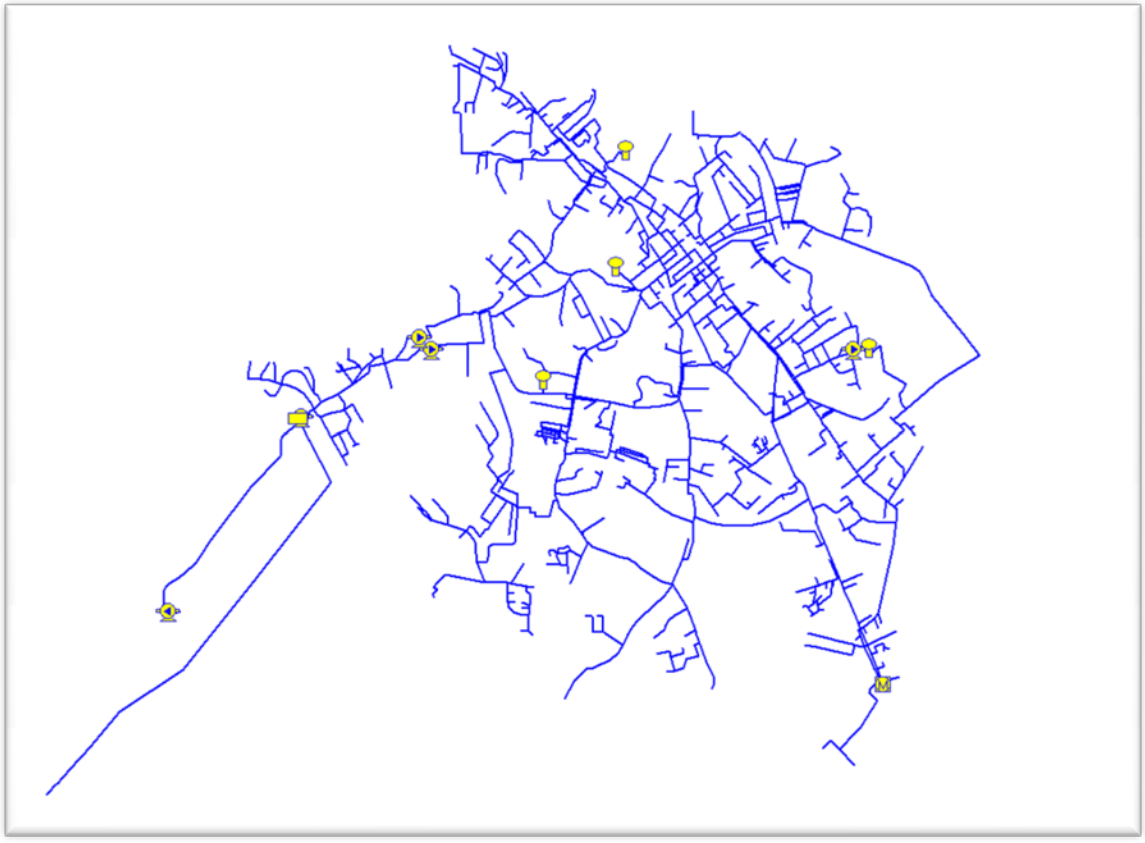
SYSTEM ID: KY 1

NARRATIVE DESCRIPTION

KY 1 is primarily a looped system in Kentucky with the following assets: 2 Tanks, 1 Pumps, 0 Pumping Stations, 0 Water Treatment Plant, and approximately 546,600 feet of pipe. KY 1 provides 2.0 million gallons of water per day to its 4,000 customers at a rate which ranges between $4.00 and $6.00 per 1,000 gallons of water. Water loss for KY 1 is estimated at 21% of the water produced.

NETWORK SCHEMATIC:



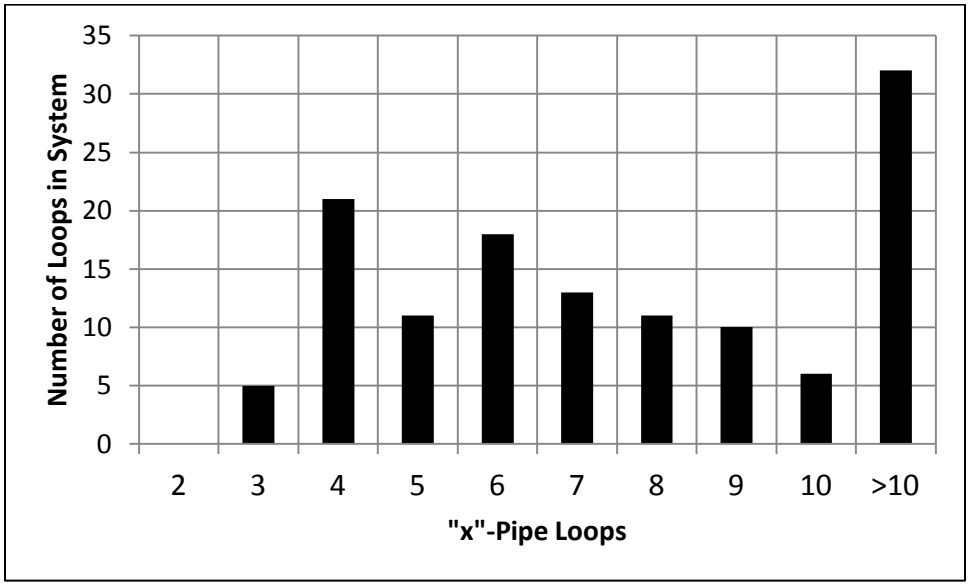
HISTORY OF THE NETWORK FILE

KY 1 was originally created by Matthew Jolly and Amanda Lothes in 2012 as part of the journal article “Research Database of Water Distribution System Models” which was published in 2014 in the *Journal of Water Resources Planning & Management*. This model was updated by Stacey Schal in 2013, and then updated again by Steven Hoagland in 2014.

AVAILABLE INFORMATION

Physical attributes	YES
Schematic diagram	YES
Network geometry data	YES
GIS data file	YES
Background map	YES
Elevation data	YES
Pipe data	YES
Pipe material	YES
Pipe age	YES
Pipe pressure class	YES
Nominal or actual diameters	YES
Pump data	YES
Useful horsepower	YES
Pump operating curves	NO
Tank data	YES
Elevation data	YES
Stage storage curves	NO
Water quality information	NO
Valve data	NO
PRV/FCV data	NO
Isolation valve data	NO
Hydrant data	NO
Demand data	YES
Total system demand	YES
Nodal demand data	YES
Temporal data demands	YES
System leakage	YES
Hydraulic data	YES
Hydraulically calibrated model	NO
Field hydraulic calibration data	NO
Water quality data	NO
Disinfection method	NO
Chlorine residual data	NO
Booster station data	NO
Fluoride/Chloride field data	NO
Water quality calibrated model	NO
Operational data	NO
SCADA datasets	NO
Operational rules	NO

PIPE/LOOP HISTROGRAM:



REFERENCES:

Jolly, M. D., Lothes, A. D., Bryson, L. S., & Ormsbee, L. (2014). Research Database of Water Distribution System Models. *Journal of Water Resources Planning and Management,* 410-416.

DETAILED DATA SUMMARIES

PHYSICAL ASSETS:

Asset Type:	# of Assets
Master Meters	1
Tanks	2
Pumps	1
Pump Stations	NA
Water Treatment Plants	1

NETWORK CHARACTERISTICS:

# Total Pipes:	984
# Branch Pipes:	322
Ratio (Branch Pipes / Total Pipes):	0.327
# Junction Nodes	858
# Reservoirs	1
# Tanks	2
# Regulating Valves	0
# Isolation Values	Unknown
# Hydrants	Unknown
Elevation Data	YES

PIPE DATA:

Diameter (in)	Length (ft)
1	987
1.3	15,579
1.5	971
2	118,353
3	10,538
4	18,848
6	183,964
8	94,381
12	21,473
16	25,215
18	53,323
20	2,989

PUMP DATA:

Pump Horsepower	YES
Pump Curves:	NO

DEMAND STATISTICS:

Demographic Type	Population	Households
Directly Serviceable:	16,025	6,468
Indirectly Serviceable:		
Total Serviceable:	16,025	6,468

Production Statistics	
Total Annual Volume Produced (MG):	
Total Annual Volume Purchased (MG):	490.702
Total Annual Volume Provided (MG):	490.702
Estimated Annual Water Loss:	21%

Water Costs	
Customer Type	Cost per 1000 gallons
Customers within the municipality	$4.10
Customers outside the municipality	$6.15

CUSTOMERS AND USAGE:

Customer Type	Customer Count	Average Demand (MG)
Wholesale:		
Residential:	6,148	313.230
Commercial:	273	36.253
Institutional:		
Industrial:	1	12.476
Other:		
Total Customers:	6,422	
Flushing, Maintenance & Fire Protection:		27.879
Total Water Usage:		389.838

DATA FILE ATTRIBUTES:

ATTRIBUTE		UNITS
Pipe Length & Diameter	X	Feet
Pipe Age	X	Yr. Installed
Node Elevation	X	Feet
Node Demand	X	GPM
Valves		
Hydrants		
Tank Levels	X	Feet
Tank Volume	X	Cubic Feet
PRVs		
WTP	X	
WTP Capacity	X	GPD
Pump Data	X	HP