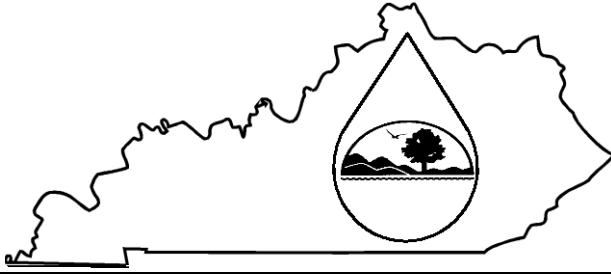


ASSET INVENTORY REPORT FORM



Kentucky Division of Water's Asset Inventory Report, as required by 401 KAR 5:006

In accordance with 401 KAR 5:006, regional planning agencies are required to submit an asset inventory report to the Cabinet, if: (a) It has been ten (10) years since the regional planning agency submitted a regional facility plan or asset inventory report; and (b) the regional planning agency does not meet the requirements established in Section 2(2) of the regulation. The asset inventory report requires regional planning agencies to take inventory of the physical assets of their wastewater system(s), assess their condition, prioritize capital needs, and develop a plan for funding those needs. By incorporating this planning tool into their daily operations, the Cabinet expects regional planning agencies to achieve the following benefits:

- a. Reduce overall cost of system operation and maintenance;
- b. Target capital investments toward critical assets;
- c. Improve compliance record and remediate or correct illegal overflows or bypasses;
- d. Acquire a better understanding of treatment and/or collection system components;
- e. Reduce borrowing costs. Funding agencies prefer lending to municipalities which properly manage and operate their assets;
- f. Potentially improve bond credit ratings;
- g. Make a sound case for rate increases to local governing boards and rate payers;
- h. Prolong the useful life of their assets. Knowing the condition of assets allows regional planning agencies to make timely repairs; and
- i. Reduce duplication of efforts and improve the allocation of staff time and other resources.

A complete report consists of this form and copies of supporting documentation. All regional planning agencies that wish to use this report to demonstrate compliance with the requirements of 401 KAR 5:006, Section 4 must complete all seven sections of the report and provide copies of the supporting documentation required under section VI. This report form consists of seven (7) sections:

- I. REGIONAL PLANNING AGENCY DATA
- II. REVENUES AND EXPENSES
- III. ASSET INVENTORY
- IV. PROJECT PRIORITIZATION
- V. FUNDING PLAN
- VI. COPIES OF SUPPORTING DOCUMENTATION
- VII. CERTIFICATION

Most of the information required in the form is self-explanatory. The instructions in some of the sections are given to highlight some of the information that may require interpretation or additional clarification. You may add extra pages for entering additional asset inventory information especially if you are a regional planning agency with multiple treatment plants. If you need to include additional information, attach the extra pages and put the question number next to your answers and/or copy and paste the asset inventory tables on the additional pages. It's quite likely that all of the details of the asset inventory presented in this report will not apply to every wastewater system. If the parameter does not apply then indicate by entering N/A in the blank or modify the worksheets so they conform to the particular needs of your system. For additional information or assistance, contact the Kentucky Division of Water, Wastewater Planning Section (502) 564-3410.

I. REGIONAL PLANNING AGENCY DATA. These seven subsections provide the basic information necessary to identify and characterize the system. The point of contact information must include an organization and an individual. The address can be a mailing address (e.g., P.O. Box). The physical location of the facility is required for treatment plants only. The address should be the physical location of the facility, and not a P.O. Box. Descriptive addresses are acceptable if no physical address exists.

1. Regional Planning Agency Information

Regional Planning Agency Name	Carrollton Utilities
Mailing Address	900 Clay Street
City, State, Zip Code	Carrollton, KY 41008
Contact person	Terry A. Roach, PE
Title	Utility Engineer
Telephone number	502-732-1217
Physical Location (if different from mailing address; not P.O. Box)	1937 Greens Bottom Road
Email Address	troach@carrolltonutilities.com
Fax number	502-732-7058
KPDES and/or KISOP Number	KY0104931
Name of watershed(s) within the planning area (Hydrological Unit Code [HUC] 11)	05100205
List waterbodies within the planning area that are on the 303(d) list of waters not supporting one or more designated uses reported in the most recent Integrated Report to Congress on Water Quality in Kentucky	Eagle Creek Kentucky River Lick Creek (0 to 5.4) West Fork Mill Creek (0 to 1.0) Ohio River Mainstream (488.0 to 603.3)

2. Discharge Information. Facilities may have multiple discharge types (e.g., discharge to another facility, subsurface discharge, outfall to surface waters, reuse). Additionally, one or more facilities may discharge to the facility. Please review and enter discharge information carefully. If multiple discharges apply, enter percentages which must add to up 100%.

Discharge Type	Outfall to surface water
Name of receiving water(s)	Kentucky River
Milepoint or Latitude & Longitude	38deg 37' 41" N and 85deg 06' 34" W
Does the treatment works discharge or dispose of its wastewater in another manner (e.g., land application, underground percolation, hydrologic controlled release [HCR], and well injection)? If yes, provide the disposal method.	n/a
Does the system discharge to or receive wastewater from other municipalities or service areas (For treatment systems, provide the name(s) KISOP No(s).; For collection systems, provide the name(s) and KPDES No(s).)	Campbellsburg KYP000070 Prestonville KYP000056

3. Facility Effluent Treatment Level. Please indicate the level of treatment available at the treatment plant. Current Treatment Level

should be selected if the facility is or will be in operation as of the date of report submittal. Projected Treatment Level should be entered if the facility will be in operation for all or part of the 10-year period after the date of report submittal. Treatment levels include **primary** (45mg/l<BOD; process in which the effluent is treated to remove floating debris and solids by screening and sedimentation); **advanced primary** (process in which chemicals are added to further treat primary effluent and increase the amount of solid matter removed); **secondary** (the effluent must meet the minimum removal standards for Biochemical Oxygen Demand, total suspended solids, and pH); and **advanced** (a level of treatment that is more stringent than secondary treatment or produces a significant reduction in nonconventional or toxic pollutants present in the facility's effluent; the treatment level is considered advanced if the BOD permit limit is less than 20 mg/l or the facility has one or more advanced treatment processes).

What levels of treatment are provided? Check all that apply.	
<input type="checkbox"/> Primary	<input type="checkbox"/> Secondary
<input type="checkbox"/> Advanced Primary	<input type="checkbox"/> Advanced
<input type="checkbox"/> Other Describe:	<input type="checkbox"/> Other Describe:
Projected (Indicate the level of treatment and projected date):	

4. Facility Type. Enter all the facility types that apply to the system. Facility type includes treatment plant, collection (combined sewers, separate sewers, interceptor sewers, and biosolids handling facility). Indicate whether the facility is currently used by placing a check mark in "Present" column(s) or whether it is planned to be used in the future by placing a check mark in "Projected" column(s).

Facility Type	Present	Projected
Carroll-Gallatin-Owen-Henry Regional WWTP	xxx	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>

5. Flow and Population Served. Each year's data must be based on a 12-month time period. Subcategories a through d applies to treatment plants. If applicable, indicate the projected design capacity for treatment plants. The population served information table has two main components; each must be completed for the present condition and the 10-year projected condition.

	Present	Projected in 10 Years		
a. Design flow rate	1.7	3.4		Units (mgd)
	<u>Two Years Ago</u>	<u>Last Year</u>	<u>This Year</u>	
b. Annual average daily flow rate	.997	1.085	1.081	Units (mgd)
	<u>Two Years Ago</u>	<u>Last Year</u>	<u>This Year</u>	
c. Maximum/Peak daily flow rate	unknown	2.983	2.157	Units (mgd)
d. Average daily flow projected in 10 years		1.5		Units (mgd)
e. Average Inflow and Infiltration. Estimates should be based on most recent data		.392		Units (mgd)

	Present	Projected in 10 years
Residential flow contribution (mgd)	.392	.4312
Commercial/industrial flow contribution(mgd) (Projected calculations should be based on: 1,000 to 1,500 gallons per day/acre)	Not broken out	Not Broken out
f Population served (Calculations should be based on: Census data specific to the service area or No. of Accounts X 3)	9986	11000
Unserved population in the planning area	9414	10355

6. Treatment Plant Discharge Limits. List the discharge limits for each parameter listed in the most current KPDES permits. If the parameter does not apply to the permits, then indicate by entering N/A in the blank.

Parameter	Monthly Average	Daily Maximum	Daily Minimum
Biological Oxygen Demand (BOD ₅ ; mg/l) or CBOD ₅	25	37.5	n/a
Total Suspended Solids (TSS; mg/l)	30	45	n/a
Ammonia Nitrogen (mg/l) (Summer and Winter)	15	22.5	n/a
Dissolved Oxygen (mg/l)	Minimum 7		
Fecal Coliform (colonies/100 ml)	n/a	n/a	n/a
<i>Escherichia Coli</i> (colonies/100 ml)	130	240	n/a
pH (standard units)	Min 6.0	Max 9.0	n/a
Total Residual Chlorine (mg/l)	n/a	n/a	n/a
Phosphorus (Total; mg/l)	<u>May to Oct. 1.0</u> <u>Nov. to Apr. 2.0</u>	<u>2.0</u> <u>4.0</u>	<u>n/a</u> <u>n/a</u>
Total Nitrogen (mg/l)	Monitor only		
Other (Indicate):			
7. Pretreatment. Does the wastewater system have pretreatment program? (Circle One)		Yes	No

III. ASSET INVENTORY. This is the most extensive section of the report and will allow the Division of Water to evaluate the types of assets, anticipated failure and replacement or rehabilitation costs. The data items required should be readily available to most operators or managers. Most systems already have some form of inventory established but not centralized. The following asset inventory is designed to collect data and information into a centralized format. The inventory provides a format where information and data will be listed in the categorized asset tables and include corresponding characteristics, assigned assessment and failure mode ratings, and assigned strategies to renew or maintain the assets. Taking an initial inventory of assets can be a labor intensive job. Systems should start by identifying their critical assets to prepare the initial inventory. The collection of assessment data and information can be done through the direct inspection, observation, repairs, operation and maintenance routines, investigation/ monitoring/reporting, and analysis of data. Because systems need to continue to collect new data and information and build upon initial inventories, an ongoing, organized, and systematic collection of data should be established so the process develops. One of the most important outcomes of the assessments is determining the remaining useful life of an asset. A number of factors can affect the useful life of assets, including routine service and proper maintenance, excessive use, and environmental conditions such as topography, soil, or climate.

1. What is the State of My Assets? Assessing the state of assets is one of the core components of developing an asset inventory. It provides the critical information needed to assess condition, performance and reliability of system components. The measure of performance for a wastewater system can be based on four critical areas: customer service level, regulatory compliance, risk to public health and safety, and environmental protection. Conduct assessments on the condition, performance and reliability of current wastewater system assets using the definitions and tables below and assign the ratings to the following tables. Assessments are to be evaluated on a scale of 1 to 5.

- Current Condition- Rates the condition of the asset. The higher the number the better the condition of the asset.
- Current Performance- Rates whether the asset meets capacity requirements now and in the future. The higher the number the better the performance of the asset.
- Current Reliability- Rates the asset based on its frequency of breaking down. The higher the number the better the reliability of the asset.

a. Current Condition Assessment

<u>Rating</u>	<u>Remaining Useful Life</u>	<u>Maintenance Level</u>
5	New or Excellent Condition	Normal Preventative Maintenance
4	Minor Defects Only	Normal Preventative Maintenance, Minor Corrective Maintenance
3	Moderate Deterioration	Normal Preventative Maintenance, Major Corrective Maintenance
2	Signification Deterioration	Major repair, rehabilitate
1	Beyond Useful Life	Unit Must Be Replaced

b. Current Performance Assessment

<u>Rating</u>	<u>Description</u>
5	Exceeds/Meets all Performance Targets
4	Minor Performance Deficiencies
3	Considerable Performance Deficiencies
2	Major Performance Deficiencies
1	Fails to Meet Performance Targets

c. Current Reliability Assessment

<u>Rating</u>	<u>Remaining Life</u>	<u>Frequency of Failure</u>
5	New	Almost Negligible
4	Seldom Breakdown	More than 10 years
3	Occasional Breakdown	Every 5 Years
2	Periodic Breakdown	Every 2 Years
1	Continuous Breakdown	1 Year or Less

2. Which Assets are the Most Critical? Critical assets have high failure risks (old, poor condition, etc.) and/or major consequences if they do fail (major expense, system failure, safety concerns, environmental damage, water quality impacts, etc.). Some components of a system should take precedence for investment based on risk due to age, condition, and importance or consequence. Components found to be in poor condition, or with severe defects and high failure modes, should be addressed as soon as possible after they are discovered. Less severe defects can be prioritized for more frequent inspection or cleaning, repair, rehabilitation, or replacement. Conduct critical rating assessments of current wastewater system assets using the definitions and tables below and assign the ratings to the following tables:

- Consequence of Failure- Rates the asset based on the consequences of failure. Failure of some assets could be detrimental to the total system or facility components. The lower the number the lower the risk.
- Probability of Failure- Rates the asset based on the percentage of effective life consumed- as an asset ages the likelihood of failure increases. The lower the number the lower the probability of failure. **Enter the percentage shown.**
- Redundancy- Rates the criticality of the assets based on the availability of backup. Available backup reduces risk.

a. Consequence of Failure

<u>Rating</u>	<u>Description</u>	<u>Percentage (%) Affected</u>	<u>Level</u>
1	Minor Component Failure	0-25%	Asset
2	Major Component Failure	25-50%	Asset
3	Multiple Asset Failure	25-50%	Facility/Sub-system
4	Major Facility Failure	50-100%	Facility

5	Minor Sanitary System Failure	20-40%	Total System
6	Medium Sanitary System Failure	40-60%	Total System
7	Intermediate Sanitary System Failure	60-80%	Total System
8	Significant Sanitary System Failure	80-90%	Total System
9	Total	90-100%	Total System

b. Probability of Failure

<u>Rating</u>	<u>Percentage (%) of Effective Life Consumed</u>
1	20%
2	40%
3	60%
4	80%
5	100%

c. Current Redundancy Assessment

<u>Rating</u>	<u>Level of Redundancy</u>	<u>Reduce Probability of Failure by:</u>
1	50% Backup	50%
2	100% Backup	90%
3	200% Secondary Backup	98%

3. Renewal and Maintenance Strategy: This asset inventory report will help regional planning agencies acquire a better understanding of their systems and make more informed decisions about future capital investments. An important part of conducting an inventory is determining a strategy of how to manage assets through renewal and maintenance. At some point, continuing to repair the asset will no longer be cost-effective and it will need to be rehabilitated or replaced. A preventive maintenance program will enable you to maximize the useful lives of your assets and can help you avoid problems and cut down or delay replacement costs. Conduct assessments on strategies to renew or maintain assets using the definitions and tables below and assign the options to the following tables:

- Renewal Strategy- Record decisions on what will be done with each asset.
- Maintenance Strategy- Record decisions on the type of maintenance tactics to perform based on the selected renewal strategy.
- Recommended Renewal Date- Renewal date is equivalent to the end of useful life date of an asset per the manufacturer. You may enter a different date based on your renewal strategy. This can be used in calculating the future value of the renewal strategy.
- Costs of Renewal Option- For this example assume all assets will be replaced. Enter your estimate of what the renewal strategy will cost in today's dollars

a. Renewal Strategies

<u>Option</u>	<u>Description</u>	<u>Type</u>
1	Do Nothing	Non-Capital
2	Continue with Status Quo	Non-Capital
3	Maintain Differently	Non-Capital
4	Operate Differently	Non-Capital
5	Repair	Capital
6	Refurbish/Rehabilitate	Capital
7	Replace Asset with Similar Asset	Capital
8	Replace with a New or Improved Asset	Capital
9	Reduce Levels of Service or Cause of Failure	Non-Asset

b. Maintenance Strategy

<u>Option</u>	<u>Maintenance Tactic</u>
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1	PM - Preventive Maintenance
2	CBM - Condition based maintenance
3	UBM - Usage based maintenance
4	RTF - Run to Failure
5	CM - Corrective Maintenance

Asset Inventory Table Instructions:

Putting together the inventory requires organization of assets and decisions regarding what level of asset should be included. This format allows for any level of detail desired, and is capable of classifying a great deal of information about the assets. Key points are to (1) organize the asset inventory from large to small units; (2) gather information and insert into the appropriate categories; (3) after basic hierarchy is established, additional information can be added as it is obtained (Refer to the table of Examples of Asset Categories and Category Hierarchy).

List as many assets within each categorized table as you can and as many characteristics of each asset. Characteristics will vary by asset type. Use the assessment and strategy ratings defined above while taking into account the current condition of each asset, its service history, and your experience based on the characteristics of your system (e.g., weather conditions, operation and maintenance routines). Get the best information you can, but use estimates if you need to. For the collection system tables (Tables 4 through 7), grouping of collection lines is recommended. For example, if collection lines were put into place in the same area during the same period of time and are composed of the same diameter and material, then enter the total linear footage of the same group instead of segmenting them (e.g., downtown, 10,000 feet, 8 inch diameter, Cast Iron, circa 1950).

Examples of Asset Categories and Category Hierarchy

Asset Categories	Asset Category Hierarchy
Headworks	Screening- Bar Screens, Screens
	Grit Removal- Blower, Auger, Grit Pumps, Pipes/Valves
	Electrical- Motor Control
Raw Sewage Pumping	Pumps- Pump #1, Pump #2, Pipes/Valves
	Electrical- Motor Control Center, Generator
	Instrumentation- Flow Meter, Level Sensors
Pump Stations	
Building and Grounds	
Panels- Alarm/Electrical	
Collection Structure	Manholes- Grinder Pumps
Collection Pipe (Ductile Iron, Cast Iron, Steel, RCP, PCCP, Brick, Vitrified Clay Pipe [VCP], Polyvinyl Chloride [PVC], High-density Polyethylene [HDPE])	Gravity
	Forcemain- Air-Relief Valves
Collection Pump Station	Pumps- Pump 1,2,3, etc., Valve and Piping
	Instrumentation- Flow Meter
	Electrical- Motor Control, Standby Generator
Treatment Unit Processes	

4. Collection System Gravity Pipes and Manholes- Existing															
Description of Area	Description of Manholes (diameter, material, lid type)	Pipe Length (feet)	Pipe Size (Inches)	Pipe Material	Year Installed	Assessment Ratings			Failure Ratings			Renewal and Maintenance Strategy			
						Condition	Performance	Reliability	Consequence	Probability	Redundancy	Renewal Strategy	Maintenance Strategy	Renewal/Maintenance Date	Estimated Cost of Renewal/Maintenance Option
CITY OF CARROLLTON	373 MANHOLES *	89,451	8"—15"	VCP--PVC	1966-1997	3	4	3	4	3	1	6 ₁	5	Ongoing	\$542,000
CITY OF PRESTONVILLE	38 MANHOLES / CONCRETE	11,142	8"	PVC	1995	4	4	4	3	2	1	2	1	n/a	n/a
INDIAN HILLS SUBD.	42 MANHOLES / CONCRETE	7374	8"	VCP	1966	3	4	3	3	3	1	2	1	n/a	n/a
EXIT 62 (I-71-GLENCOE)	5 MANHOLES / CONCRETE	811	8"	PVC	2011	5	5	5	1	1	1	2	1	n/a	n/a
CITY OF GLENCOE	97 MANHOLES / CONCRETE	19,931	8"	PVC	2001	3	3	4	2	2	1	6 ₂	2	2012-2014	\$10,000
CITY OF SPARTA	41 MANHOLES / CONCRETE	4815	8"	PVC	2001	3	4	4	2	2	1	6 ₂	2	2012-2014	\$10,000
CITY OF CAMPBELLSBURG	173 MANHOLES / CONCRETE **	29,366	8"	VCP	1974	3	3	3	4	4	1	6	5	Ongoing	\$245,000
EXIT 57 (I-71 SPARTA)	12 MANHOLES / CONCRETE	1617	8"	PVC	2001	4	4	4	1	2	1	2	1	n/a	n/a
CITY OF SANDERS	23 MANHOLES / CONCRETE	6499	8"	PVC	2001	3	4	4	2	2	1	6 ₂	2	2012-2015	\$10,000
HAPPY HOLLOW (CARROLL CO)	33 MANHOLES / CONCRETE	8973	8"	PVC	2006	5	5	5	1	1	1	2	1	n/a	n/a
CITY OF WORTHVILLE	40 MANHOLES / CONCRETE	9978	8"	PVC	1996	4	3	4	2	1	1	6 ₂	2	2012-2015	\$10,000
EXIT 55 (I-71 & HWY 1039)	10 MANHOLES / CONCRETE	1431	8"	PVC	2008	5	5	5	1	1	1	2	1	n/a	n/a
EAGLECREEK RESORT	130 MANHOLES / CONCRETE	22,387	8"	PVC	2010	5	5	5	1	1	1	2	1	n/a	n/a
EAGLECREEK CAMPGROUND	48 MANHOLES / CONCRETE	8588	8"	PVC	2010	5	5	5	1	1	1	2	1	n/a	n/a
CITY OF GHENT	102 MANHOLES / CONCRETE	15054	8"	PVC	1992	4	3	4	2	2	1	3 ₃	3	2013	\$10,000
QUINN ACRES/BURLEY ESTATES	21 MANHOLES / CONCRETE	6547	8"	PVC	1981	4	4	4	1	3	1	2	1	n/a	n/a
EXIT 44 (I-71-CARROLLTON)	4 MANHOLES / CONCRETE	2074	8"	PVC	1994	4	4	4	1	1	1	2	1	n/a	n/a
QAKVIEW ESTATES	35 MANHOLES / CONCRETE	9161	8"	PVC	1997	4	3	4	2	2	1	2	1	n/a	n/a
FOX VALLEY / MEADOWBROOK	24 MANHOLES / CONCRETE	6301	8"	PVC	1994	4	4	4	1	1	1	2	1	n/a	n/a
LAKESIDE SUBD.	27MANHOLES / CONCRETE	9038	8"-15"	VCP	1968	4	3	3	1	2	1	2	1	n/a	n/a
HUNTER'S RIDGE	13 MANHOLES / CONCRETE	2846	8"	PVC	2004-2008	5	5	5	1	1	1	2	1	n/a	n/a

5. Collection System Gravity Pipes and Manholes- Proposed Projects. Proposed projects should be categorized into the following descriptions: No Change- There are no planned modifications; New- A new type is being proposed or implemented; Abandonment- The asset will no longer be used or will be demolished in the future; Rehabilitation- Restoring or repairing parts of existing combined or separate sewer systems and municipal separate storm sewer systems; Replacement- An existing asset is considered obsolete and is demolished, and a new asset is constructed on the same site. Expansion- Increasing the service area of an existing sewer system.

Proposed Projects	Project Description/ Description of Area	Number of New Manholes	Pipe Length (feet)	Pipe Size (Inches)	Pipe Material	Year Planned	If Known	
							Manufacturer's Predicted Life	Estimated Project Cost
ICE-TEE project	Misc. upgrades to the WWTP and parallel 10" FM from Ghent to Carrollton.	0	34,800	10	PVC	2021-2022		10" Forcemain = \$1,900,000 and WWTP = \$4,800,000. Total cost = \$6,700,000
Obie Cook Road Sewer Extension	Sanitary sewers to a small subdivision in Owen Co.	0	8700	Varies	PVC	2021		\$102,000
Angel's Envy Sanitary Sewer Extension	New pump station and forcemain to serve the Angel's Envy distillery in Henry County.	1	14,000	6	PVC	2021		\$1,500,000

Enter any additional Collection System Forcemain, Gravity Pipes and Manholes information here:

Note: Pipe Lengths (above) include both forcemains (3" and 10") and the Year Planned is based on grant funding and low interest loan availability.

8. Pump Stations- Existing														
Project Description/ Pump Station Name	Type (e.g. submersible, Centrifugal, etc.)	Capacity (MGD)	Total Dynamic Head (feet)	Year Installed	Assessment Ratings			Failure Ratings			Renewal and Maintenance Strategy			
					Condition	Performance	Reliability	Consequence	Probability	Redundancy	Renewal Strategy	Maintenance Strategy	Renewal/ Maintenance Date	Estimated Cost of Renewal/ Maintenance Option
Prestonville Station	Sub	.259	80	1997	4	4	4	1	2	1	6	4	On Failure	Rewind & Replace seals = \$5500
Second Street Station	Sub	.864	152	2009	5	5	4	1	2	5	2	1		
Mason Street West	sub	.117	32	1998	4	4	4	1	3	1	7	4	Small pump – on failure	Replace pumps only = \$22,000
Mason Street East	sub	.448	58	2010	5	5	5	3	1	2	1	1		
Kentuckianna	sub	.864	?	2011	5	5	5	4	1	2	2	1		
Quinn Acres	sub	.36	65	1981	3	4	3	1	4	1	7	4	On Failure or Performance Issues	Replace pumps only = \$32,000
Celotex	sub	.292	136	2000	5	5	5	1	1	2	5	4	On Failure or Performance Issues	Rewind & Replace seals = \$7500
Butler Park	sub	.288	43	1978	3	3	3	2	3	1	8	4	2015– Replace Completely	\$85,000
Airport Road	sub	.98	81	2010	5	5	5	5	1	3	2	1		
CCID	sub	.244	50(est.)	1980	3	3	3	1	3	1	8	1	2013– Replace Completely	\$108,000
Indian Hills	sub	.098	34	1976	3	3	3	1	3	1	7	1	On Failure or Performance Issues	Replace pumps only = \$28,000
HWY 36	sub	.36	62	1997	3	4	3	1	3	1	7	1	On Failure or Performance Issues	Replace pumps only = \$24,000
Oakview	sub	.144	24	1997	4	4	4	1	2	1	7	4	Small pump – on failure	Replace pumps only = \$20,000
Boone Road	sub	.0432	69	2005	4	5	4	1	1	1	2	1		
Old 227	sub	.102	94	2005	4	5	4	2	1	1	2	1		
New Holiday Inn	sub	.115	101	2008	4	5	5	1	1	1	2	1		
Exit 44	sub	.482	82	2010	5	4	4	1	1	2	2	1		
Gibson Farm	sub	.126	?	2010	5	5	5	1	1	1	1	1		
Worthville (Main)	sub	.91	108	2010	5	5	5	6	1	3	2	1		
Jackson Ridge	sub	.0576	29	1998	3	3	4	1	3	1	7	4	Small pump – on failure	Replace Pumps only = \$20,000
Happy Hollow	sub	.304	71	2005	4	4	4	2	1	2	2	1		

8. Pump Stations- Existing														
Project Description/ Pump Station Name	Type (e.g. submersible, Centrifugal, etc.)	Capacity (MGD)	Total Dynamic Head (feet)	Year Installed	Assessment Ratings			Failure Ratings			Renewal and Maintenance Strategy			
					Condition	Performance	Reliability	Consequence	Probability	Redundancy	Renewal Strategy	Maintenance Strategy	Renewal/ Maintenance Date	Estimated Cost of Renewal/ Maintenance Option
Sanders (Main)	sub	.323	101	2000	3	4	4	4	2	3	6	1	On Failure or performance issues	Replace pumps only = \$50,000
HWY 47	sub	.013	29	2000	3	4	4	1	2	1	5	4	On Failure	Rewind pumps = \$3500
Sparta (Main)	sub	.51	116	2000	3	4	3	3	2	3	2	1		
HWY 467	sub	.0374	85	2000	3	4	3	1	2	1	2	1		
Owen County	sub	.016	81	2003	3	4	3	1	2	1	2	1		
Racers	sub	.151	70	2003	3	4	4	1	2	1	5	1	On Failure or performance issues	Rewind pumps = \$3500
BP Station	sub	.123	188	2003	3	3	3	1	2	1	5	1	On Failure or performance issues	Rewind pumps = \$3500
KY Speedway – Don't Maintain	sub	.477	?	2000										
Exit 55 (Love's)	sub	.086	100	2007	4	5	4	2	1	1	2	1		
Glencoe (Main)	sub	.253	113	2000	3	4	3	2	2	2	7	1	2015	Replace pumps only = \$40,000
Hawthorne Street	sub	.072	41	2000	3	4	3	1	2	1	2	1		
West Howard	sub	?	?	2000	3	4	3	1	2	1	2	4		
Exit 62 – Truck Stop	sub	.315	118	2010	5	5	5	1	1	1	1	1		
Exit 62	sub	.269	67	2010	5	5	5	1	1	1	1	1		
Campbellsburg (Main)	sub	1.15	174	2003	4	3	3	4	2	2	5	1	On Failure or performance issues	New Impellers and VFD = \$18,500
Arvin Sango	sub	.304	?	1994	4	4	4	1	3	1	5	1	On Failure or performance issues	Replace Pumps only = \$23,000
Ruckers	Dry-pit	.151	?	1974	2	3	3	1	4	4	8	1	2014 - Total Replacement	Package Pump station = \$38,770 (installed by CU)
Sutors	sub	.504	59	2008	5	5	5	1	1	1	1	1		
Marathon	sub	.331	46	2008	5	5	5	1	1	1	1	1		
Elementary School	Dry-pit	.0792	?	1974	2	3	3	1	4	1	8	1	2013 - Total Replacement	Package Pump station = \$38,770 (installed by CU)
Lakeview	sub	.0432	95	2004	4	4	3	1	2	1	2	1		

1. Collection System Gravity Pipes and Manholes- Existing (PAGE 2 OF 2)															
Description of Area	Description of Manholes (diameter, material, lid type)	Pipe Length (feet)	Pipe Size (Inches)	Pipe Material	Year Installed	Assessment Ratings			Failure Ratings			Renewal and Maintenance Strategy			
						Condition	Performance	Reliability	Consequence	Probability	Redundancy	Renewal Strategy	Maintenance Strategy	Renewal/Maintenance Date	Estimated Cost of Renewal/Maintenance Option
BOONE ROAD EXT.	11 MANHOLES / CONCRETE	3152	8"	PVC	2007	5	5	5	1	1	1	2	1	n/a	n/a
FLOYD DR	11 MANHOLES / CONCRETE	3198	8"	PVC	2010	5	5	5	2	1	1	2	1	n/a	n/a
OLD US HWY 227	6 MANHOLES / CONCRETE	1330	8"	PVC	2007	5	5	4	2	1	1	2	1	n/a	n/a
PARK ACRES TO AIRPORT RD	13 MANHOLES / CONCRETE	5816	8"	PVC	1978-1982	4	3	4	2	1	1	2	1	n/a	n/a
SYCAMORE TRACE TO BOONE RD	32 MANHOLES / CONCRETE	6831	8"	PVC	1979-1990	4	4	4	1	1	1	2	1	n/a	n/a
LADDER LANE	11 MANHOLES / CONCRETE	4490	8"	PVC	1980	4	3	3	2	1	1	2	1	n/a	n/a

NOTE: 1. Unless specifically noted all manholes are 4' diameter.
2. All frames and lids are steel.

* City of Carrollton manholes vary from brick in the city center to concrete in the newer areas of the city. Twelve of the old brick manholes were recently relined as a pilot project.

** City of Campbellsburg manholes are all concrete however 72 of them have been sealed with grout in 4 separate contracts.

6₁ The majority of the City of Carrollton gravity system is in good shape however some areas have projects planned for replacement / rehabilitation and manhole work.

6₂ The small cities of Glencoe, Sparta, Sanders and Worthville were installed approximately the same time during the CU Regional Sewer Project. Each of the cities is experiencing I&I issues and had smoke testing done in 2012 with repair / rehab to follow yearly.

6₃ Sewer cleaning and camera work will be scheduled for Ghent in the near future.