

Gallatin County Water District
Water Loss and Leak Detection Program

The Gallatin County Water District has a distribution system consisting of approximately 125 miles of transmission mains, 2,000 customer services, 2 wells, 5 booster pump stations and 5 water storage tanks. The District produces around 96% of its water supply and purchases the remaining 4% from the City of Warsaw. Since the 2011 annual report reflected a water loss of 16.7 percent the District has taken a more proactivity stance on monitoring and reporting water loss.

The following plan outlines processes and procedures that the Gallatin County Water District will conduct on a routine basis to monitor, repair leaks and identify un-metered water usage and reduce its overall water loss.

1. ROUTINE PROCEDURES (Daily/Weekly/Monthly):
 - A. COMMUNICATIONS: Monthly meetings to address the status of water loss by personnel from the office, distribution staff and board members assure a team effort to minimize water loss.
 - B. MASTER METERS: Read & record all master meter readings through the distribution system at approximately the same time each day:
 - Well A – Meadowlark Lane
 - Well B – Hwy. 1992 Steeles Bottom
 - Dry Creek – City of Warsaw (purchased water)
 - C. RECORDING READINGS: All master meter readings are recorded daily on the meter reading log sheets located at each master meter location.
 - D. CONSISTENT METER READING SCHEDULES: Customer meters are read on approximately the same day each month starting around the 16th day and ending on the 20th day. This ensures that any inconsistencies are identified and potential service line problems are identified and corrected.
 - E. FIELD PERSONNEL RESPONSIBILITES: All distribution personnel shall immediately report to their supervisor any identified water leaks, tank overflow, telemetry problems or other concerns that could result in water leaks or loss.
 - F. OFFICE PERSONNEL RESPONSIBILITES: 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 Superintendent. The Superintendent will determine whether a field crew needs to be dispatched immediately or later, based on the urgency of the problem.

G. RECORDING DATA: Daily and monthly records (via computer data bases, manual logs, or spreadsheets) shall be maintained by appropriate supervisory personnel to record and analyze the following information:

- Daily and Weekly Master Meter Readings
- Pump station run times
- Estimated water losses from line breaks, tank overflows , hydrant usage, etc.
- Metered customer water sales by route
- Other un-metered water usage

H. DATA ANALYSIS: Water purchased and usage are obtained and recorded (item G above) shall be evaluated and analyzed on a daily/weekly monthly basis to determine:

- Water production and purchase amounts
- Metered usage
- Known un-metered usage
- Known losses from line breaks, etc.
- Water loss by distribution zone

I. FOCUS ON DISTRIBUTION SYSTEM ZONES: The Water District's present system has three zones as per the above master meter locations.

- Master meter readings will be entered in an excel spread sheet daily to identify excess usage that may indicate a water line break.
- Monthly water loss reports will be compiled for each zone.
- Data analysis will focus on water usage and loss in each zone .

J. METER TESTING AND REPLACEMENT: Pursuant to PSC regulations, customer meters will be tested and/or replaced on a periodic schedule to ensure that they are registering water accurately.

- 4" and larger meters will be tested yearly
- 3" meters will be tested every two years
- 2" meters will be tested every three years
- 3/4 " and 1" meters will be tested or replaced every 10 years
- All meters will be replaced as warranted

2. LEAK DETECTION PROCEURES

A. DISTRICT PERSONNEL: On a routine basis (weekly/monthly or as time permits) District Personnel will be assigned to leak detection detail. All Cross Country lines will be walked to detect any leaks. Personnel will perform leak detection in areas where data collection and analysis indicates abnormal usage.

B. GATE VALVES: All gate valves are exercised twice per year as recommended by the Kentucky Division of Water Regulations. Valves which fail to operate properly will be replaced as funding permits.

C. OUTSIDE CONSULTS: Outside consultants will be utilized as circumstances and funding dictate.

3. CAPITAL IMPROVEMENTS

As funding permits, the District will prioritize and acquire the following:

- A. INTERNAL MASTER METERS
- B. BY-PASS METERS
- C. FLOW METERS
- D. GATE VAVLES
- E. UP-DATED MAPS
- F. REPLACEMENT OF OLDER TRANSMISSION MAINS

Gallatin County Water District
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Sparta, Ky. 41086
859-643-5200

March 6, 2020

Roy Gray
Utility Regulatory & Safety Investigator
Kentucky Public Service Commission
211 Sower Blvd.
P.O. Box 615
Frankfort, Ky. 40602-0615

Re: Periodic Water Inspection

Dear Mr. Gray,

In response to the water loss deficiency noted in your report dated February 14, 2020 please find below an explanation as to why the deficiency occurred and what the District plans to do to try and remedy the situation in the future.

We have taken the following actions in an effort to reduce water loss and develop a more strategic approach to water loss prevention:

- By-pass meters have been installed on all cross-country lines to monitor for leaks in those areas. A total of six (6) meters were installed in the summer of 2019.
- Currently working with our Engineers to installed zone meters in the east and west end of the distribution system. Anticipate install to be completed in early spring of 2020.
- In the process of checking all customer service lines for leaks. Anticipate a completion date of early to mid-summer 2020.
- SCDA System will be upgraded to include the new zone meters that are being installed.
- Currently working with Badger Representative Tina Master-Odgum who is attending water loss audit training through AWWOA and is using our facility as her case study. Results of the study will be made available to the District upon completion.
- We have scheduled a consultation with Jeff Lee, C & L Consultants, who specializes in leak detection for March 20, 2020.
- Leaks are repaired within 28-48 hours upon discovery

- We have set up supply and demand zones in the Beacon cellular system to monitor pumping and customer usage.

Increasing water loss is a growing concern and District staff works diligently on a daily basis to try and determine where the loss is occurring.

If you have any questions or need further information please do not hesitate to contact me at the above referenced telephone number or you may reach me on my cell at 859-393-2735.

Sincerely,



Mike Garrett
Superintendent
Gallatin County Water District