COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC INVESTIGATION	**)**
INTO EXCESSIVE WATER LOSS BY	**)**
KENTUCKY'S JURISDICTIONAL	**) CASE NO. 2019-00041**
WATER UTILITIES	**)**

RESPONSE OF

FARMDALE WATER DISTRICT

TO

COMMISSION'S SECOND REQUEST FOR INFORMATION

DATED MAY 3, 2019

FILED: May 31, 2019

COMMONWEALTH OF KENTUCKY
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In the Matter of:

ELECTRONIC INVESTIGATION	**)**
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KENTUCKY'S JURISDICTIONAL	**) CASE NO. 2019-00041**
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RESPONSE OF FARMDALE WATER DISTRICT TO COMMISSION'S SECOND REQUEST FOR INFORMATION

Comes Farmdale Water District, for its Response to the Commission's Second Request for Information, and states as shown on the following pages.

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Counsel for Farmdale Water District

COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:

ELECTRONIC INVESTIGATION	)
INTO EXCESSIVE WATER LOSS BY	)
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CERTIFICATION OF RESPONSE OF FARMDALE WATER DISTRICT TO COMMISSION'S SECOND REQUEST FOR INFORMATION

This is to certify that I have supervised the preparation of Farmdale Water District's Responses to the Commission's Second Request for Information. The response submitted on behalf of Farmdale Water District is true and accurate to the best of my knowledge, information, and belief formed after a reasonable inquiry.

Date: 5/31/19

Brian Armstrong, Manager
Farmdale Water District

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 1

Responding Witness: Brian Armstrong

Q-1. State the effective date of the water utility's last rate increase, either through the alternative rate filing procedure, through a general adjustment of rates, or through a purchased water adjustment, and provide the Board Resolution approving the rate increase.

A-1. On July 18, 2018, Farmdale Water District ("Farmdale") applied for approval to adjust its rates pursuant to the purchased water adjustment ("PWA") procedure. The Kentucky Public Service Commission ("Commission") approved the increase on August 2, 2018 for water service rendered by Farmdale on and after August 1, 2018 (see PSC Case No. 2018-00249). At the July 6, 2018 Board of Commissioners special meeting, the increase and effective date were discussed. The minutes from this meeting are attached.

Farmdale Water District
100 HIGHWOOD DRIVE
FRANKFORT, KENTUCKY 40601

COMMISSIONERS:
CLIFFORD TOLES, CHAIRMAN
YVONNE HILL, TREASURER
CRAIG BLANTON, SECRETARY

TELEPHONE
(502) 223-3562
FAX: (502) 352-2999
www.farmdalewaterdistrict.com

July 6,2018

Special Meeting

Board of Commissioners

Present: Clifford Toles, Chairman; Craig Blanton, Secretary; Yvonne Hill-Poole, Treasurer; and Jan Sanders, Office Manager

Ms. Sanders brought to the attention of the Board that the Frankfort Plant Board will be increasing water rates effective July 26,2018. The KRA fee will be increased from .20 to .29 per 1,000 gallons of water. After calculations the increase to our customers will be .14 per 1,000 gallons. Our increase will be effective on or after August 1,2018.

Adjourned

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 2

Responding Witness: Brian Armstrong

Q-2. State whether the water utility's board of commissioners or directors has discussed applying for a rate increase since January 1, 2018, utilizing either the alternative rate filing procedure or through a general adjustment of rates. If the utility can state this affirmatively, provide the board minutes where this was discussed.

A-2. Yes. Farmdale's Board of Commissioners discussed and applied for a rate increase in 2018. See response to Q-1. Farmdale has not applied for a rate increase since this time. The board minutes are attached to Q-1.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 3

Responding Witness: Brian Armstrong

Q-3. Provide a list of the top three obstacles the water utility believes are preventing or slowing the progress of the water utility in reducing line loss.

A-3. Farmdale's top obstacle is its lack of sufficient workforce. Farmdale has only two "outside" employees – the Manager and one (1) other "outside" employee – that operate and maintain Farmdale's distribution system. These employees work diligently to reduce line loss, but at least one (1) more employee is needed to achieve the utility's line loss goal.

The second biggest obstacle is the location of many of Farmdale's water transmission mains. Many of the mains are located along the edge of creeks. In an effort to stop creek bank erosion, the county or state officials have poured concrete along the edge of some of the creeks. As a result, several miles of transmission mains have been covered with concrete. If a leak occurs, it is nearly impossible to find the leak.

The third largest obstacle is the need to replace all AC pipe in Farmdale's distribution system. This pipe is very old and brittle. It is very difficult to

repair it. The Board of Commissioners has just commenced a project to replace approximately five (5) miles of AC pipe along Kentucky Highway 151 and Green Wilson Road. The engineering firm has been selected. Farmdale plans to fund the project with a loan and grant from Rural Development. This will require a significant rate increase. Assuming funding is obtained, it will be approximately one (1) year before Farmdale will apply to the Commission for a certificate of public convenience and necessity, request permission to borrow funds from Rural Development, and request permission to increase water rates.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 4

Responding Witness: Brian Armstrong

Q-4. Provide the water utility's most recent monthly water loss report.

A-4. In its Response to Commission's Initial Request for Information, Farmdale provided monthly water loss reports from January 2018 through February 2019. Attached to this response are the monthly water loss reports for March 2019 and April 2019.

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility: Farmdale Water District

For the Month of: March Year: 2019

LINE #	ITEM	GALLONS (Omit 000's)	
1	**WATER PRODUCED, PURCHASED & DISTRIBUTED**		
2	Water Produced		
3	Water Purchased	16,583	
4	**TOTAL PRODUCED AND PURCHASED**	**16,583**	
5			
6	**WATER SALES**		
7	Residential	8,697	
8	Commercial	2,198	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales _____		
13	**TOTAL WATER SALES**	**10,895**	65.7%
14			
15	**OTHER WATER USED**		
16	Utility and/or Water Treatment Plant		
17	Wastewater Plant		
18	System Flushing		
19	Fire Department		
20	Other _____		
21	**TOTAL OTHER WATER USED**	**-**	0.0%
22			
23	**WATER LOSS**		
24	Tank Overflows		
25	Line Breaks		
26	Line Leaks	5,688	
27	Other _____		
28	**TOTAL LINE LOSS**	**5,688**	34.3%
29			
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4		
31			
32	**WATER LOSS PERCENTAGE**		
33	Unaccounted-For Water (Line 28 divided by Line 4)	**34.3%**	

PUBLIC SERVICE COMMISSION

Monthly Water Loss Report

Water Utility: Farmdale Water District

For the Month of: April Year: 2019

LINE #	ITEM	GALLONS (Omit 000's)	
1	**WATER PRODUCED, PURCHASED & DISTRIBUTED**		
2	Water Produced		
3	Water Purchased	16,572	
4	**TOTAL PRODUCED AND PURCHASED**	**16,572**	
5			
6	**WATER SALES**		
7	Residential	8,996	
8	Commercial	2,096	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales _____		
13	**TOTAL WATER SALES**	**11,092**	66.9%
14			
15	**OTHER WATER USED**		
16	Utility and/or Water Treatment Plant		
17	Wastewater Plant		
18	System Flushing		
19	Fire Department		
20	Other _____		
21	**TOTAL OTHER WATER USED**	**-**	0.0%
22			
23	**WATER LOSS**		
24	Tank Overflows		
25	Line Breaks		
26	Line Leaks	5,480	
27	Other _____		
28	**TOTAL LINE LOSS**	**5,480**	33.1%
29			
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4		
31			
32	**WATER LOSS PERCENTAGE**		
33	Unaccounted-For Water (Line 28 divided by Line 4)	**33.1%**	

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 5

Responding Witness: Brian Armstrong

Q-5. Provide the name and occupation, if any, of each of the water utility's current commissioners including the highest level of education attained by each.

A-5. Farmdale has three (3) Commissioners. The name, occupation, and education level of each Commissioner are as follows:

Clifford Toles, retired plumber, High School Graduate;

Craig Blanton, co-owner of DaVinci's Pizza, High School Graduate; and

Richard Tanner, retired from serving as Executive Director of the Kentucky Magistrates & Commissioners Association and as the Executive Director of the Kentucky Coal Counties Coalition , Master's Degree from Murray State University.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 6

Responding Witness: Brian Armstrong

Q-6. Provide the following training information:

a. State whether the water utility allocates funds in its annual operating budget to provide training to its water personnel.

b. If so, state the amount allocated in the last three calendar years.

c. Identify any training programs, free of charge or otherwise, that water personnel have taken and individuals, agencies, or suppliers providing the training program.

A-6.

a. Farmdale does not allocate funds in its annual operating budget to provide training to its water personnel. Instead, Farmdale pays training expenses as they arise.

b. N/A

c. As stated in the response to Q-15 of the Commission's Initial Request for Information, Farmdale's former Manager attended annual leak detection training classes taught by Kentucky Rural Water Association ("KRWA") in April 2015, April 2016, and April 2017. Farmdale's current Manager, Brian Armstrong, received leak

detection and repair training in December 2018 conducted by the Division of Compliance Assistance of the Kentucky Department for Environmental Protection.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 7

Responding Witness: Brian Armstrong

Q-7. Provide the following system information in a formatted and tabulated Excel spreadsheet for each applicable asset:

a. For transmission and distribution lines, provide the diameter size, length in miles, type of material, and average age of the lines. When PVC is used, provide the specific type of PVC used.

b. For service connection lines, provide the service connection size, number, type of material, and average age of the lines. When PVC is used, provide the specific type of PVC used.

c. For customer meters, provide the customer meter size, number, manufacturer/model, and the average age of the customer meters.

A-7.

a. See Attachment 7-1.

b. Farmdale estimates that it has approximately 23 miles of service connection lines (the line which connects the distribution main to the meter). All the service connection lines are 3/4-inch diameter (except for approximately six (6) service connection lines which serve large meters). None of the service lines are PVC. Approximately 50% to 60% (best educated guess) of the service connection lines were made

with Blu-Max tubing. The average age of the Blu-Max service connection lines is approximately 40 years.

The remaining 40% to 50% of the service connection lines are P.E. tubing (3/4-inch diameter). The average age of these service connection lines is approximately 18 years.

c. See Attachment 7-2.

Attachment 7-1

Transmission & Distribution Lines			
PVC (all are SDR21)		**AC**	
Size	Length (miles)	Size	Length (miles)
2"	1.5	2"	2.5
3"	12.5	3"	-
4"	18.5	4"	10.5
6"	19.0	6"	8.5
8"	-	8"	1.0
10"	1.5	10"	-
12"	4.0	12"	5.5
Total	57.0		28.0

Average age of lines is 27 years.

Attachment 7-2

Customer Meters		
Size	Number	Type
5/8" x 3/4"	2,515	Positive Displacement
1 1/2"	1	Positive Displacement
1"	78	Positive Displacement
2"	4	Turbo
4"	2	Compound

Farmdale uses Sensus iPERL meters. As the iPERL meters malfuction, they are replaced with Sensus SR II meters.

The average age of customer meters is 7 years.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 8

Responding Witness: Brian Armstrong

Q-8. Provide the water utility's closest approximate number of service lines and transmission and distribution lines that were made with Blu-Max tubing within its distribution system and the dates they were installed.

A-8. Based upon conversations that I have had with Farmdale's prior Manager and my one-year experience working at Farmdale, I estimate that most, if not all, of the service connection lines that were installed from 1969 until the mid-1980's or late 1980's were made with Blu-Max. Since then, Farmdale has used P.E. tubing for its service connection lines.

My educated guess is that at least 50% to 60% of the service connection lines are Blu-Max tubing.

None of Farmdale's transmission or distribution lines are made of Blu-Max tubing, to the best of my knowledge.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 9

Responding Witness: Brian Armstrong

Q-9. State whether the water utility has considered hiring a consulting firm for leak detection rather than using in-house labor, and if not explain why not.

A-9. Because Farmdale is a member of KRWA, Farmdale has considered requesting the services of KRWA to help locate leaks. I plan to propose this at the next Board of Commissioners meeting.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 10

Responding Witness: Brian Armstrong

Q-10. State whether an employee dedicated to leak detection would be a worthwhile investment for the water utility, and if not state why not.

A-10. Initially, I did not think that Farmdale could afford to hire an employee who would be dedicated to leak detection. Recently, I have thought more about this topic and have discussed it with one of my Board members, the Office Manager, and our attorney, Damon Talley. After doing some quick calculations (see below), I have changed my mind. Now, I believe it would be a very worthwhile investment if Farmdale could locate and hire a qualified person to help with line loss detection.

Analysis.

2018 Water Purchases: 215,696,000 Gallons

2018 Water Sales: 154,906,000 Gallons

2018 Non-Revenue Water: 60,790,000 Gallons (approx. 28%)

Assume that Farmdale purchased 60,000,000 gallons of excessive water at $2.84 per 1,000 gallons. This equals approximately $170,000 in purchased water expense for water that was not sold (60,000 x $2.84 = $170,400). The water loss percentage for 2018 was 28%. If the water loss percentage can be reduced by 50%, then this would generate a savings of $85,000 per year.

I plan to discuss this with Farmdale's Board of Commissioners at the next meeting.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 11

Responding Witness: Brian Armstrong

Q-11. Refer to the water utility's response to Commission Order of March 12, 2019, Appendix C (March 12 Order), Item 8. Provide a copy of the most recent written and completed inspection report done at the water utility's plant, pump, and storage facilities. If no written and completed inspection report exists, then state in specific detail all tasks performed by the water utility during the water utility's most recent inspection of its plant, pump, and storage facilities.

A-11. Attached as Attachment 11-1 is the most recent Inspection Report of Coolbrook Standpipe by Pittsburg Tank & Tower Group dated March 22, 2018. This Report contains photographs and statements regarding the condition of the standpipe and recommendations for improvements.

Attached as Attachment 11-2 are the invoices evidencing that the tank repairs recommended by Pittsburg Tank & Tower Group were made.

Attached as Attachment 11-3 is the Semi-Annual Safety Inspection Sheet for Coolbrook Standpipe that details what items met safety standards and what items deviated from safety standards. The items that initially deviated from safety standards in January 2018 were subsequently remedied and met safety standards in July 2018 and January 2019.

Attached as Attachment 11-4 is the Semi-Annual Safety Inspection Sheet for Stewart Home Tower. This Inspection Sheet shows that all items were sufficiently safe for each of the three inspection periods (January 2018, July 2018, and January 2019).

Lastly, attached as Attachment 11-5 is the Semi-Annual Safety Inspection Sheet for Stewart Home Pump Station. All items met safety standards for all three inspection periods.

Attachment 11-1

PITTSBURG TANK & TOWER GROUP
MAINTENANCE DIVISION Since 1919

1 Watertank Place
PO Box 1849
Henderson, KY 42419
P: (270) 826-9000
F: (270) 767-6912
www.pttg.com

Farmdale Water District
100 Highwood Drive
Frankfort, KY 40601
RE: Frankfort, KY
223,000 Gallon STP
March 22, 2018
Mr. David Robinson
Water Superintendent
(502) 223-3562
Job No. 318079

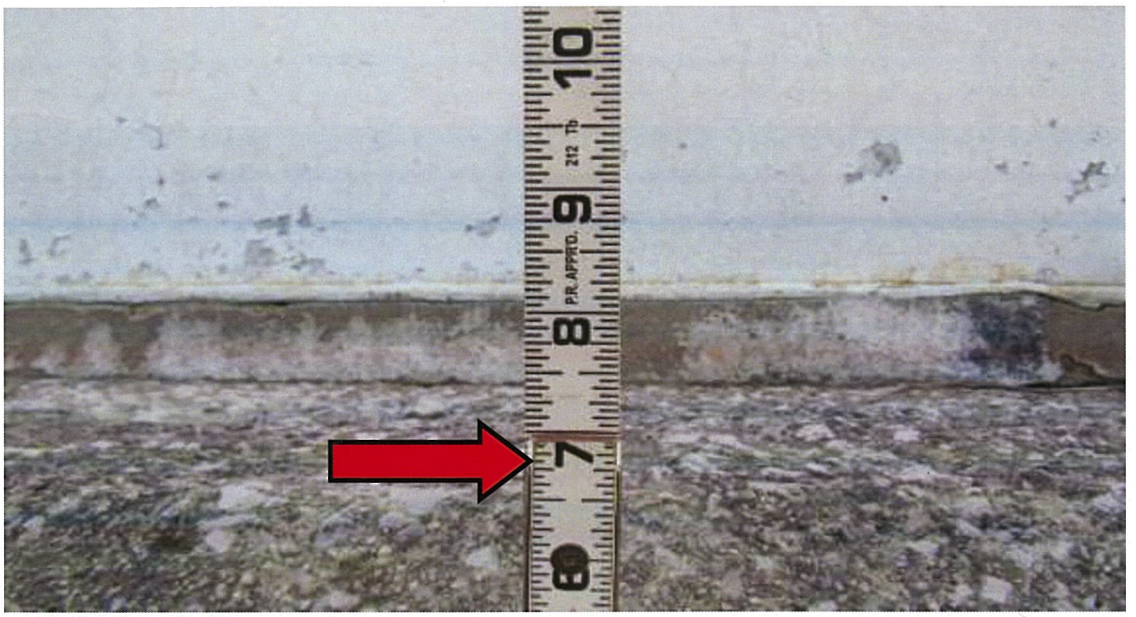
If you would like to speak with Patrick Heltsley concerning this report, call (270) 826-9000, Ext. 4601

For additional copies of this report call (270) 826-9000, Ext. 4601

PTTG Since 1919
MAINTENANCE DIVISION

Farmdale Water District
RE: Frankfort, KY
223,000 Gallon STP

Photo shows the tank is secured with fencing. There is no signage on the fence. We recommend posting a **Warning, Tampering With This Facility is a Federal Offense** (US code title 42, section 300i-1) sign and a **No Trespassing** sign.



Photos show the area around the tank foundation is properly graded and in compliance with AWWA D100-11; 12.7.1: Height aboveground.

Photo shows the condition of the foundation. We recommend repairing any cracks and spalling in the concrete with a commercial non-shrinking grout, re-grouting around the base of the tank to foundation connection to prevent water from entering under the tank, then sealing the foundation with a sealant.

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MAINTENANCE DIVISION

Farmdale Water District
RE: Frankfort, KY
223,000 Gallon STP

Photo shows the tank foundation. We recommend electrically grounding the tank for lightning protection as required by OSH Act of 1970 Section 5.

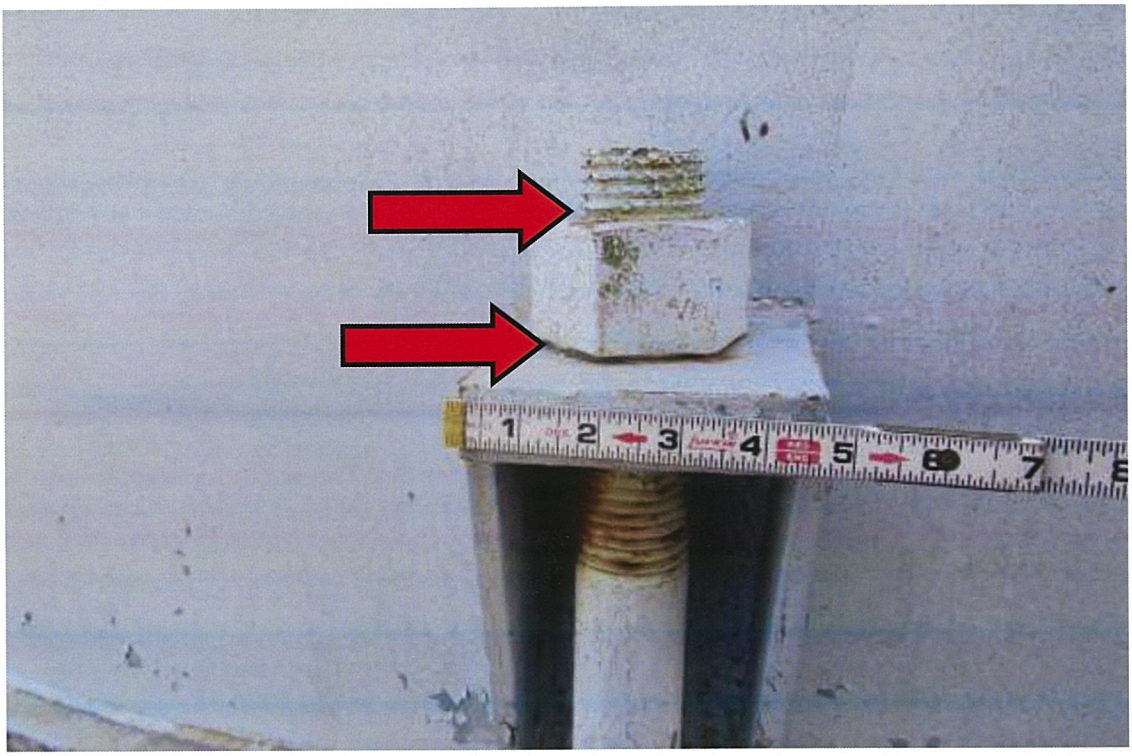


Photo shows the condition of one (1) of the sixteen (16) anchor bolts. AWWA D100-11; 3.8.1.1: Required anchorage states, "For ground-supported flat-bottom reservoirs and standpipes, mechanical anchorage shall be provided when the wind or seismic loads exceed the limits for self-anchored tanks." We recommend cleaning the area around the anchor bolts, tightening the anchor nuts to specifications, then tack welding the circumference of the nut-to-base plate connections and tack welding the bolt-to-nut connections for preventive maintenance.

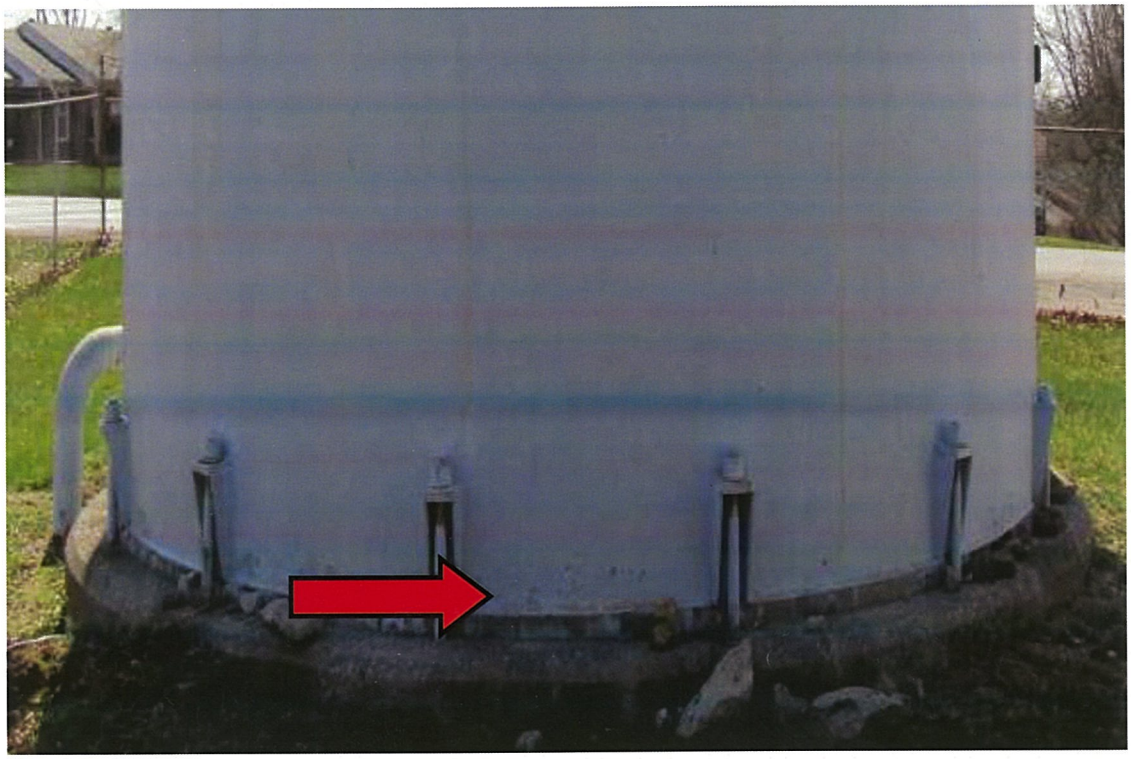
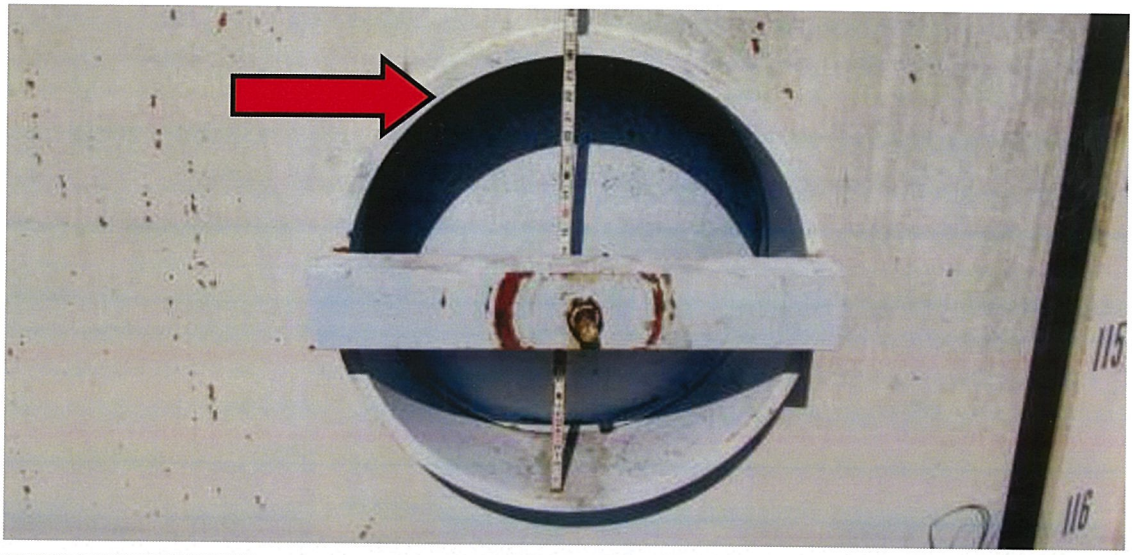
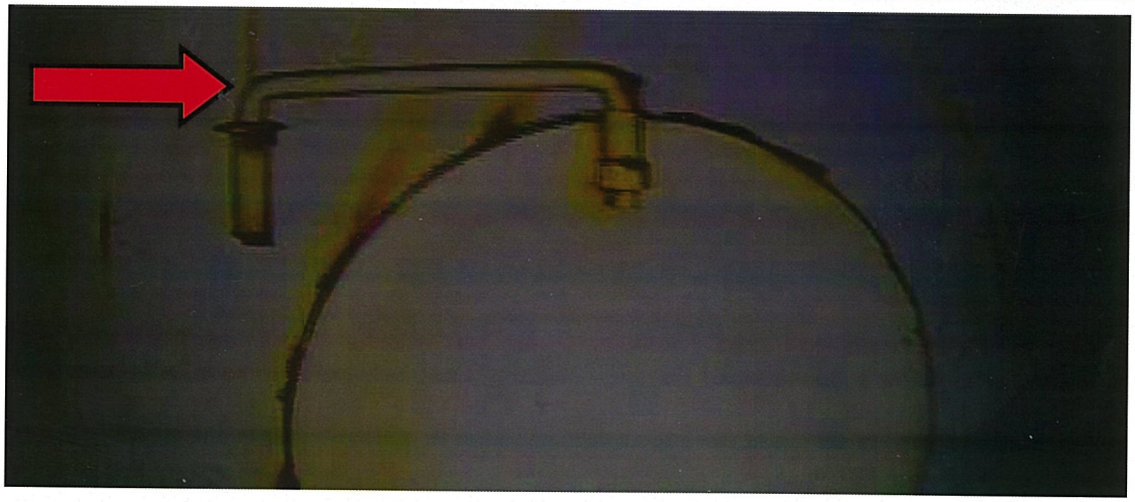


Photo shows the condition of the shell. Currently there is no drain valve. We recommend installing a frost proof drain valve near the shell-to-floor connection, complete with a locking device to prevent unauthorized draining of the tank and a splash pad to direct water away from the foundation.

Photo shows the tank nameplate, which appears to be in good condition.





Photos show the condition of the existing 24" shell manway. Notice the interior davit arm. AWWA D100-11; 7.4.4: Shell manholes states, "Two shell manholes shall be provided in the first ring of the tank shell. If any access cover weighs more than 50 lbs. (22.7 kg), a hinge or davit shall be provided. At least one manhole shall be circular with a minimum diameter of 30" (760 mm)." The following is required for the tank to be in compliance with AWWA D100-11; 7.4.4: Shell manholes and OSHA 1910.146(c)(2) Confined spaces.

We recommend:

Install 30" secondary shell manway 180° from primary manway
Post **Confined Space Entry** signs
Install maintenance free galvanized steel bolts

Farmdale Water District
RE: Frankfort, KY
223,000 Gallon STP

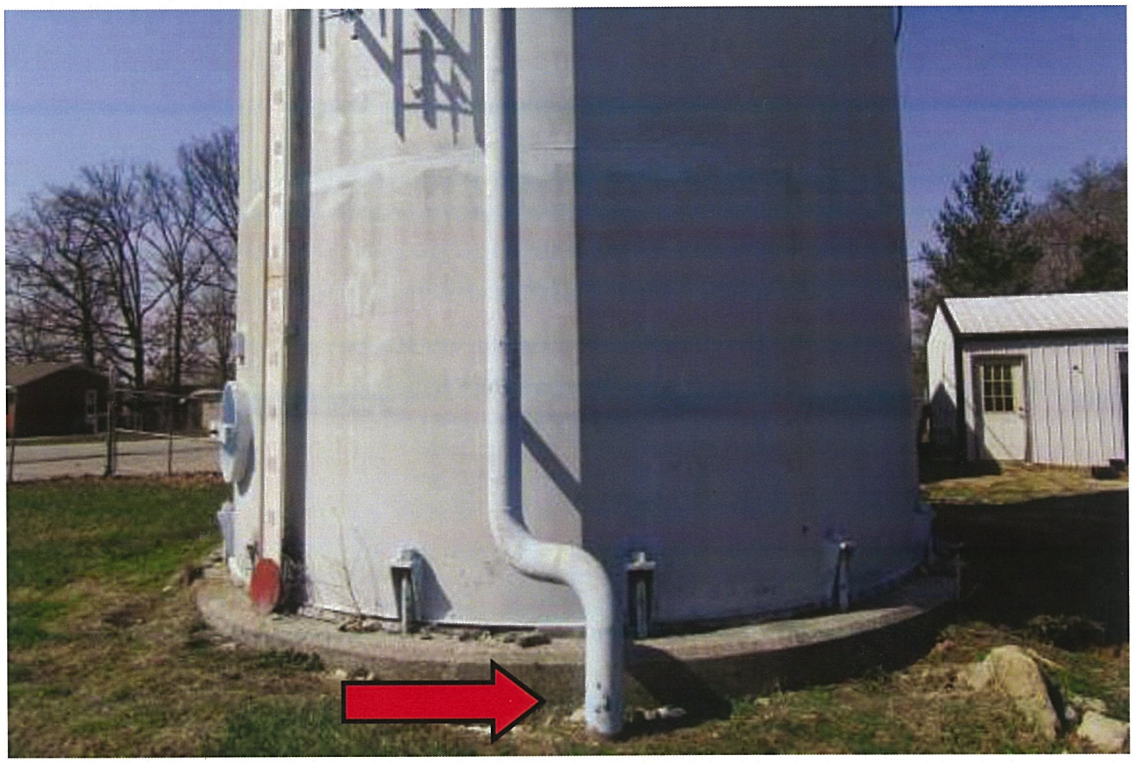
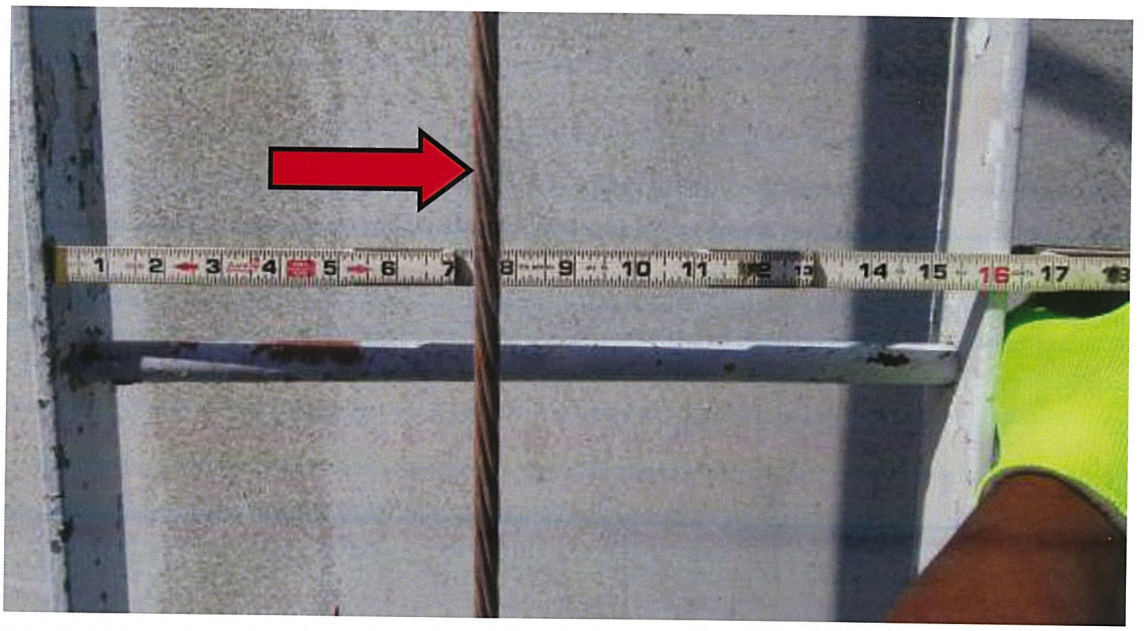
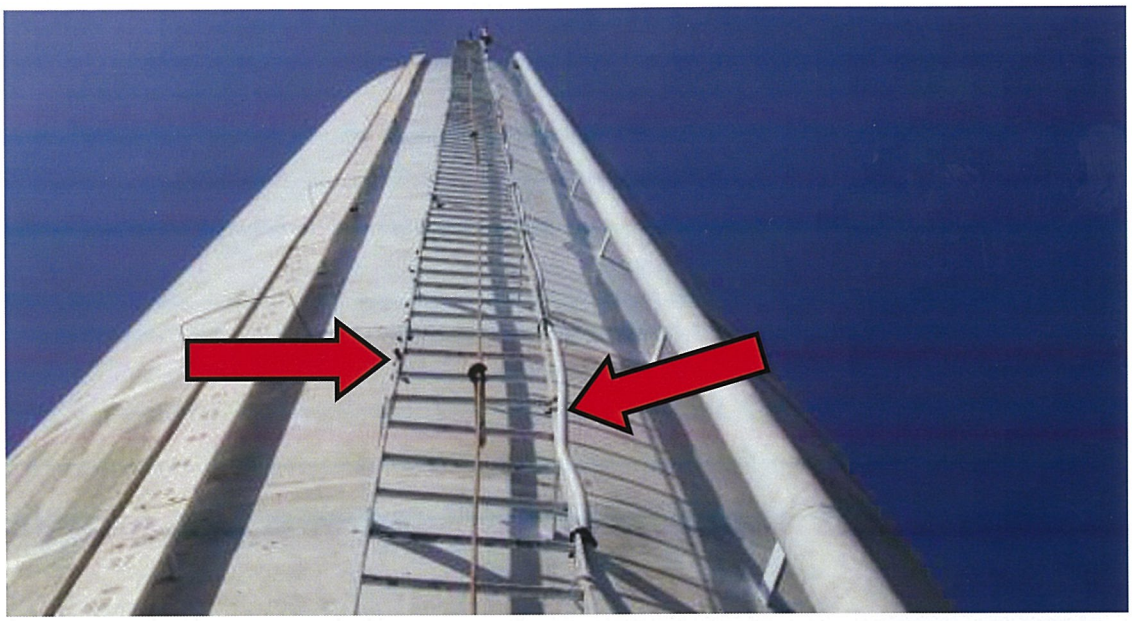


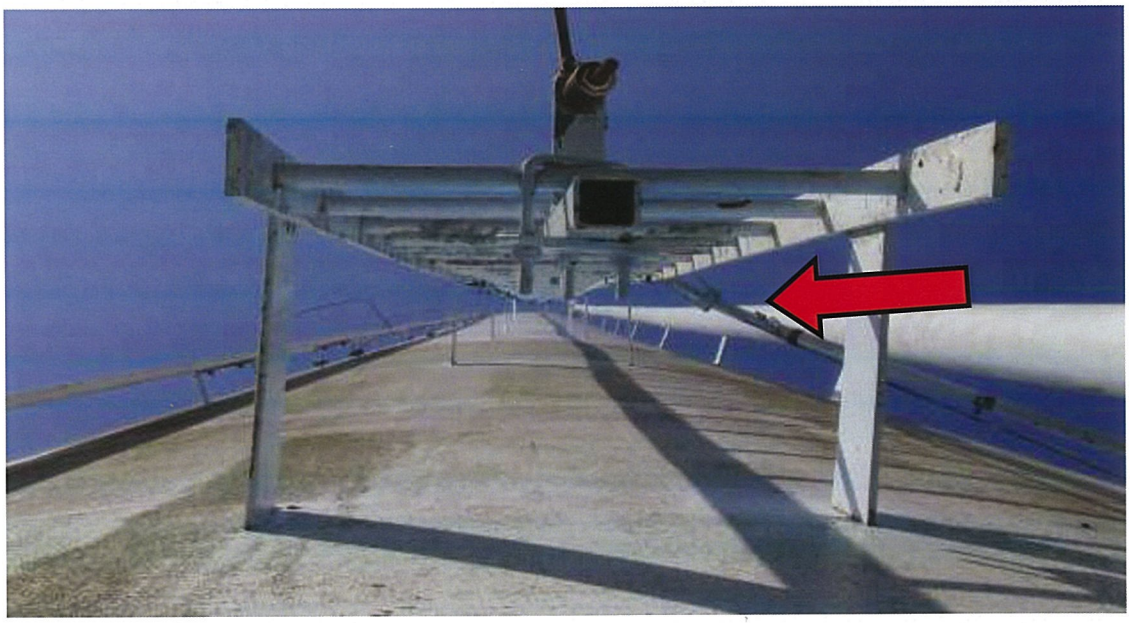
Photo shows the condition of the 6" overflow pipe system. We recommend disconnecting the pipe from the underground drain then installing an air break complete with a flapper valve and screen to prevent the ingress of contaminants into the water supply.

Farmdale Water District
RE: Frankfort, KY
223,000 Gallon STP



Shell access ladder in above photos is 16" wide, but is not equipped with anti-skid rungs. Notice the rusted ladder safety device. We recommend installing anti-skid rung covers, a lockable ladder guard to prevent unauthorized access, a new cable type ladder safety device, and posting a **Fall Protection Required** sign at the base of the ladder.





Photos show more of the condition of the existing shell access ladder. Safe climbing procedure requires a person to climb a ladder with their hands on the side rails of the ladder and not the ladder rungs. **Notice a co/ax is mounted on the ladder side rail, creating a climbing safety hazard.** We recommend removing the co/ax from the ladder, and securing it with standoffs to the tank shell to eliminate this climbing safety hazard.

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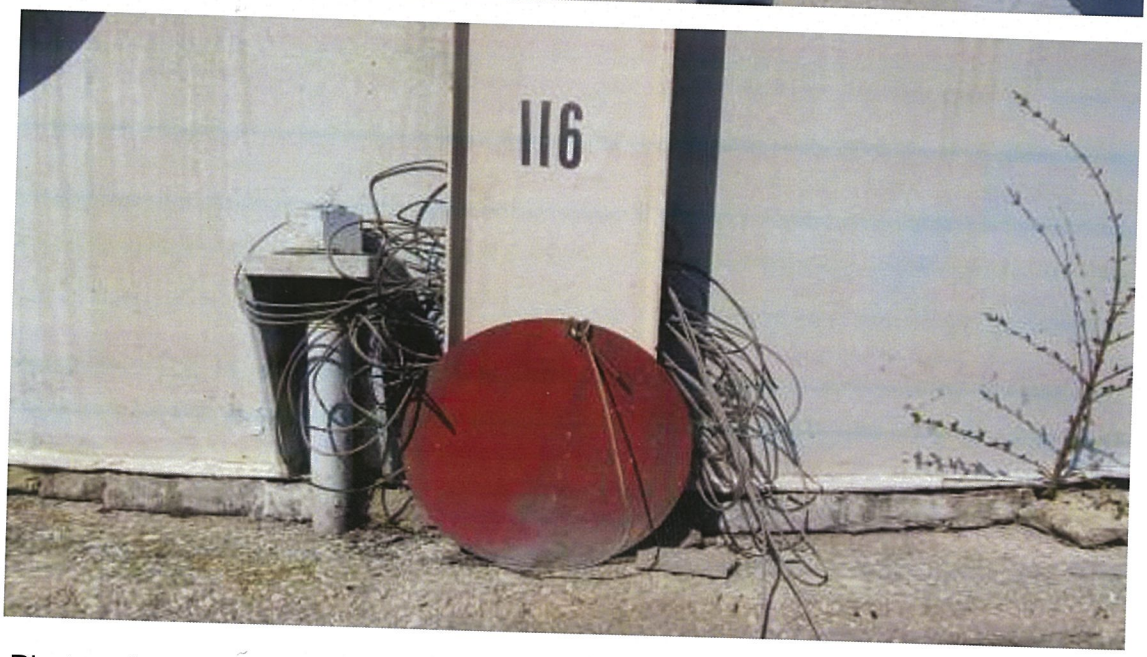
Farmdale Water District
RE: Frankfort, KY
223,000 Gallon STP



Photos show the condition of the liquid level indicator. Due to the condition of the indicator, we recommend replacing the existing liquid level indicator.

Photos show the tank roof edge is not equipped with a required handrail system for fall protection. OSHA 1910.28(b)(1)(i) states, "...the employer must ensure that each employee on a walking-working surface with an unprotected side or edge that is 4 feet (1.2 m) or more above a lower level is protected from falling by one or more of the following: 1910.28(b)(1)(i)(A) Guardrail systems." We recommend installing an OSHA compliant 42" high handrail system around the circumference of the tank roof, complete with intermediate rail, toeboard and a swing gate at the junction of the shell-to-roof access ladder and tank roof.

PTTG Since 1919
MAINTENANCE DIVISION

Farmdale Water District
RE: Frankfort, KY
223,000 Gallon STP

Photo shows the condition of the existing 24" roof hatch. Roof openings on this tank require the following to be in compliance with AWWA D100-11; 7.4.3: Roof openings and OSHA 1910.146(c)(2) Confined spaces.

We recommend:

Post **Confined Space Entry** sign
Install lock on existing roof hatch

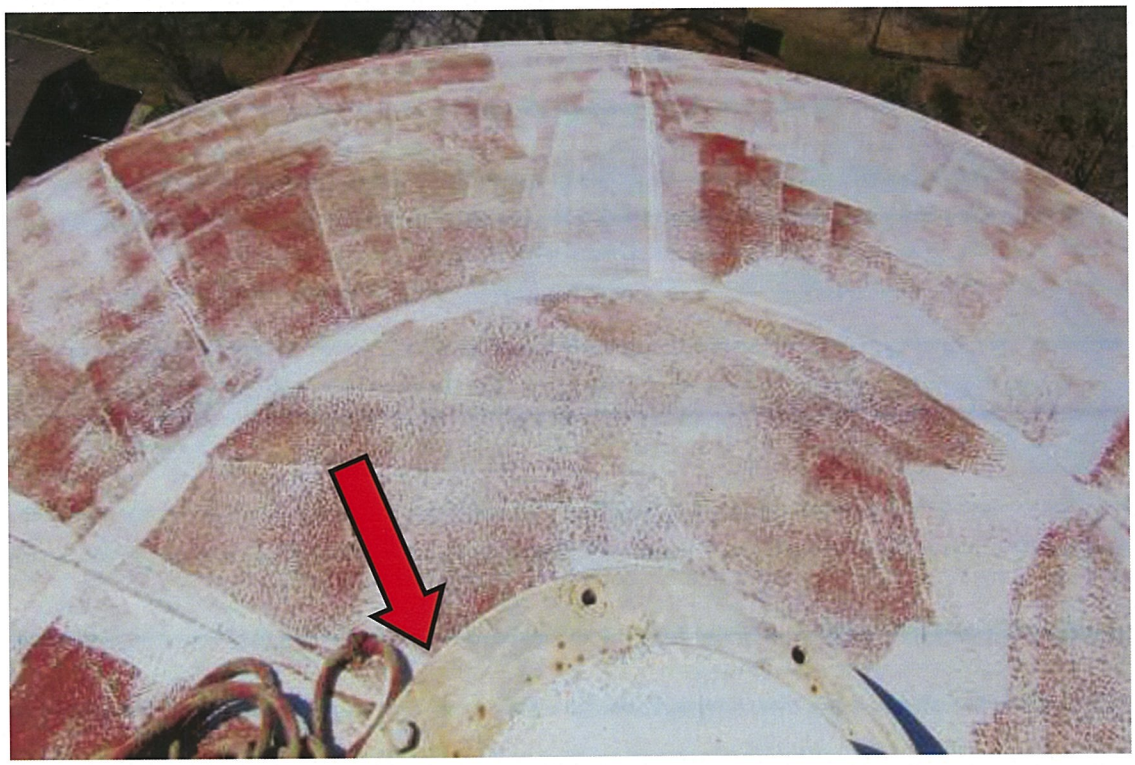


Photo shows the secondary access point / fan mount. Roof openings on this tank require the following to be in compliance with AWWA D100-11; 7.4.3: Roof openings and OSHA 1910.146(c)(2) Confined spaces.

We recommend:

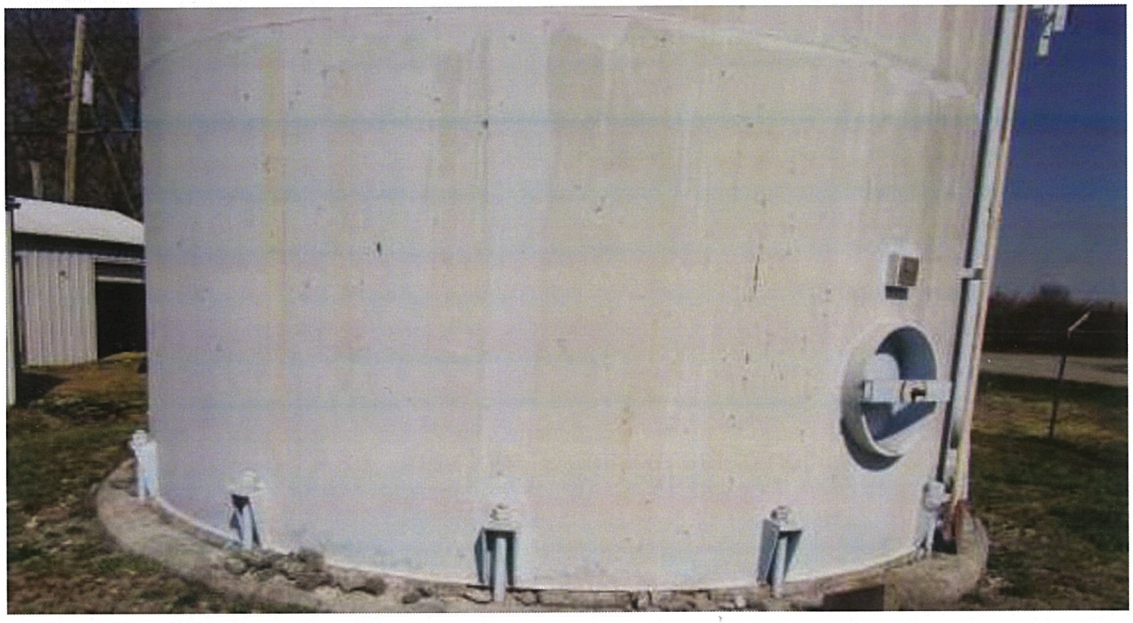
Post **Confined Space Entry** sign

PTTG Since 1919
MAINTENANCE DIVISION

Farmdale Water District
RE: Frankfort, KY
223,000 Gallon STP

Photos show the condition of the existing 9" roof vent. EPA SCWDA Drinking Water Act Violation EPA August 15, 2002, 2.1 Potential Health Impacts 2.1.2 Pathogen Contamination and Microbial Growth states, "Microbial contamination from birds or insects is a major water quality problem in storage tanks. . .have serious sanitary defects and various minor flaws that could lead to sanitary problems. Most of these sanitary defects stem from design problems with roof hatch systems and vents that do not provide a watertight seal." This vent is allowing the ingress of rain and wind-borne contaminants into the water system. **An improperly vented tank may cause external pressure to act on the tank which can cause buckling even at low pressure differential.** We recommend replacing the existing roof vent with a vacuum-pressure, frost proof vent and screen.

This work should be performed on an emergency basis.



Photos show the tank exterior coating system. We recommend pressure washing the tank exterior with biodegradable detergent injection (minimum 3,500 psi at 3.0 gpm) then removing all loose rust and scale with wire brushes and hand scrapers in accordance with SSPC#2 (hand tool cleaning), spot priming and applying one (1) finish coat of acrylic paint.

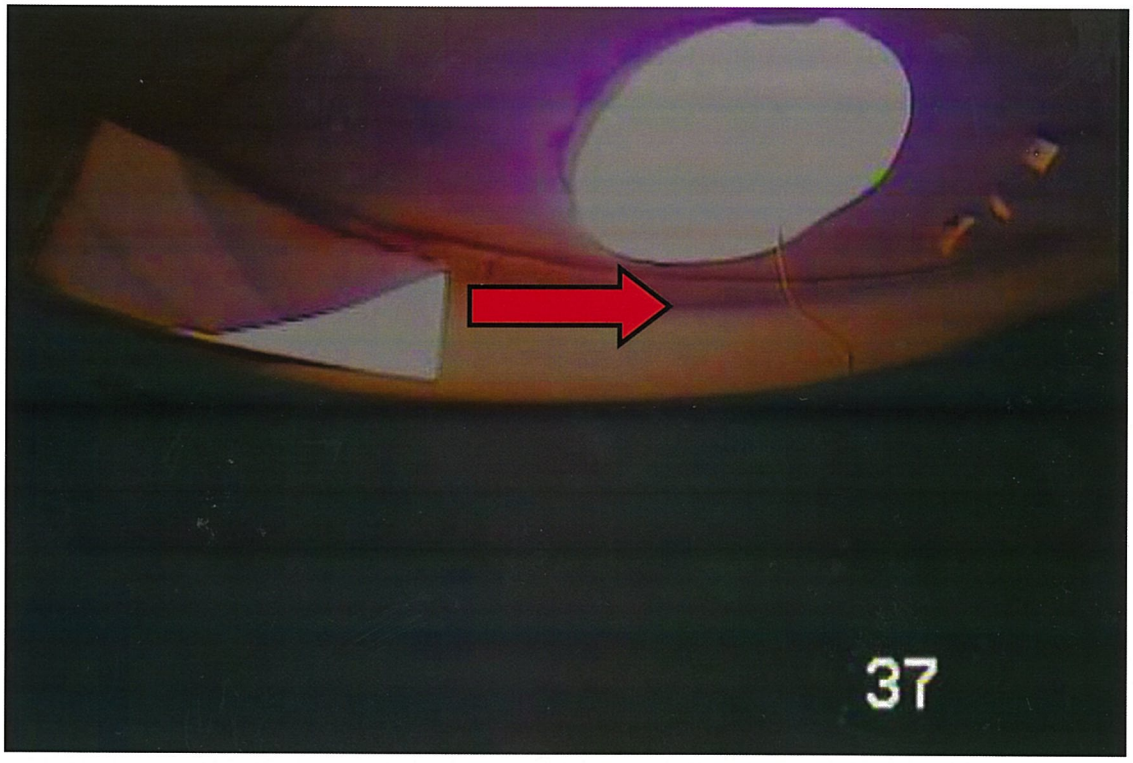


Photo shows tank is not equipped with an interior access ladder. AWWA D100-11; 7.4.2.4: Inside tank ladder states, "When specified, an inside tank ladder shall be provided for access from the roof to the bottom of the tank." We recommend installing an OSHA compliant interior access ladder complete with stand-offs every 10' on center, and a cable type ladder safety device.

**In cold climates it's up to the owner's discretion on placement of internal ladders.*

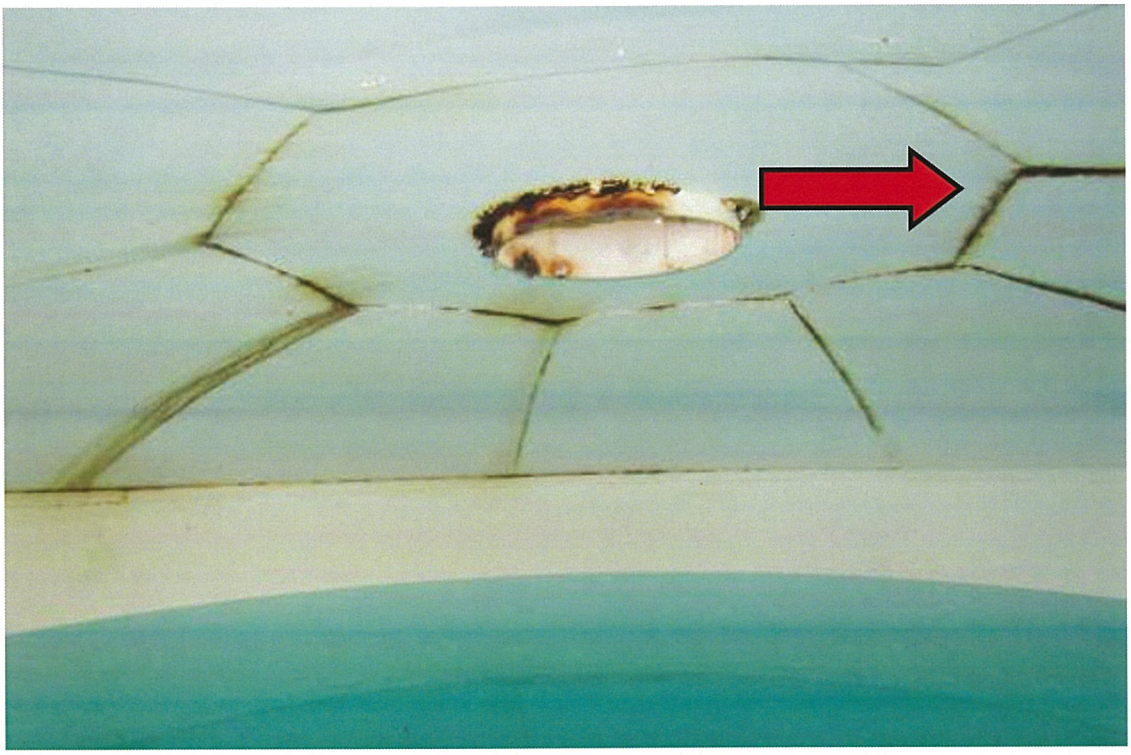


Photo shows the condition of the interior roof. Notice the rust forming at the roof lap seams. We recommend seam sealing using Sikaflex® 1a on all un-welded interior roof lap seams to prevent failure of a new interior liner. This work is to be performed in conjunction with application of new interior liner.

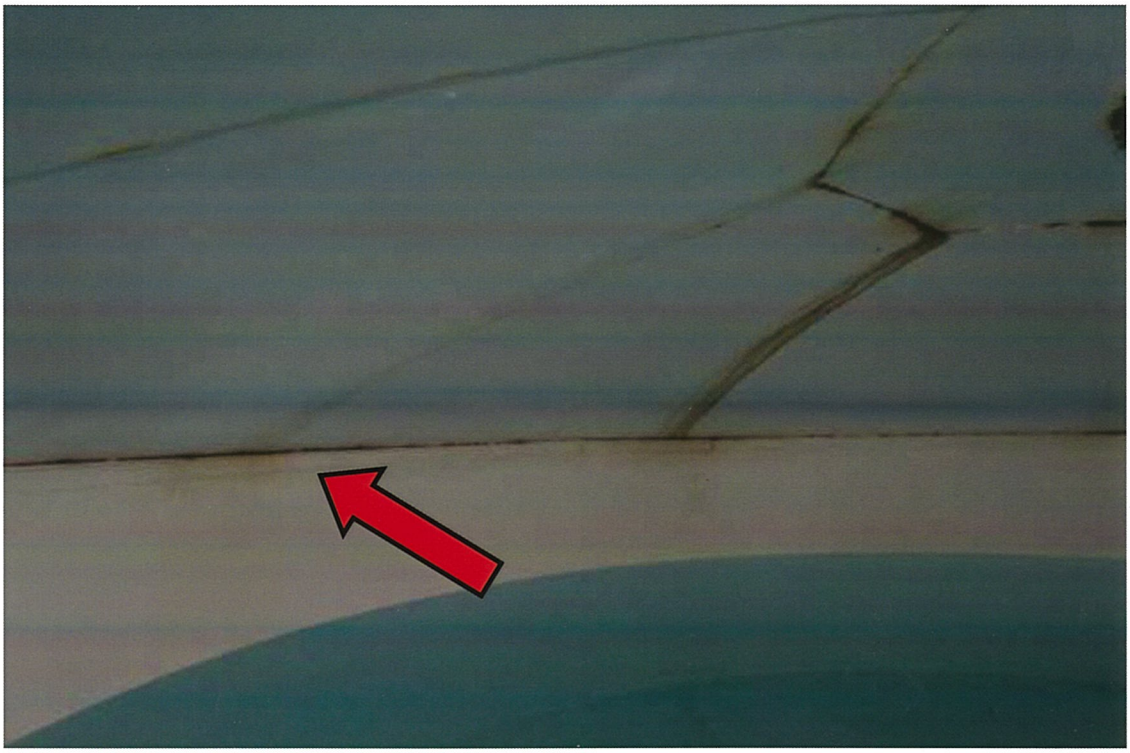


Photo shows the condition of the interior roof-to-rim angle connection. Notice the rust forming in the crevice between the roof and rim angle. We recommend seam sealing using Sikaflex® 1a around the circumference of this connection to prevent failure of a new interior liner. This work is to be performed in conjunction with application of new interior liner.

Photo shows a fill pipe on the tank interior. A temperature difference between the water in the top and bottom of a tank, even as little as 1-2 degrees Fahrenheit, is an indication of thermal stratification and the tank water not being completely mixed. Incomplete mixing would result in short-circuiting, and localized increase in water age would develop inside the tank. This typically leads to water quality problems, such as loss of residual, DBP spikes, HPC spikes, bacteria regrowth, formation of bio-film, changes in pH and dissolved oxygen. We recommend installing a mixing system. Electrical work to be done by others.

PTTG Since 1919
MAINTENANCE DIVISION

Farmdale Water District
RE: Frankfort, KY
223,000 Gallon STP

Photo shows sediment in the tank before the performance of the tank cleanout.

We recommend installing a passive cathodic protection system.

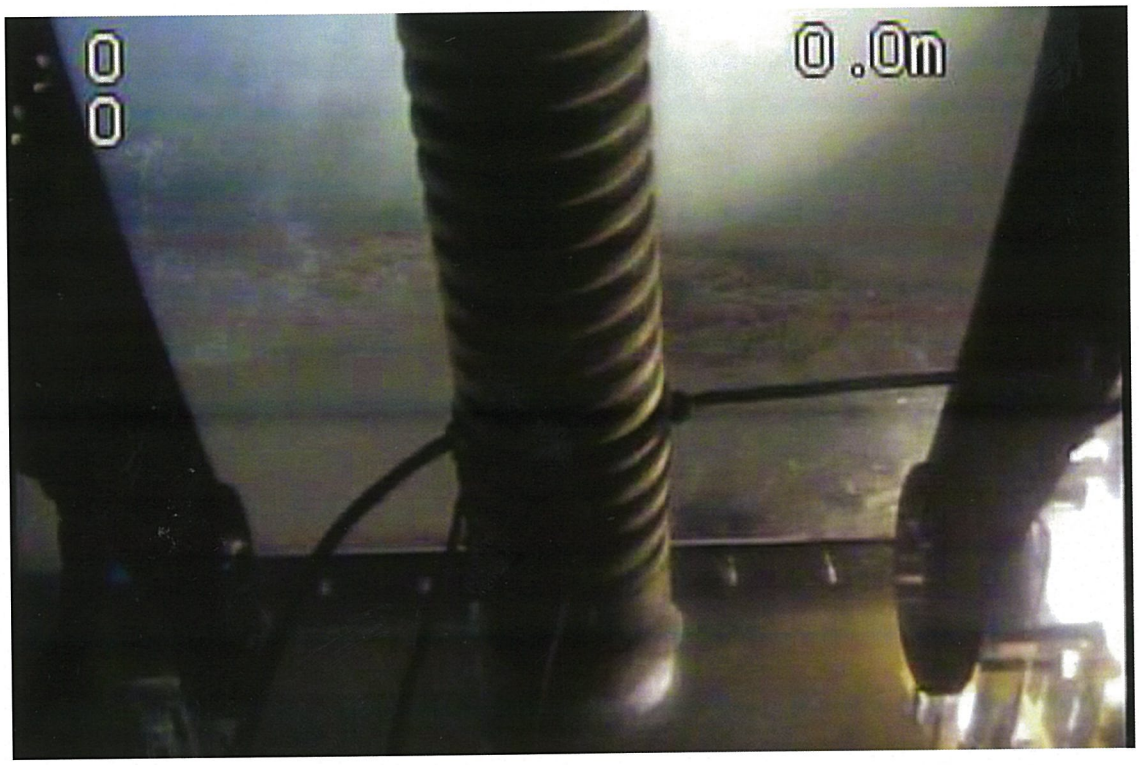
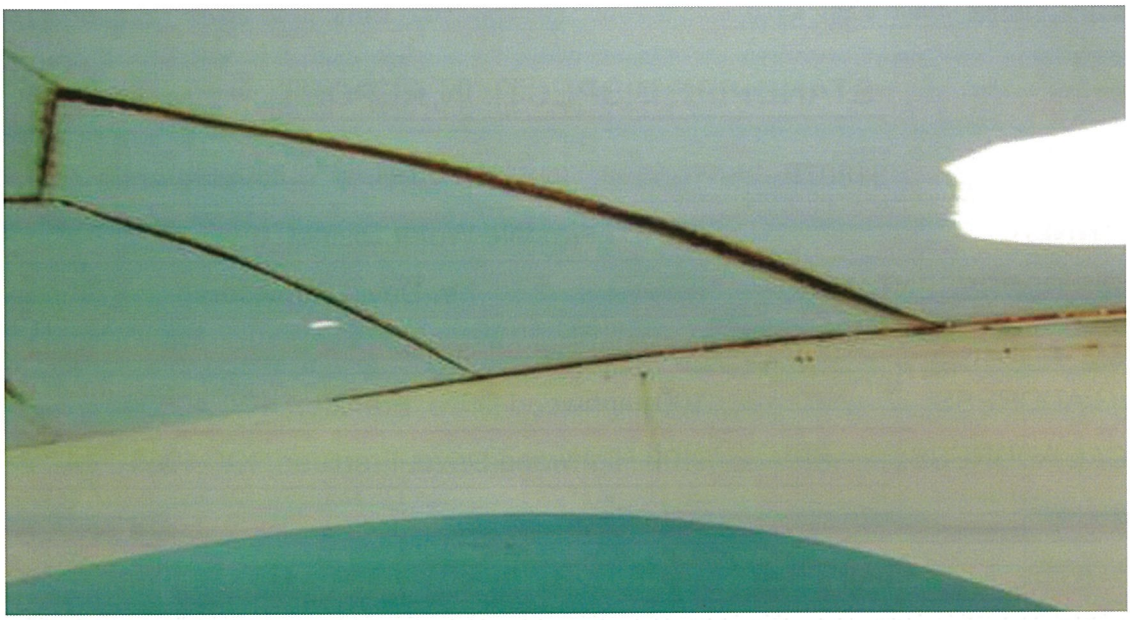
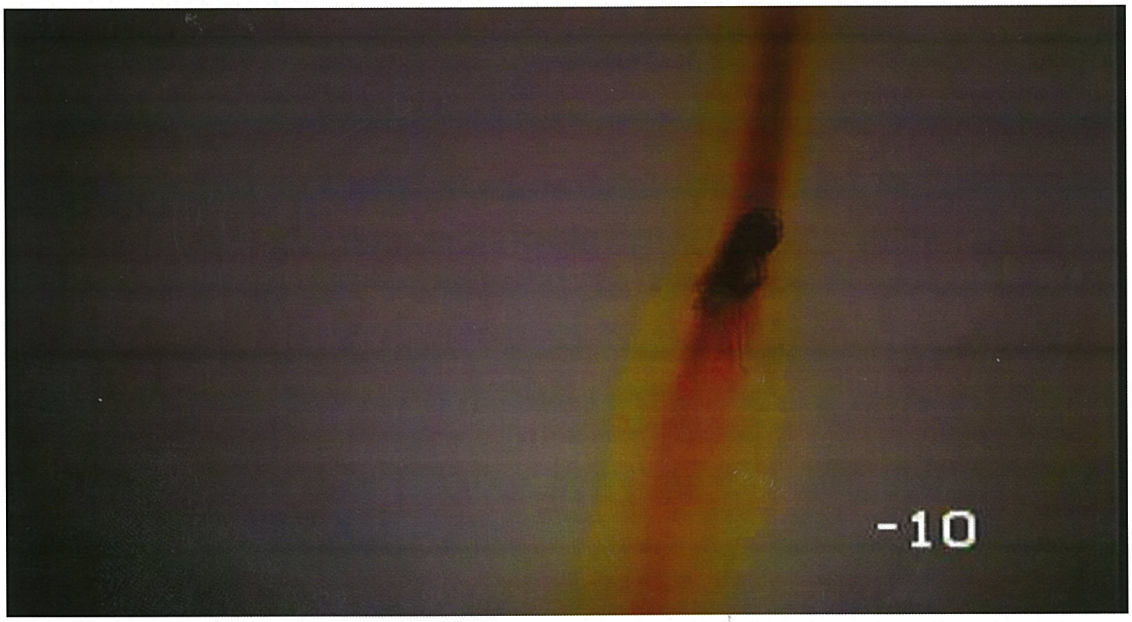


Photo shows the condition of the tank during the performance of the tank cleanout.





Photos show the condition of the interior coating system. We recommend sand-blasting all rusted and abraded interior areas to SSPC-SP10 (near white), and brush blasting all remaining interior areas to SSPC-SP7; then applying one (1) spot coat of epoxy primer to all areas sandblasted to #10, stripe coating all weld seams, and applying one (1) full coat of epoxy to the entire tank, to achieve 8 to 10 mils of total dry film thickness. Total mil thickness will include a combination of the existing and new coating.

PITTSBURG TANK & TOWER GROUP
MAINTENANCE DIVISION Since 1919

1 Watertank Place
PO Box 1849
Henderson, KY 42419
P: (270) 826-9000
F: (270) 767-6912
www.pttg.com

STANDPIPE INSPECTION REPORT

JOB NO: 318079 INSPECTOR: Archie Antia (LJ)

TANK OWNER: Farmdale Water District

OWNER'S REPRESENTATIVE: Mr. David Robinson

TITLE: Water Superintendent

MAILING ADDRESS: 100 Highwood Drive, Frankfort, KY 40601

PHYSICAL ADDRESS: 100 Highwood Drive, Frankfort, KY 40601

E-MAIL: farmdalewater@gmail.com

CITY, STATE: Frankfort, KY ZIP: 40601 COUNTY: Franklin County

TELEPHONE: (502) 223-3562 FAX: Not Provided

LOCATION OF TANK: 100 Highwood Drive, Frankfort, KY 40601

Farmdale Water District
100 Highwood Drive
Frankfort, KY 40601
March 22, 2018
Mr. David Robinson
Water Superintendent
(502) 223-3562

ORIGINAL CONTRACT NO: H0062 YEAR BUILT: 1978

ORIGINAL MANUFACTURER: PDM Hydrostorage Inc. CAPACITY: 223,000 Gallon

DATE OF LAST INSPECTION: Not Provided TYPE: Potable

DIAMETER: 19'-0" HEIGHT: 120'-0"

OVERFLOW: 6" INLET: Not Provided

TYPE CONSTRUCTION: WELDED: X RIVETED: BOLTED:

ACCOUNT EXECUTIVE: Nicci Sheridan

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Testing	Exterior	Interior
Lead	Negative	Negative

Mil Testing								
Roof:	3.0	3.4						
Ring 15:	1.0	1.5						
Ring 14:	2.1	1.8						
Ring 13:	3.1	2.0						
Ring 12:	2.1	2.0						
Ring 11:	2.3	1.9						
Ring 10:	1.1	1.9						
Ring 9:	2.6	4.0						
Ring 8:	2.1	2.6						
Ring 7:	2.5	1.8						
Ring 6:	1.2	1.9						
Ring 5:	3.0	2.7						
Ring 4:	3.8	2.1						
Ring 3:	2.0	2.0						
Ring 2:	1.9	2.3						
Ring 1:	2.8	1.7	2.0	2.0	3.1	2.8	4.0	1.9

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www.pttg.com

UT Testing								
Roof:	.178	.195						
Ring 15:	.220	.226						
Ring 14:	.255	.260						
Ring 13:	.268	.255						
Ring 12:	.356	.262						
Ring 11:	.262	.278						
Ring 10:	.314	.308						
Ring 9:	.323	.325						
Ring 8:	.389	.372						
Ring 7:	.475	.462						
Ring 6:	.544	.560						
Ring 5:	.562	.570						
Ring 4:	.579	.580						
Ring 3:	.582	.591						
Ring 2:	.588	.580						
Ring 1:	.623	.614	.619	.620	.620	.614	.618	.598

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Page #	Work Proposed	Critical Deficiency	NON-Critical Deficiency	OSHA	Structural	Preventive Maintenance
2	Post a **Warning, Tampering With This Facility is a Federal Offense** (US code title 42, section 300i-1) sign.		X			
	Post a **No Trespassing** sign.		X			
4	Repair any cracks and spalling in the concrete with a commercial non-shrinking grout.					X
	Re-grout around the base of the tank to foundation connection.					X
	Seal the foundation with a sealant.					X
5	Electrically ground the tank.		X	X		
6	Clean the area around the anchor bolts, tighten the anchor nuts to specifications, then tack weld on the circumference of the nut-to-base plate connections and tack weld the bolt-to-nut connections.					X
7	Install a frost proof drain valve near the shell-to-floor connection, complete with a locking device and a splash pad.		X			
9	Install 30" secondary shell manway 180° from primary manway.		X	X		
	Post **Confined Space Entry** signs on primary and secondary shell manways.			X		
	Install maintenance free galvanized steel bolts on primary and secondary shell manways.					X
10	Disconnect the overflow pipe from the underground drain, install an air break complete with a flapper valve and screen.		X			
11	Install anti-skid rung covers on the existing exterior shell access ladder.					X
	Install a new cable type ladder safety device on exterior shell access ladder.			X		
	Install a lockable ladder guard on exterior shell access ladder.					X
	Post **Fall Protection Required** sign at base of exterior shell access ladder.			X		
12	Remove the co/ax from the exterior shell access ladder and secure it to the tank shell with standoffs.			X		
13	Replace the liquid level indicator.		X			
14	Install a compliant 42" high handrail system around the circumference of the tank roof, complete with intermediate rail, toeboard and a swing gate at the junction of the shell-to-roof access ladder and tank roof.			X		

PITTSBURG TANK & TOWER GROUP
MAINTENANCE DIVISION Since 1919

1 Watertank Place
PO Box 1849
Henderson, KY 42419
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F: (270) 767-6912
www.pttg.com

Page #	Work Proposed	Critical Deficiency	NON-Critical Deficiency	OSHA	Structural	Preventive Maintenance
15	Post **Confined Space Entry** sign on roof hatch.			X		
	Install lock on primary roof hatch.					X
16	Post **Confined Space Entry** sign on secondary access point /fan mount.			X		
	Install new lock on existing roof hatch.					X
17	Replace the existing roof vent with a vacuum-pressure, frost proof vent and screen. **This work should be performed on an emergency basis.**	X			X	
18	Pressure wash the tank exterior with biodegradable detergent injection (minimum 3,500 psi at 3.0 gpm) then remove all loose rust and scale with wire brushes and hand scrapers in accordance with SSPC#2 (hand tool cleaning), spot prime and apply one (1) finish coat of acrylic paint.					X
19	In cold climates it's up to the owner's discretion on placement of internal ladders. Install a compliant interior access ladder complete with standoffs every 10' on center at the primary roof hatch.			X		
	Install a cable type ladder safety device on interior access ladder.			X		
20	Seam seal all un-welded interior roof lap seams using Sikaflex® 1a.					X
21	Seal the circumference of the interior roof-to-rim angle connection using Sikaflex® 1a.					X
22	Install a mixing system. Electrical work to be done by others.		X			
23	Install a passive cathodic protection system.					X
25	Sandblast all rusted and abraded interior areas to SSPC-SP10 (near white), and brush blast all remaining interior areas to SSPC-SP7; then apply one (1) spot coat of epoxy primer to all areas sandblasted to #10, stripe coat all weld seams, and apply one (1) full coat of epoxy to the entire tank, to achieve 8 to 10 mils of total dry film thickness. Total mil thickness will include a combination of the existing and new coating.					X

Attachment 11-2

INVOICE

Pittsburg Tank & Tower Maint. Co.
1 Watertank Place
PO Box 1849
Henderson, KY 42419
Voice: 270-869-9400
Fax: 270-215-5719

Invoice Number: 14113
Invoice Date: Apr. 23, 2018
Page: 1

Bill To:
FARMDALE WATER DISTRICT
ATTN: DAVID ROBINSON
100 HIGHWOOD DRIVE
FRANKFORT, KY 40601

Job Location:
FARMDALE WATER DISTRICT
ROV INSPECTION & ROV CLEAN OUT
(1) 223,000 GAL STP
FRANKFORT , KY 40601

Customer ID	Customer PO	Payment Terms	
FARMWATE		Net 30 Due	
Job ID	**Work Order**	**Ship Date**	**Due Date**
318079			05-23-18

Description	Amount
COMPLETION OF ROV INSPECTION & ROV CLEAN OUT ON (1) 223,000 GALLON STANDPIPE	2,150.00

PAID
5-4-18
CK# 26924

Amount Billed	$2,150.00
Total Tax	.00
Retainage Held	.00
TOTAL	**$2,150.00**

We now accept Visa, Mastercard and American Express

INVOICE

Pittsburg Tank & Tower Maint. Co.
1 Watertank Place
PO Box 1849
Henderson, KY 42419
Voice: 270-869-9400
Fax: 270-215-5719

Invoice Number: 14348
Invoice Date: Jun. 20, 2018
Page: 2

PAID 8-2018
CK # 27148

Bill To:
FARMDALE WATER DISTRICT
ATTN: DAVID ROBINSON
100 HIGHWOOD DRIVE
FRANKFORT, KY 40601

Job Location:
FARMDALE WATER DISTRICT
REPAIR
(1) 223,000 GAL STP
FRANKFORT, KY 40601

Customer ID	Customer PO	Payment Terms	
FARMWATE		Net 30 Due	
Job ID	**Shipping Method**	**Ship Date**	**Due Date**
218139	None		07-20-18

Description	Amount
Install a compliant 42" high handrail system around the circumference of the tank roof, complete with intermediate rail, toeboard and a swing gate at the junction of the shell-to-roof access ladder and tank roof.	2,340.00
Post Confined Space Entry sign on roof manway. Install lock on primary roof manway.Post Confined Space Entry sign on secondary access point/ fan mount. Install new lock on existing roof manway.	
Replace the existing roof vent with a vacuum-pressure, frost proof vent and screen.	2,800.00
Seam seal all un-welded interior roof lap seams using Sikaflex® 1a.	2,000.00
Seal the circumference of the interior roof-to-rim angle connection using Sikaflex® 1a.	1,600.00
Install a passive cathodic protection system.	4,300.00
WE ARE BILLING 50% WITH ORDER	

Amount Billed	$22,740.00
Total Tax	.00
Retainage Held	.00
TOTAL	**$22,740.00**

We now accept Visa, Mastercard and American Express

INVOICE

Pittsburg Tank & Tower Maint. Co.
1 Watertank Place
PO Box 1849
Henderson, KY 42419
Voice: 270-869-9400
Fax: 270-215-5719

Invoice Number: 14348
Invoice Date: Jun. 20, 2018
Page: 1

Bill To:
FARMDALE WATER DISTRICT
ATTN: DAVID ROBINSON
100 HIGHWOOD DRIVE
FRANKFORT, KY 40601

Job Location:
FARMDALE WATER DISTRICT
REPAIR
(1) 223,000 GAL STP
FRANKFORT, KY 40601

Customer ID	Customer PO	Payment Terms	
FARMWATE		Net 30 Due	
Job ID	**Shipping Method**	**Ship Date**	**Due Date**
218139	None		07-20-18

Description	Amount
Repair any cracks and spalling in the concrete with a commercial nonshrinking grout. Re-grout around the base of the tank to foundation connection. Seal the foundation with a sealant.	2,250.00
Electrically ground the tank.	725.00
Clean the area around the anchor bolts, tighten the anchor nuts to specifications, then tack weld on the circumference of the nut-to-base plate connections and tack weld the bolt-to-nut connections.	200.00
Install 30" secondary shell manway 180° from primary manway. Post Confined Space Entry signs on primary and secondary shell manways.Install maintenance free galvanized steel bolts on primary and secondary shell manway.	1,975.00
Disconnect the overflow pipe from the underground drain, install an air break complete with a flapper valve and screen.	1,750.00
Install anti-skid rung covers on the existing exterior shell access ladder.	1,700.00
Install a new cable type ladder safety device on exterior shell access ladder.	1,100.00

We now accept Visa, Mastercard and American Express

continued

INVOICE

Pittsburg Tank & Tower Maint. Co.
1 Watertank Place
PO Box 1849
Henderson, KY 42419
Voice: 270-869-9400
Fax: 270-215-5719

Invoice Number: 14437
Invoice Date: Jul. 25, 2018
Page: 1

Bill To:
FARMDALE WATER DISTRICT
ATTN: DAVID ROBINSON
100 HIGHWOOD DRIVE
FRANKFORT, KY 40601

Job Location:
FARMDALE WATER DISTRICT
REPAIR
(1) 223,000 GAL STP
FRANKFORT, KY 40601

Customer ID	Customer PO	Payment Terms	
FARMWATE		Net 30 Due	
Job ID	**Work Order**	**Ship Date**	**Due Date**
218139			08-24-18

Description	Amount
COMPLETION OF WORK LESS PREVIOUS BILLED	22,740.00

PAID
8-3-18
CK # 27115

Amount Billed	$22,740.00
Total Tax	.00
Retainage Held	.00
TOTAL	**$22,740.00**

MasterCard, Visa and American Express are accepted.
Payments made by credit card will be subject to a processing fee of 3%.
Interest may be applied to payments not received in accordance to payment terms.

Attachment 11-3

FARMDALE WATER DISTRICT
COOLBROOK STANDPIPE
SEMI-ANNUAL
SAFETY INSPECTION SHEET

EMPLOYEE INITIALS	OR		OR		OR			
SCHEDULED	1/1/2018		7/1/2018		1/1/2019			
COMPLETED	1-4-18		OR 7-6		1-4-19			
ITEM								
	OK	DEV	OK	DEV	OK	DEV	OK	DEV
PIPES & FITTINGS	x		x		x			
CONTROL EQUIPMENT	x		x		x			
OVERFLOW		x	x		x			
LADDERS		x	x		x			
PAINT	x		x		x			
GENERAL CONDITION	x		x		x			

Inspected by Pittsburg Tank March 2018
Safety cage on ladder, overflow repaired, rail on top of tank installed.

Attachment 11-4

FARMDALE WATER DISTRICT
STEWART HOME TOWER
SEMI-ANNUAL
SAFETY INSPECTION SHEET

EMPLOYEE INITIALS	OR		OR		OR			
SCHEDULED	**1/1/2018**		**7/1/2018**		1-1-19		7-1-19	
COMPLETED	1-4-18		7-6-18		1-4-19			
ITEM	**OK**	**DEV**	**OK**	**DEV**	**OK**	**DEV**	**OK**	**DEV**
PIPES & FITTINGS	✓		✓		✓			
CONTROL EQUIPMENT	✓		✓		✓			
OVERFLOW	✓		✓		✓			
LADDERS	✓		✓		✓			
PAINT	✓		✓		✓			
GENERAL CONDITION	✓		✓		✓			

Attachment 11-5

FARMDALE WATER DISTRICT
STEWART HOME PUMP STATION
SEMI-ANNUAL
SAFETY INSPECTION SHEET

EMPLOYEE INITIALS	DR		DR		DR			
SCHEDULED	**1/1/2018**		**7/1/2018**		1-1-2019		7-1-2019	
COMPLETED	1-4-18		7-6-18		1-4-2019			
ITEM	**OK**	**DEV**	**OK**	**DEV**	**OK**	**DEV**	**OK**	**DEV**
ROOF	✓		✓		✓			
WALLS	✓		✓		✓			
FLOOR	✓		✓		✓			
DOORS AND LOCKS	✓		✓		✓			
VENTILATION	✓		✓		✓			
HOUSE KEEPING	✓		✓		✓			
LIGHTING	✓		✓		✓			
GENERAL CONDITION	✓		✓		✓			
HEATING	✓		✓		✓			
PUMPS	✓		✓		✓			
PIPES & FITTINGS	✓		✓		✓			
~~**SUMP PUMP**~~								
CONTROL EQUIPMENT	✓		✓		✓			

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 12

Responding Witness: Brian Armstrong

Q-12. Refer to the water utility's response to the March 12 Order, Item 14.

a. Provide the cost and purchase date of all equipment the water utility identified in its response.

b. State how frequently the identified leak detection equipment items are utilized by the water utility.

A-12.

a-b. The Fire Hydrant Meter (to measure volume of water flushed) was purchased on November 5, 2018 for $839.95. It is used weekly.

The AC Pipe Cutter was purchased on June 26, 2018 for $564.95. It is used on an "as needed" basis. It has been used at least 4 times during the 11 months that Farmdale has had it.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 13

Responding Witness: Brian Armstrong

Q-13. Refer to the water utility's response to the March 12 Order, Item 16. For water utilities that responded that they have no written policy to identify errors that result in missed customer billings or under billings of customer accounts, state whether writing and adopting a formal written policy regarding this would be considered by its board of commissioners or directors, and if not state why not.

A-13. As discussed in its response to Commission's Initial Request for Information, Farmdale's office staff reviews all bills for inaccuracies and abnormal usage and corrects errors found before mailing the monthly customer bills. No formal policy exists because these errors do not occur often. Farmdale investigates the problem and makes necessary revisions as they arise.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 14

Responding Witness: Brian Armstrong

Q-14. Refer to the water utility's response to the March 12 Order, Item 17. For water utilities that responded that they cannot accurately verify through testing how much water they produce at their water treatment plant, state how the water utility can accurately assess its water loss with an unverified production meter.

A-14. N/A because Farmdale does not produce or treat its water.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 15

Responding Witness: Brian Armstrong

Q-15. Refer to the water utility's response to the March 12 Order, Item 18.

a. For water utilities that provided test results and had master meters that failed tests, state whether those master meters were replaced or repaired and provide the dates when they were replaced or repaired.

b. For water utilities that could not provide test results, provide any previous test results of the water utility's master meters or those from the wholesale provider from any previous date.

A-15.

a. The Moss Lane master meter failed the initial test on April 2, 2019. Frankfort Electric and Water Plant Board rebuilt the Moss Lane master meter on May 2, 2019. The test results on May 2, 2019, after the rebuilding process was completed, are attached.

b. N/A

FRANKFORT PLANT BOARD

F.P.B. COLD WATER METER DEPARTMENT

WATER METER INSPECTION & TEST REPORT

LOCATION: Moss Ln TEST DATE: 5/2/19

OWNER: Farmdale Water District

F.P.B. Co. # 70103336 MFG. # 70103336

-TESTERS/ EMPLOYEE # 236

Date installed	Meter size	Meter brand & type	Length of meter	Length of strainer	Bypass	Air Quality Test
8/21/15	6"	Neptune Compound	24"	9"	(Y) N On___ Off___	
Type of Test Field (Bench)	Water in pit Y___ N ✓	Electric in pit Y___ N ✓	Sump Pump Y___ N ✓	Ladder Y ✓ N___	Valves Operable Y ✓ N___	Pit clean Y ✓ N___
TEST RESULTS:		HIGH: Test 1: 98.82 Test 2: Test 3:	INTERM. Test 1: 100.08 Test 2: Test 3:	LOW Test 1: 99.61 Test 2: Test 3:	Before Reading 6" - 46 1" - 86922	After Reading same same

Comments:

Installed New UME

6" MIU # 1834464974

1" MIU # 1834454663

Approved by: [signature] Date: 5/2/19

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 16

Responding Witness: Brian Armstrong

Q-16. Refer to the water utility's response to the March 12 Order, Item 19. Provide the total number of customer meters that are greater than ten years old that a water utility currently has in service, if any, and provide any previous tests for each of these meters. If the meter has not been tested, please state in the affirmative and state why it has not been tested.

A-16. N/A. See Farmdale's Response to the Commission's Initial Request for Information. All of Farmdale's customer meters are less than ten (10) years old because Farmdale switched to "radio-read" meters in 2012.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 17

Responding Witness: Brian Armstrong

Q-17. Refer to the water utility's response to the March 12 Order, Item 22. For water utilities that do not utilize supervisory control and data acquisition (SCADA) technology within its system, state the reasons why the water utility does not utilize SCADA technology within its system.

A-17. N/A. Farmdale uses SCADA technology.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 18

Responding Witness: Brian Armstrong

Q-18. Refer to the water utility's response to the March 12 Order, Item 23. For water utilities that do not utilize telemetry within its system, state the reasons why the water utility does not utilize telemetry within its system.

A-18. N/A. Farmdale uses telemetry.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 19

Responding Witness: Brian Armstrong

Q-19. Refer to the water utility's response to the March 12 Order, Item 26.

a. For water utilities that currently utilize master meter zones in leak detection, state how the data from the zone meters is used to reduce water loss and whether the water utility has a sufficient number of zone meters to monitor its entire system.

b. For water utilities that currently do not utilize master meter zones in leak detection, state with specific detail whether doing so would assist in the water utility's water loss reduction efforts or why it would not.

A-19.

a. I use the data from the zone meters to locate leaks. Between 8:00 AM and 9:00 AM every morning, I manually read each of the zone meters and compare that day's usage to previous days and notice when usage deviates from average usage at that meter. When usage increases, I go to the zone and try to locate a leak. Farmdale has a sufficient number of zone meters, but has not been able to fully take advantage of them because of limited personnel and the unexpected retirement of its former Manager in August 2018.

b. N/A

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 20

Responding Witness: Brian Armstrong

Q-20. Refer to the water utility's response to the March 12 Order, Item 31.

a. Provide the approximate hourly rate for the water utility's general manager/superintendent for the calendar years 2017 and 2018 utilizing actual hours worked, or if by salary by dividing the monthly salary by the standard 173.3 hours worked per month.

b. Provide the job title and job description for the general manager/superintendent from the water utility's handbook, if such a handbook exists. If the water utility does not currently have a handbook, provide the job title and a detailed job description for the general manager/superintendent that includes job duties.

A-20.

a. Farmdale's Manager is paid $20.00 per hour. He was hired in June 2018. His predecessor's salary was provided in response to Q-31 of the Commission's Initial Request for Information dated March 12, 2019 and filed on April 12, 2019.

b. Farmdale does not have a written job title or job description for its Manager. Farmdale only has two (2) "outside employees." One of these is the Manager. Thus, the Manager works primarily as a

Distribution Operator. He is also training Farmdale's other "outside employee." This employee has only been on the job for approximately two (2) months.

Attached is a section from Farmdale's Distribution System Operation & Maintenance Manual which describes some of the duties performed by the Manager when he is working as a Distribution Operator.

- Total water usage by zone

2. Routine Procedures (Daily/Weekly/Monthly):

A. MASTER METERS: Read & record purchase meters from Frankfort.

B. RECORDING READINGS: Master meter readings are maintained in a spreadsheet.

C. METER READING SCHEDULES: Meters are read at approximately the same time each month.

D. FIELD PERSONNEL: All distribution personnel (meter readers, maintenance, etc.), shall immediately report any identified water leaks, tank overflows, or other concerns that are presently or could result in water leaks or loss. Water leaks, given the urgency of the problem reported are repaired immediately or at the earliest possible time,

E. OFFICE PERSONNEL: All office personnel shall immediately report any customer reported leaks, tank overflows, pressure problems, or other issues (whether during regular operational hours or after hours) to the Maintenance Foreman.

F. RECORDING DATA: Daily and monthly records (via computer data bases, manual logs, or spreadsheets) shall be maintained by appropriate personnel to record and analyze the following information:
   - Daily master meter readings
   - Pump station run times
   - Estimated water losses from line breaks, tank overflows, hydrant usage, flushing, etc.
   - Metered customer water sales by route

G. DATA ANALYSIS: Water production and usage data obtained and recorded (item F above) shall be evaluated and analyzed on a daily/weekly/monthly basis to determine:
   - Metered usage
   - Known losses from line breaks, etc.
   - Water loss by distribution zone
   - Focus on distribution system zones: As funding permits, additional master meters and by-pass meters will be installed to further isolate smaller portions of the

distribution system in order to more accurately identify and correct water loss problems in specific areas of the system.

H. METER TESTING AND REPLACEMENT: Customer meters will be tested every ten years to ensure that they are registering water accurately. Meters between 1" and 3" shall be tested every three years and meters larger than 4" shall be tested annually. All meters will be replaced, as warranted.

3. LEAK DETECTION PROCEDURES

A. FIELD PERSONNEL: On a routine basis, as system operations permit, the Water Works Supervisor will assemble a leak detection team to check the by-pass meter in each zone during a time when customer usage is minimal. This allows field personnel to go valve to valve (and often meter to meter) with listening devices and detect abnormal flows without affecting customer service. Personnel will perform leak detection in those areas with the highest known water loss, based on routine data collection and analysis.

B. OUTSIDE CONSULTANTS: Outside consultants such as Kentucky Rural Water, contract engineer or industry specialists are utilized as circumstances dictate.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 21

Responding Witness: Brian Armstrong

Q-21. Refer to the water utility's response to the March 12 Order, Item 35. For water utilities that have not mapped their distribution area for service lines and connections, provide specific detail of the process of how the water utility locates its service lines and connections.

a. State the process for water utility responses to 811 calls for line locates.

b. Provide an approximate date of completion for the water utility to map their entire distribution system for service lines and connections.

A-21.

a. Farmdale does not receive many 811 line locate requests. But when a request is received, Farmdale usually marks the line the same day it receives the call. If it is not taken care of the same day, Farmdale completes the task within 48 hours of the request. If Farmdale is unsure of the area and whether a line exists there, it will spot-dig to attempt to discover the line.

b. All meters are already mapped. I do not believe it is cost effective to map the entire distribution system for service connection lines. Farmdale employs VanGuard Mapping Solutions to keep its electronic

map up to date. Farmdale plans to continue to map all new service connection lines and meters, but it is not feasible to map old service connection lines.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 22

Responding Witness: Brian Armstrong

Q-22. Refer to the water utility's response to the March 12 Order, Item 37a. For water utilities that have not requested prosecution of water theft (a.k.a. theft of services) by either the county attorney or commonwealth attorney's office, state the reasons why such requests have not been made.

A-22. Theft of service does not happen very often and has never been severe enough for prosecution. Instead of prosecuting water theft, Farmdale treats the user as if he or she had not paid the water bill. Farmdale simply removes the meter. After the meter is removed, the customer must come in to the office and pay the delinquent amount on the account to make it current. The customer must also pay a $60 reconnect fee before the meter can be reinstalled.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 23

Responding Witness: Brian Armstrong

Q-23. Refer to the water utility's response to the March 12 Order, Item 38. For a water utility that has stated in the affirmative that a leak adjustment is permitted, provide the current leak adjustment rate and applicable tariff page from the water utility's tariff on file with the Commission.

A-23. N/A. Farmdale does not permit a leak adjustment.

FARMDALE WATER DISTRICT

CASE NO. 2019-00041

Response to Commission's Second Request for Information

Question No. 24

Responding Witness: Brian Armstrong

Q-24. Refer to the water utility's response to the March 12 Order, Item 44. For utilities that responded that they currently do not have flushing equipment, state whether its board of commissioners or directors has ever discussed the purchase of flushing equipment to improve the water utility's system. Provide any applicable board minutes as an attachment to this request.

A-24. N/A. Farmdale uses a hydrant meter for flushing.

CERTIFICATE OF SERVICE

In accordance with 807 KAR 5:001, Section 8, I certify that Farmdale Water District's electronic filing of this Response is a true and accurate copy of the same document being filed in paper medium; that the electronic filing was transmitted to the Public Service Commission on May 31, 2019; that there are currently no parties that the Public Service Commission has excused from participation by electronic means in this proceeding; and that an original paper medium of this Response will be delivered to the Public Service Commission within two business days.

Damon R. Talley