne Carroll. This approval is effective until the next sanitary survey and is contingent upon the use of approved methodologies and proper operation of the analysis equipment.

Again, I would like to thank the Centerville Water System personnel for their assistance and courtesy during the survey. If you have questions or need additional information, please contact me at the Columbia Environmental Field Office at (931) 200-6715 or will.pride@tn.gov.

Sincerely,



Will Pride
Columbia Environmental Field Office
Division of Water Resources

cc: Wayne Carroll, Water Plant Superintendent
Erik Hassell, Utilities Superintendent
File

Sanitary Survey Rating

PWSID: _____

Water System Name: _____

Survey Date: _____

System Category (Points): -

421 - Consecutive Systems/Distribution Only
 488 - Treatment Systems/Wholesalers
 599 - Both Treatment and Distribution

1. System Management and Operation (94)

	Requirement	Points Range	Deduction	Comments
A.	Record Keeping 0400-45-01-.20	(0)	Narrative	
B.	Construction Projects 0400-45-01-.05, 0400-45-01-.17	(1-5)		
C.	Submission of Monthly Operations Reports 0400-45-01-.17	(0)	Narrative	
D.	Reporting Requirements 0400-45-01-18	(4-30)		
E.	Public Notification 0400-45-01-.19	(3-10)		
F.	Facility Maintenance Fee	(0)	Narrative	
G.	Enforcement - TCA §68-221-701 et seq	(4-10)		
H.	Emergency Operations Plan 0400-45-01-.17	(3)		
Deficiency Subtotal				

2. Operator Compliance (23)

	Requirement	Points Range	Deduction	Comments
A.	Certified Operator – Plant and Distribution System 0400-45-01-.17(1) and 0400-49-01- 04	(3-15)		
Deficiency Subtotal				

3. Source (25)

	Requirement	Points Range	Deduction	Comments
A.	Source Adequacy 0400-45-01-.02, .05, .16, .17(13) and .34(3)	(3-5)		
B.	Intake 0400-45-01-.05, .17	(2)		
C.	Wellhead/Springbox Construction 0400-45- 01-.05(12),16 and 17(3) and (16)	(2)		
D.	Source Protection Plans 0400-45-01-.34	(1-2)		
Deficiency Subtotal				

4. Treatment (153)

	Requirement	Points Range	Deduction	Comments
A.	Aerator 0400-45-01-.05, .17	(2)		
B.	Chemicals / Chemical Feeders 0400-45-01- .05 (8) and .17,36	(2)		
C.	Mixing 0400-45-01-.02, .05, .17	(2)		
D.	Flocculation 0400-45-01-.02, .05, .17	(2)		
E.	Sedimentation 0400-45-01-.02, .05, .17	(2)		
F.	Filtration / Alternative Technology 0400-45- 01-.17(12) and (27)	(2-30)		
G.	Re-Wash / Filter-to-Waste 0400-45-01- .17(35)	(2)		
H.	Turbidimeters / Calibration 0400-45-01- .05(11), .17, .31, .39	(2-4)		
I.	Disinfection/Calibration 0400-45-01-.02, .17, .31, .36	(2-30)		
J.	Disinfection Contact Time 0400-45-01-.02, .17,31	(2-4)		
K.	Master Meter 0400-45-01.17(2) and (3)	(1-2)		
L.	Maintenance of Equipment, Buildings and Grounds 0400-45-01-.02, .17(3), (17) and (19)	(1)		
M.	Laboratory Facilities 0400-45-01-.02, .14, .17(3)	(1-3)		
N.	Safety 0400-45-01-.02	(2)		
O.	Sludge Handling/Backwash Handling 0400- 45-01-.05	(2)		
P.	Sanitary Conditions 0400-45-01-.17(17)	(2)		
Q.	Fluoridation Techniques 0400-45-01-.06, .12, .17	(2)		
R.	Design Capacity 0400-45-01-.05(10)	(2-4)		
S.	Filter Backwash Recycling 0400-45-01-.31(9)	(1)		
Deficiency Subtotal				

5. Monitoring, Data Verification and Compliance (175)

	Requirement	Points Range	Deduction	Comments
A.	Laboratory-Process Monitoring (excluding Turbidity and Chlorine Residual) 0400-45-01-17(3)	(2-4)		
B.	Bacteriological Monitoring	(3-6)		
C.	Bacteriological Compliance 0400-45-01-.06	(4-7)		
D.	Turbidity Monitoring	(2-3)		
E.	Turbidity Compliance	(4-7)		
F.	Chlorine Residual Monitoring 0400-45-01-.17,31,36, 40	(2-3)		
G.	Primary Chemicals Monitoring	(2-3)		
H.	Primary Chemicals Compliance	(4)		
I.	Lead and Copper Monitoring 0400-45-01-.33	(2-3)		
J.	Lead and Copper Action Level 0400-45-01-.33	(3-5)		
K.	Disinfection/Disinfection By-Products and Precursors Monitoring 0400-45-01-.36, .37, .38	(2-3)		
L.	Disinfection/Disinfection By-Products and Precursors Compliance 0400-45-01-.06, .36	(2-30)		
M.	Secondary Chemicals 0400-45-01-.12	(2)		
N.	Secondary Chemicals Compliance 0400-45-01-.12	(3)		
O.	Cryptosporidium Monitoring 0400-45-01-.39	(0)	Narrative	
Deficiency Subtotal				

6. Finished Water Storage (25)

	Requirement	Points Range	Deduction	Comments
A.	Adequate Storage 0400-45-01-.17(14)	(3-15)		
B.	Inspection and Maintenance of Reservoirs, Tanks and Clearwell 0400-45-01-.17(16), (17), (33) and (34)	(1-10)		
Deficiency Subtotal				

7. Pumps, Pump Facilities and Controls (18)

	Requirement	Points Range	Deduction	Comments
A.	Pump Facilities 0400-45-01-.17(9) and (13)	(1-4)		
B	Maintenance of Pumping Equipment 0400-45 - 01-.17(13)	(1-3)		
Deficiency Subtotal				

8. Distribution System and Cross Connection Controls (86)

	Requirement	Points Range	Deduction	Comments
A.	Notification, Inspection, Disinfection and Sample Collection of New or Existing Facilities 0400-45-01-.17(8), (19)	(3-5)		
B	Flushing Program / Blow Offs 0400-45-01-.17(10) and (23)	(3-4)		
C.	Fire Hydrants 0400-45-01-.17(18)	(0)	Narrative	
D.	Adequate Pressure 0400-45-01-.17(9)	(5)		
E.	Map of Distribution System 0400-45-01-.17(15)	(3)		
F.	Approved Cross Connection Policy or Ordinance and Plan 0400-45-01-.17(6)	(4)		
G.	Working Cross Connection Program 0400- 45-01-.17(6)	(3-9)		
H.	Percent Estimated Water Loss(real loss/water produced)	(0)	Narrative	
Deficiency Subtotal				

Rating

- 95% - 100% Approved
- 90% - 94% Provisionally Approved
- 0% - 89 % Unsatisfactory

Total Deficiency Points	
Overall Rating	

Inspectors Signature _____



Additional Comments/Explanation:



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Columbia Environmental Field Office
1421 Hampshire Pike
Columbia, TN 38401
1-888-891-8332

Centerville Water System
PWSID No. 0000103
Monitoring Program – July 2023

I. Raw Water

A. Collect a representative sample each day the plant is in operation

B. Conduct the following analysis:

- | | |
|-----------------------|--|
| 1. Temperature | 5. Hardness |
| 2. Turbidity | 6. Fluoride |
| 3. pH | 7. Jar tests – as needed to optimize treatment |
| 4. Alkalinity (total) | |

II. Settled Water

A. Collect a representative sample before filtration each day the plant is in operation

B. Conduct the following analysis:

1. Turbidity
2. Chlorine residual (free)

III. Finished Water

A. Collect a representative sample each day the plant is in operation

B. Conduct the following analysis:

- | | |
|-------------------------------|-----------------------|
| 1. Chlorine residual (free) * | 4. Alkalinity (total) |
| 2. Turbidity * | 5. Hardness |
| 3. pH | 6. Fluoride |

*Values reported on the MOR for turbidity and chlorine residual are to be taken from the continuous chart recorders except where believed to be erroneous. Division policy is to be followed. Grab sampling should still be conducted.

IV. Distribution System

A. Collect representative samples from the distribution system

B. Conduct the following analysis:

1. Chlorine residual (free) – 5 days per week
2. Fluoride – 5 days per week
3. Bacteriological – a minimum of 10 samples per month are to be collected and analyzed by a State certified laboratory.