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DEC 202019 PUBLIC SERVICE COMMISSION

#### **GRAVES COUNTY WATER DISTRICT**

December 19, 2019

Kentucky Public Service Commission Attn: Mary Purvis 211 Sower Boulevard Frankfort, KY 40602-0615

Case Number: 2019-00347

Ms. Purvis,

Attached you will find documentation that needs to be added to our current case file. If you have any questions please give us a call.

Sincerely,

Kevin Leonard Water and Wastewater Manager

> 301 East Broadway Mayfield, KY 42066 Phone: 270-247-4661 Fax: 270-247-0550

# **Graves County Water District**

On behalf of the Graves County Water District these are the steps of implementation for the Water Loss Control Program:

- 1. Bid/purchase of hydro-excavator 12/1/19-12/1/20
- 2. Hire full-time position for leak specialist. 12/1/19
  - a. Move leak loggers daily and utilize listening equipment
- 3. Establish type of meters to utilize for DMA. 2/1/20
  - a. We currently have two active test sites.
- 4. DMA sites established. 1/1/20 1/1/22
- 5. Installation of DMA meters. 1/1/20 1/1/22
- 6. Installation of Pressure sensors and PRV monitors. 2/2/23
- 7. Set up IOT for interface with AMI meters, DMA's, SCADA tank data, 1/1/21
- 8. Continue to establish workflow for DMA information to field crews. 1/1/21
- Complete build out of infrastructure for long-term leak predictive analysis and response. 1/1/20-1/1/23
- 10. Leaks in check and system wide monitoring built on the established infrastructure. 12/1/26

This project is the first in Kentucky that I am aware of. A vast amount of research and training continues to make the items mentioned above dynamic in nature. The predictive analysis software that will incorporate all other platforms (AMI, SCADA, DMA sites, Pressure, GIS, Work order system, etc.) is a vital part of capturing and monitoring all the water loss in the systems for long-term success. I hope that the Commission will take this under consideration when evaluating our progress.

Sincerely, Kevin Léonard

Water and Wastewater Manager Mayfield Electric & Water Systems 301 East Broadway Mayfield, KY 42066

Water Utility:	Consumer Water District		
For the Month of:	November	Year:	2019

WATER PRODUCED, PURCHASED & DISTRIBUTED           Water Produced         8,594,000           Water Purchased         8,594,000           Water Purchased         8,594,000           Water SALES         6,187,200           Commercial         6,187,200           Industrial         260,700           Industrial         6,447,900           Vholesale         0           Other Sales         6,447,900           Total Water Plant         75.0%           Utility and/or Water Treatment Plant         Wastewater Plant           System Flushing         Fire Department           Other
3       Water Purchased       8,594,000         4       TOTAL PRODUCED AND PURCHASED       8,594,000         5       6       WATER SALES         6       Water Number of Stations       6,187,200         7       Residential       6,187,200         260,700       Industrial       260,700         9       Industrial       260,700         10       Bulk Loading Stations       260,700         11       Wholesale       0ther Sales         12       Other Sales       75.0%         14       TOTAL WATER SALES       6,447,900         75.0%       Total Water Sales       75.0%         14       TOTAL WATER SALES       6,0447,900         15       Other Mater Treatment Plant       75.0%         16       Utility and/or Water Treatment Plant       75.0%         17       Wastewater Plant       5         20       Other
4         TOTAL PRODUCED AND PURCHASED         8,594,000           5         WATER SALES         6,187,200         260,700           7         Residential         260,700         260,700           9         Industrial         260,700         260,700           9         Bulk Loading Stations         0         260,700           10         Bulk Loading Stations         0         260,700           11         Wholesale         0         0           12         Other Sales         0         75.0%           13         TOTAL WATER SALES         6,447,900         75.0%           14         OTHER WATER USED         0         75.0%           14         Other Sales         0         17.0%           15         OTHER WATER USED         0         75.0%           16         Utility and/or Water Treatment Plant         Wastewater Plant         18           19         Fire Department         0         0         0           20         Other
5         6       WATER SALES         7       Residential       6,187,200         8       Commercial       260,700         9       Industrial       0         10       Bulk Loading Stations       260,700         11       Wholesale       0         12       Other Sales       6,447,900         13       TOTAL WATER SALES       6,447,900         14       TOTAL WATER SALES       6,447,900         15       OTHER WATER USED       0         16       Utility and/or Water Treatment Plant       Wastewater Plant         17       Wastewater Plant       System Flushing         19       Fire Department       0         20       Other
6       WATER SALES         7       Residential       6,187,200         8       Commercial       260,700         9       Industrial       260,700         9       Italian       260,700         10       Bulk Loading Stations       260,700         11       Wholesale       0         12       Other Sales       6,447,900         13       TOTAL WATER SALES       6,447,900         14       OTHER WATER USED       75.0%         15       OTHER WATER USED       17         16       Utility and/or Water Treatment Plant       18         17       Wastewater Plant       18         18       System Flushing       19         19       Fire Department       0         20       Other
7       Residential       6,187,200         8       Commercial       260,700         9       Industrial       260,700         10       Bulk Loading Stations       260,700         11       Wholesale       0ther Sales         12       Other Sales       6,447,900         13       TOTAL WATER SALES       6,447,900         14       TOTAL WATER SALES       6,447,900         15       OTHER WATER USED       75.0%         16       Utility and/or Water Treatment Plant       Wastewater Plant         17       Wastewater Plant       System Flushing         19       Fire Department       Other         20       Other
8       Commercial       260,700         9       Industrial       10         10       Bulk Loading Stations       11         11       Wholesale       0         12       Other Sales       6,447,900         13       TOTAL WATER SALES       6,447,900         14       5       OTHER WATER USED         16       Utility and/or Water Treatment Plant       75.0%         18       System Flushing         19       Fire Department         20       Other         21       TOTAL OTHER WATER USED
9       Industrial         10       Bulk Loading Stations         11       Wholesale         12       Other Sales         13       TOTAL WATER SALES         14       6,447,900         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
10       Bulk Loading Stations         11       Wholesale         12       Other Sales         13       TOTAL WATER SALES         14       6,447,900         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         21       TOTAL OTHER WATER USED
11       Wholesale         12       Other Sales         13
12       Other Sales         13       TOTAL WATER SALES       6,447,900         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
TOTAL WATER SALES       6,447,900       75.0%         14       0THER WATER USED       15       0THER WATER USED         16       Utility and/or Water Treatment Plant       17       Wastewater Plant         17       Wastewater Plant       18       System Flushing         19       Fire Department       0       0         21       TOTAL OTHER WATER USED       - 0.0%
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         20       0.0%
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         20       0.0%
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         20       0.0%
16       Utility and/or Water Treatment Plant         17       Wastewater Plant         18       System Flushing         19       Fire Department         20       Other         21       TOTAL OTHER WATER USED         20       0.0%
<ul> <li>17 Wastewater Plant</li> <li>18 System Flushing</li> <li>19 Fire Department</li> <li>20 Other</li> <li>21 TOTAL OTHER WATER USED - 0.0%</li> </ul>
18       System Flushing         19       Fire Department         20       Other         21       TOTAL OTHER WATER USED         -       0.0%
19         Fire Department           20         Other           21         TOTAL OTHER WATER USED
20         Other
21 TOTAL OTHER WATER USED - 0.0%
22
23 WATER LOSS
24 Tank Overflows
25 Line Breaks
26 Line Leaks 2,146,100
27 Other
28 TOTAL LINE LOSS 2,146,100 25.0%
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) 25.0%

Water Utility:	Fancy Farm Water Disrtrict	······	
For the Month of:	November	Year:	2019

LINE #	ITEM	GALLONS (Omit 000's)	
1	WATER PRODUCED, PURCHASED & DISTRIBUTED		
2	Water Produced		
3	Water Purchased	2,816,000	
4	TOTAL PRODUCED AND PURCHASED	2,816,000	
5			0
6	WATER SALES		
7	Residential	1,356,000	
8	Commercial	152,600	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale	782,900	
12	Other Sales		
13	TOTAL WATER SALES	2,291,500	81.4%
14			
15	OTHER WATER USED		1
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	524,500	
27	Other		
	2		
28	TOTAL LINE LOSS	524,500	18.6%
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)	18.6%	
			1

Water Utility:	Hardeman Water District		
For the Month of:	November	Year:	2019

LINE #	ITEM	GALLONS (Omit 000's)	
1	WATER PRODUCED, PURCHASED & DISTRIBUTED		
2	Water Produced		
3	Water Purchased	2,147,000	
4	TOTAL PRODUCED AND PURCHASED	2,147,000	
5			
6	WATER SALES		
7	Residential	1,181,100	
8	Commercial	277,300	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales		
13	TOTAL WATER SALES	1,458,400 <mark>67.9</mark>	%
14			
15	OTHER WATER USED		
	Utility and/or Water Treatment Plant		
17	Wastewater Plant		
18	System Flushing		
19	Fire Department	전 명이 집에서 집 집에서?	
20	Other		
21	TOTAL OTHER WATER USED	- 0.0%	Ď
22	WATER LOOP		
23 24	WATER LOSS Tank Overflows		
24 25	Line Breaks		
25 26	Line Breaks	688 600	
26 27	Other	688,600	
21			
28	TOTAL LINE LOSS	688,600 32.1	0/
29	TOTAL LINE LOOS	52:1	70
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4		
31	Note. Line 15 - Line 21 - Line 20 Must Lyuai Line 4		
32	WATER LOSS PERCENTAGE		
33	Unaccounted-For Water (Line 28 divided by Line 4)	32.1%	
		<b>32</b> , 170	

Water Utility:	Hickory Water District		
For the Month of:	November	Year:	2019

LINE #	ITEM	GALLONS (Omit 000's)
1	WATER PRODUCED, PURCHASED & DISTRIBUTED	
2	Water Produced	8,144,000
3	Water Purchased	
4	TOTAL PRODUCED AND PURCHASED	8,144,000
5		
6	WATER SALES	
7	Residential	4,165,000
8	Commercial	2,501,600
9	Industrial	
10	Bulk Loading Stations	
11	Wholesale	
12	Other Sales	
1200.00		
13	TOTAL WATER SALES	6,666,600 <mark>81.9</mark> %
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%
21		- 0.0%
22	WATER LOSS	
24	Tank Overflows	
25	Line Breaks	80,000
26	Line Leaks	1,397,400
27	Other	
28	TOTAL LINE LOSS	1,477,400 18.19
29		
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4	
31	22	
32	WATER LOSS PERCENTAGE	
33	Unaccounted-For Water (Line 28 divided by Line 4)	18.1%

Water Utility:	Sedalia Water District		
For the Month of:	November	Year:	2019

LINE #	ITEM	GALLONS (Omit 000's)
1	WATER PRODUCED, PURCHASED & DISTRIBUTED	
2	Water Produced	480,700
3	Water Purchased	
4	TOTAL PRODUCED AND PURCHASED	480,700
5		
6	WATER SALES	
7	Residential	360,000
8	Commercial	82,900
9	Industrial	
10	Bulk Loading Stations	
11	Wholesale	
12	Other Sales	
13	TOTAL WATER SALES	442,900 <mark>92.1%</mark>
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	IOTAL OTTICK WATCH OSED	0.0%
23	WATER LOSS	
24	Tank Overflows	And the second sec
25	Line Breaks	
26	Line Leaks	37,800
27	Other	
28	TOTAL LINE LOSS	37,800 7.9%
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)	7.9%
		Territoria and the second s

Water Utility:	South Graves		
For the Month of:	November	Year:	2019

LINE #	ITEM	GALLONS (Omit 000's)	
1	WATER PRODUCED, PURCHASED & DISTRIBUTED		
2	Water Produced	5,067,000	
3	Water Purchased		
4	TOTAL PRODUCED AND PURCHASED	5,067,000	
5			
6	WATER SALES		
7	Residential	2,071,100	
8	Commercial	263,300	
9	Industrial		
10	Bulk Loading Stations		
11	Wholesale		
12	Other Sales		
13	TOTAL WATER SALES	2,334,400	46.1%
14			
15	OTHER WATER USED		
	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	2,732,600	
27	Other	동안 가지 않는 것이 없었다.	
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28	TOTAL LINE LOSS	2,732,600	53.9%
29			
30	Note: Line 13 + Line 21 + Line 28 Must Equal Line 4		
31			
32	WATER LOSS PERCENTAGE		ř.
33	Unaccounted-For Water (Line 28 divided by Line 4)	53.9%	