

# Strategic Water Resource Development Plan

## *Summary of Wastewater Treatment Systems* *Barren River Area Development District*

*Water Resource Development Commission*

*March, 2000*

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# Barren River Area Development District

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## ADD WASTEWATER SUMMARY

### ADD Sewer Service (map)

- Estimated 1999 population of 240,000--44% on public sewer
- Estimated 2020 population of 269,000--50% on public sewer
- Proposed projects would connect about 7,000 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--\$73,900,000
- Estimated funding needs for public sewer 2006-2020--\$69,700,000

The Barren River Area Development District region had an estimated population of 240,370 (99,457 households) in 1999 with a projected population of 269,200 (118,700 households) in 2020. Public sewer systems serve 105,000 area residents, or 44 percent of the population. Proposed sewer line extensions for the period 2000-2020 would provide service to an additional 7,000 households. About 135,000 people in the region currently rely on on-site treatment systems.

Estimated populations and public sewer service for the ten counties in the region is given below (19 public sewer systems serve the region):

County	1999 Pop	On Public	2020 Pop	On Public
Allen	16,600	4,150 (25%)	20,000	4,200 (21%)
Barren	37,200	16,700 (45%)	42,200	23,200 (55%)
Butler	11,800	2,350 (20%)	12,700	2,400 (19%)
Edmonson	11,500	1,250 (11%)	13,600	1,300 (10%)
Hart	16,900	4,200 (25%)	19,400	5,800 (30%)
Logan	26,400	11,900 (45%)	29,000	17,400 (60%)
Metcalfe	9,500	1,600 (17%)	10,200	1,650 (16%)
Monroe	10,900	3,300 (30%)	9,700	3,350 (35%)
Simpson	16,300	9,800 (60%)	17,700	10,600 (60%)
Warren	83,200	49,900 (60%)	94,700	66,300 (70%)
Region	240,000	105,000 (44%)	269,000	136,000 (50%)

# EXISTING & PROPOSED SEWER SERVICE

**BRADD**  
Kentucky

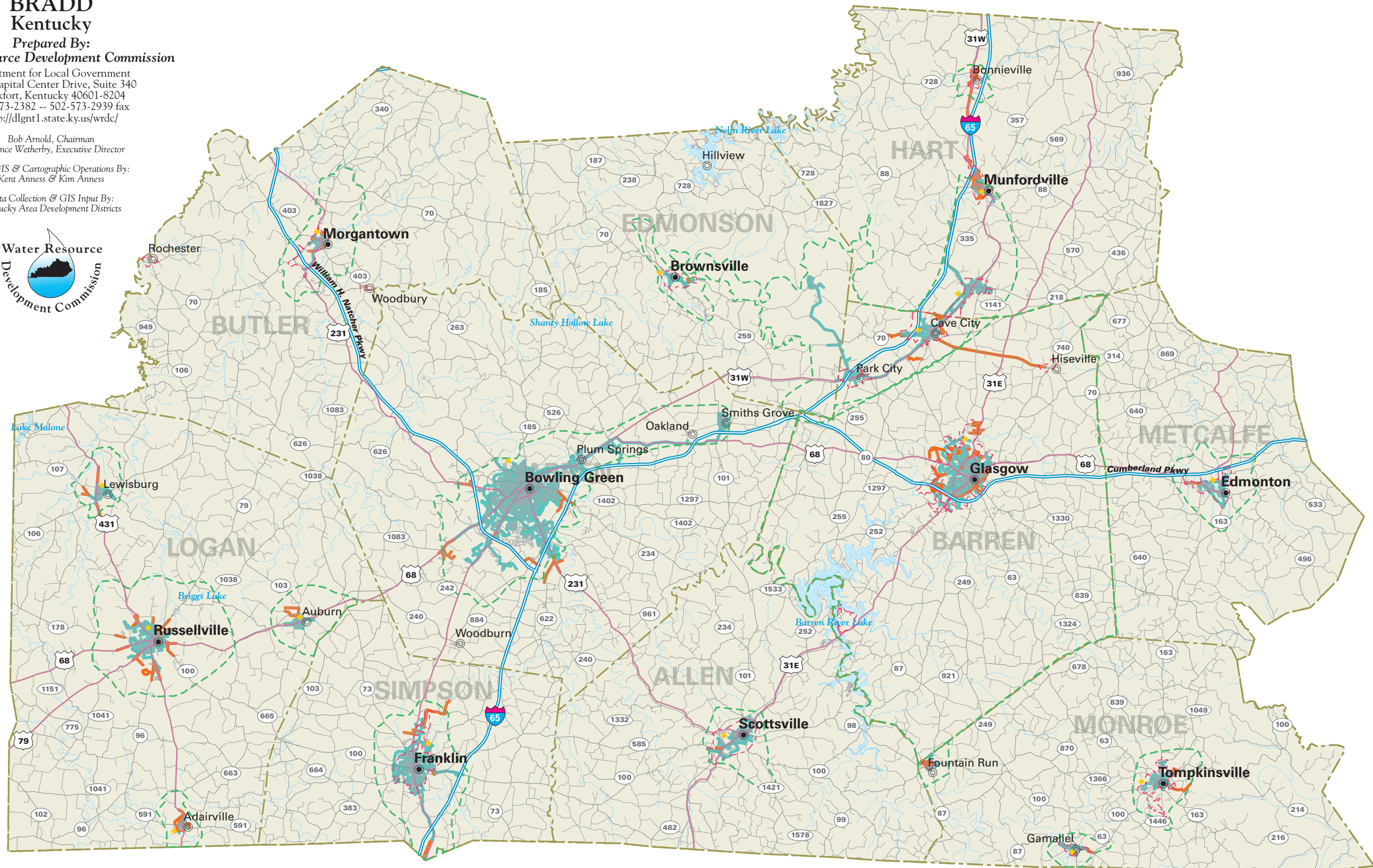
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- - - - - 201k Facility Planning Area
  - - - - - Incorporated City Boundary
  - ◆ Sewage Treatment Plant
- SEWER SERVICE**
- Existing Sewer Service
  - Proposed Sewer Service

LIMITATION OF LIABILITY: The Water Resource Development Commission has no reason to believe that there are any inaccuracies or defects in information incorporated in this work and make no representations of any kind, including, but not limited to, the warranties of merchantability or fitness for a particular use, nor any such warranties to be implied, with respect to the information or data furnished herein.

Estimated costs for public sewer expansions and associated system upgrades are:

**Proposed Projects 2000-2005**

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
<b>ALLEN COUNTY</b>							
Scottsville	20	100	100			250	450
							-
<b>BARREN COUNTY</b>							
Caveland Sanitation Authority	300	4,149	0				4,149
Glasgow	546	2,581	2,334				4,915
County Total	846	6,730	2,334				9,064
							-
<b>BUTLER</b>							
MORGANTOWN	15	180	300				480
							-
<b>EDMONSON COUTY</b>							
Brownsville	15	125					125
							-
<b>HART COUNTY</b>							
Bonnieville	235	1,900					1,900
Caveland Sanitation Authority	226	3,277					3,277
Munfordville	34	265	3,440				3,705
County TOTAL	495	5,442	3,440				8,882
							-
<b>LOGAN</b>							
ADAIRVILLE	7	155	300				455
Auburn	55	616		1,500			2,116
RUSSELLVILLE	575	2,125	1,830			740	4,695
Lewisburg (Non conventional)	215	900	-	-	1,000	-	1,900
County Total	852	3,796	2,130	1,500	1,000	740	9,166
							-
<b>METCALFE COUNTY</b>							
EDMONTON	30	335					335
							-
<b>MONROE</b>							
Fountain Run			70		1,000		1,070
Gamaliel	14	306					306
Tompkinsville		500					500
County Total	14	806					1,876
							-
<b>SIMPSON COUNTY</b>							
Franklin	127	1,500	885	0	0	750	3,135
							-
<b>WARREN COUNTY</b>							
BOWLING GREEN	0	0	25,100	12,000	0		37,100
WARREN COUNTY WATER DISTRICT	1,520	3,335	0	0	0	0	3,335
WARREN COUNTY TOTAL	1,520	3,335	25,100	12,000			40,435
							-
BARREN RIVER ADD	3,934	22,349	34,289	13,500	1,000	1,740	73,948

**Proposed Projects 2006-2020**

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
ALLEN COUNTY							-
BARREN COUNTY							-
Caveland Sanitation Authority	49	2,120	-	-	-	-	2,120
BUTLER							-
MORGANTOWN	-	-	-	1,000	-	-	1,000
EDMONSON							-
HART							-
LOGAN							-
ADAIRVILLE	45	375	800	-			1,175
Russellville	485	4,071	-				4,071
Gordonsville Area (Non-Conventional)	25	300					300
Olmstead Area (Non-Conventional)	25	300					300
LEWISBURG	70	1,200	-	3,000	-	-	4,200
County Total	650	6,246	800	3,000			10,046
METCALFE							-
MONROE							-
SIMPSON							-
FRANKLIN	-	-	15,000	-	-	-	15,000
WARREN COUNTY							-
BOWLING GREEN	-	-	25,000	13,000	-		38,000
Warren County Water District	2,370	3,525	-				
WARREN County Total	2,370	3,525	25,000	13,000			41,525
BARREN RIVER ADD	3,069	11,891	40,800	17,000	-	-	69,691

## ALLEN COUNTY

### Allen County Sewer Service (map)

- Estimated 1999 population of 16,600--25% on public sewer
- Estimated 2020 population of 20,000--21% on public sewer
- Proposed projects would connect about 20 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--\$450,000
- Estimated funding needs for public sewer 2006-2020--\$0

Allen County had an estimated population of 16,650 (6,844 households) in 1999, with a projected population of 19,976 (8,753 households) in the year 2020. Public sewer is provided to about 25 percent of the county's residents. About 5,100 households in the county use on-site wastewater treatment. About 20 customers could be added to public sewer service through new line extensions in 2000-2020.

### ALLEN COUNTY SEWER PLAN

#### *Proposed Projects 2000-2005*

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
ALLEN COUNTY							
Scottsville Water Department	20	100	100			250	450
Allen County Total	20	100	100			250	450

#### *Proposed Projects 2006-2020*

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
ALLEN COUNTY							none

### CITY OF SCOTTSVILLE SANITARY SEWER SYSTEM

The City of Scottsville operates a sanitary sewer system, which serves all of the residences, businesses, and industry within the corporate limits. The system has 1,401 residential customers, 195 commercial customers and 12 industrial customers. All of these customers are within the corporate limits of Scottsville.



# SEWER SERVICE AREAS

## ALLEN COUNTY

### Kentucky

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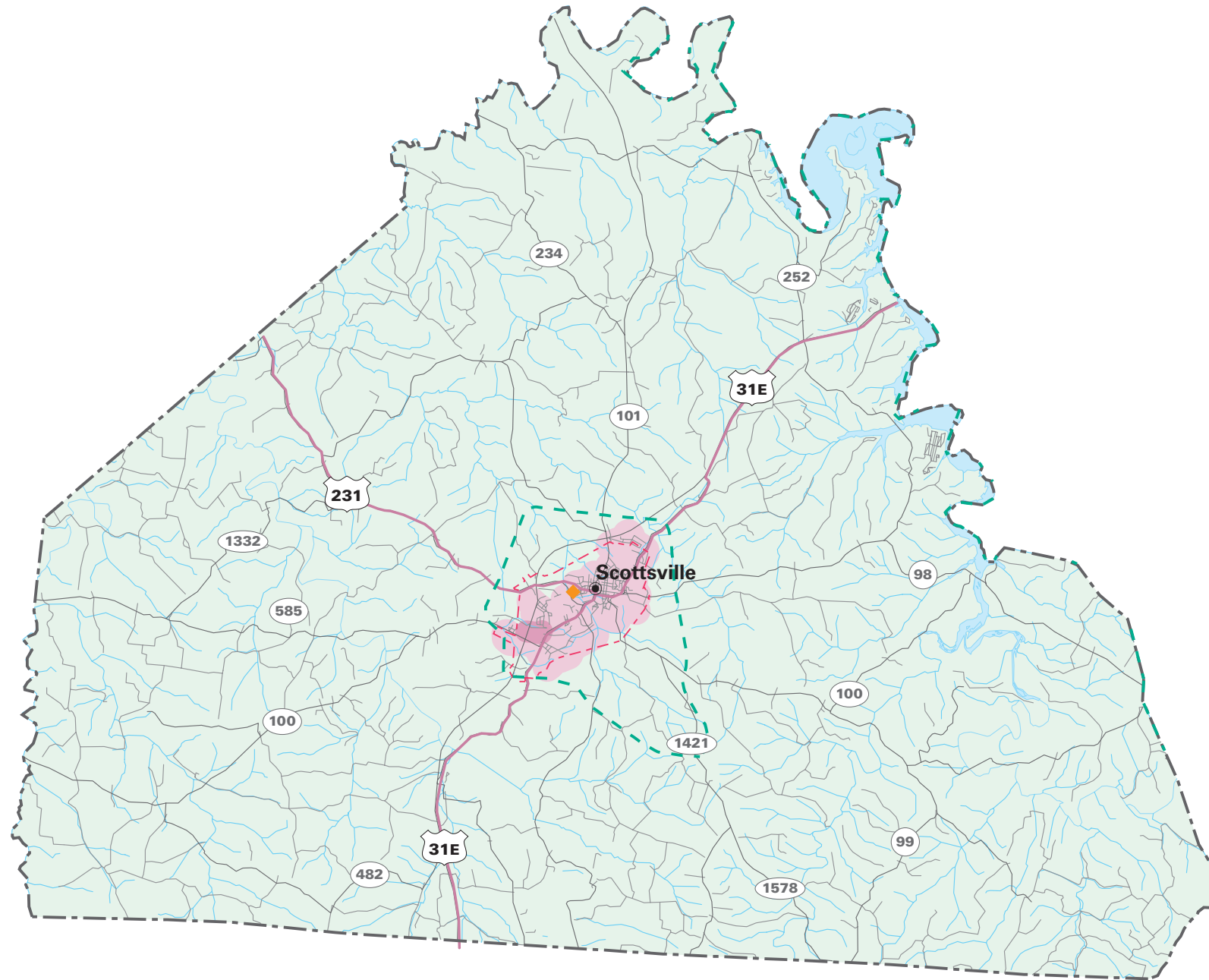
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 Kentucky Area Development Districts



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- - - - - 201k Facility Planning Area
- - - - - Incorporated City Boundary
- ◆ Sewage Treatment Plant



**SEWER SERVICE STATUS BY OWNER**

EXISTING SERVICE AREA	PROPOSED SERVICE AREA	
		CITY OF SCOTTSVILLE WASTEWATER

The sewage treatment plant discharges into West Bays Fork Creek. It was built in 1984 with a total rated capacity of 1.72 mgd. The dry weather load on the plant is about 0.3 mgd, with a wet weather load of about 3.0 mgd. There is no industrial pre-treatment program in place. There are six lift stations in the system, which serve both the residential and industrial customers. A study has shown that most of the infiltration/inflow comes from the downtown part of the system which is old and needs improvements.

A manager, who reports to both the Mayor and City Superintendent, operates the sanitary sewer system. Sewer rates for residential and commercial customers are set at \$3.15 per 1000 gallons of water consumption. The city also operates the water system. The manager oversees the daily operations of both.

The treatment plant generally meets its permit requirements and the only problems experienced are from power failures, caused by inclement weather.

The capacity of the sewer treatment plant is great enough to support any future development. According to the City of Scottsville the treatment plant will not need upgrading in the near future. Funds are needed however; to extend the collection system to households not currently served.

**Proposed Projects 2000-2005**

**SX21003001**

Priority	Project Owner	Cost Estimates	Customers
I	Scottsville	\$100,000	20

This 2,010 linear feet sanitary sewer extension, along Oliver Street, will provide service to 20 existing households. It will also enhance growth potential in the area.

**SX21003002**

Priority	Project Owner	Cost Estimates	Customers
I	Scottsville	\$100,000	System-wide

This project consists of upgrading three lift stations located throughout the system. These lift stations can no longer adequately serve the customers in the system.

## BARREN COUNTY

### Barren County Sewer Service (map)

- Estimated 1999 population of 37,200--50% on public sewer
- Estimated 2020 population of 42,200--55% on public sewer
- Proposed projects would connect about 900 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--\$9,060,000
- Estimated funding needs for public sewer 2006-2020--\$2,120,000

Barren County had an estimated population of 37,163 (15,459 households) in 1999, with a projected population of 42,155 (18,541 households) in the year 2020. Public sewer is provided to about 45 percent of the county's residents. About 8,500 households in the county use on-site wastewater treatment. About 900 customers could be added to public sewer service through new line extensions in 2000-2020.

### BARREN COUNTY SEWER PLAN

#### *Proposed Projects 2000-2005*

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
<b>BARREN COUNTY</b>							
<b>Caveland Sanitation Authority</b>							
SX21009002	12	125					125
SX21009004	6	74					74
SX21009005	50	277					277
SX21009006	200	3,500					3,500
SX21009008	26	163					163
SX21009013	6	10					10
<b>Total</b>	<b>300</b>	<b>4,149</b>					<b>4,149</b>
<b>Glasgow Sewer Commission</b>							
SX21009014	127	404					404
SX21009015	41	520					520
SX21009016	8	54					54
SX21009017	29	71					71
SX21009018	18	59					59
SX21009019	30	290					290
SX21009020	32	94					94
SX21009021	8	23					23
SX21009022	6	89					89
SX21009023	6	9					9
SX21009024	10	25					25
SX21009025			634				634
SX21009026	25	634					634
SX21009027	159	173					173

# SEWER SERVICE AREAS

## BARREN COUNTY

### Kentucky

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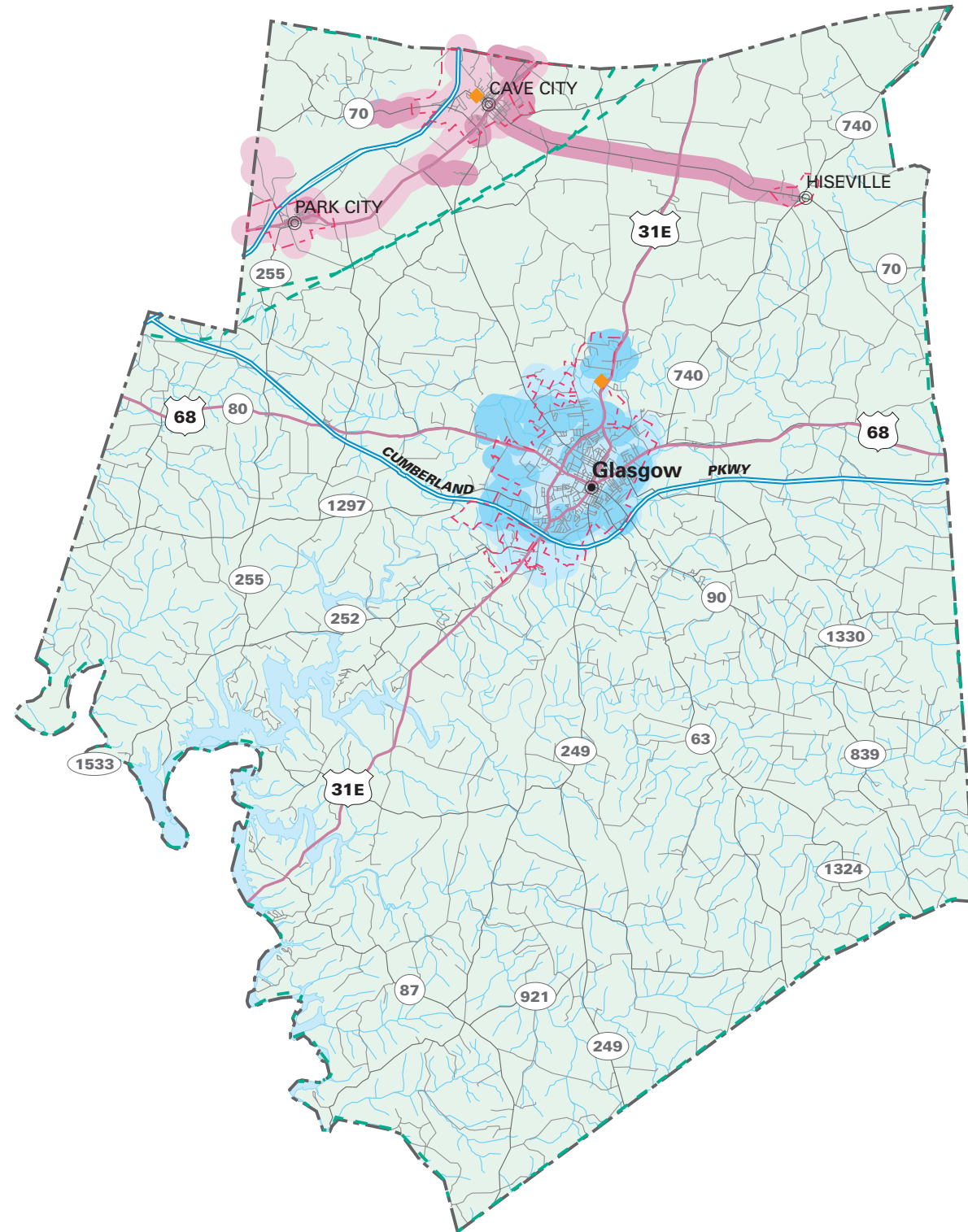
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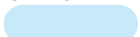





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-  201k Facility Planning Area
-  Incorporated City Boundary
-  Sewage Treatment Plant



#### SEWER SERVICE STATUS BY OWNER

EXISTING SERVICE AREA	PROPOSED SERVICE AREA	
		GLASGOW SEWER COMMISSION
		CAVELAND SANITATION AUTHORITY

SX21009028	4	5				5
SX21009029			1,700			1,700
SX21009030	35	102				102
SX21009031	8	29				29
total	546	2,581	2,334			4,915
<b>BARREN County Total</b>	<b>846</b>	<b>6,730</b>	<b>2,334</b>			<b>9,064</b>

***Proposed Projects 2006-2020***

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
<b>BARREN COUNTY</b>							-
Caveland Sanitation Authority							-
SX21009011	26	320					320
SX21009012	23	1,800					1,800
Total	49	2,120					2,120
<b>BARREN County Total</b>	<b>49</b>	<b>2,120</b>					<b>2,120</b>

**GLASGOW WATER AND SEWER COMMISSION**

The Glasgow Water and Sewer Commission operates a sanitary sewer system, which serves all of the residences, businesses, and industry within the corporate limits. The system has 4,345 residential customers and 767 commercial and industrial customers.

The sewage treatment plant discharges into Huggins Branch. It was built in 1974, and has a total rated capacity of 4 mgd. The dry weather load on the plant is about 2 mgd, with a wet weather load of about 2.5 mgd. There are 14 industries that currently have a pretreatment in place, they are as follows: Glasgow Spray Dry, R. R. Donnelley & Son, Dana Spicer Brake, SPD Magnet Wire, Nelson Metals, Amak Brake, SKF USA INC, International Paper, Pan Oston, Suntech IND., Fecker Brothers, North American Capacitor, Abex, and Regional Landfill. There are 15 lift stations in the system, which serve both the residential and commercial customers. A study has shown that most of the infiltration/inflow comes from the older part of the system in the downtown area.

Larry Estes who reports to the Glasgow Water and Sewer Commission operates the sanitary sewer system. Sewer rates for residential and commercial customers are set at a minimum \$3.30 base price for 2000 gallons and \$1.10 per 1000 gallons thereafter.

The treatment plant generally meets its permit requirements, but does experience imbalance from time to time. The imbalance is a result of wet weather infiltration. The extent of the problem is unknown.

The capacity of the sewer treatment plant is great enough to support the needs of the system. A normal amount of growth in the Glasgow area will not effect the status of the plant; however a large amount of growth will warrant an upgrade to the facility.

Funds are needed to construct interceptor sewer lines and to replace and repair older areas of the existing system. Funds for manhole renovation will decrease the amount of inflow and infiltration currently experienced by the system.

**Proposed Projects 2000-2005**

**SX21009014**

Priority	Project Owner	Cost Estimates	Customers
I	GSC	\$404,000	127

This project consists of adding 20,725 linear feet of sewer main to adequately serve 127 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**SX21009015**

Priority	Project Owner	Cost Estimates	Customers
I	GSC	\$520,000	41

This project consists of adding 15,800 linear feet of sewer main to adequately serve 41 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**SX21009016**

Priority	Project Owner	Cost Estimates	Customers
I	GSC	\$53,500	8

This project consists of adding 2,675 linear feet of sewer main to adequately serve 8 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**SX21009017**

Priority	Project Owner	Cost Estimates	Customers
I	GSC	\$71,000	29

This project consists of adding 3,550 linear feet of sewer main to adequately serve 29 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**SX21009018**

<u>Priority</u>	<u>Project Owner</u>	<u>Cost Estimates</u>	<u>Customers</u>
I	GSC	\$58,660	18

This project consists of adding 2,015 linear feet of sewer main to adequately serve 18 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**SX21009019**

<u>Priority</u>	<u>Project Owner</u>	<u>Cost Estimates</u>	<u>Customers</u>
I	GSC	\$289,500	30

This project consists of adding 11,480 linear feet of sewer main to adequately serve 30 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**SX21009020**

<u>Priority</u>	<u>Project Owner</u>	<u>Cost Estimates</u>	<u>Customers</u>
I	GSC	\$94,320	32

This project consists of adding 4,715 linear feet of sewer main to adequately serve 32 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**SX21009021**

<u>Priority</u>	<u>Project Owner</u>	<u>Cost Estimates</u>	<u>Customers</u>
I	GSC	\$23,000	8

This project consists of adding 1,150 linear feet of sewer main to adequately serve 8 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**SX21009022**

<u>Priority</u>	<u>Project Owner</u>	<u>Cost Estimates</u>	<u>Customers</u>
I	GSC	\$88,800	6

This project consists of adding 4,440 linear feet of sewer main to adequately serve 6 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**SX21009023**

<u>Priority</u>	<u>Project Owner</u>	<u>Cost Estimates</u>	<u>Customers</u>
I	GSC	\$8,600	6

This project consists of adding 432 linear feet of sewer main to adequately serve 6 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**SX21009024**

Priority	Project Owner	Cost Estimates	Customers
I	GSC	\$25,200	10

This project consists of adding 1,260 linear feet of sewer main to adequately serve 10 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**SX21009025**

Priority	Project Owner	Cost Estimates	Customers
I	GSC	\$634,000	Potential

This project consists of adding 7,955 linear feet of sewer main to adequately develop a prime residential area in the Glasgow Sewer Commission area.

**SX21009026**

Priority	Project Owner	Cost Estimates	Customers
I	GSC	\$634,000	25

This project consists of adding 1,158 linear feet of sewer main to adequately serve 25 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**SX21009027**

Priority	Project Owner	Cost Estimates	Customers
I	GSC	\$173,400	159

This project consists of adding 8,670 linear feet of sewer main to adequately serve 159 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**SX21009028**

Priority	Project Owner	Cost Estimates	Customers
I	GSC	\$5,400	4

This project consists of adding 270 linear feet of sewer main to adequately serve 4 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**SX21009029**

Priority	Project Owner	Cost Estimates	Customers
I	GSC	\$1,700,000	Potential

This project consists of adding 27,045 linear feet of sewer main to adequately develop a prime residential area in the Glasgow Sewer Commission area.



**SX21009030**

Priority	Project Owner	Cost Estimates	Customers
I	GSC	\$102,000	35

This project consists of adding 5,100 linear feet of sewer main to adequately serve 35 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**SX21009031**

Priority	Project Owner	Cost Estimates	Customers
I	GSC	\$29,000	8

This project consists of adding 1,450 linear feet of sewer main to adequately serve 8 customers in the Glasgow Sewer Commission area. This addition will serve the area’s current needs and enhance growth potential.

**CAVELAND SANITATION AUTHORITY**

Caveland Sanitation Authority operates a sanitary sewer system, serving customers in Barren and Hart Counties. The system has 1,862 residential customers, 93 commercial customers, 10 industrial customers, and 4 institutional customers. The system serves customers within the corporate limits of Cave City and Horse Cave, along with customers in the surrounding area outside of these limits.

Caveland Sanitation Authority operates two sewage treatment plants, one in Horse Cave and one in Cave City. Both of the treatment plants discharge into the Green River. The treatment plants were constructed in 1964 and expanded in 1988. The Horse Cave plant has a total rated capacity of 0.280 mgd, while the Cave City plant has a total rated capacity of 0.600 mgd. The dry weather and wet weather load on each of the plant is equivalent to their total rated capacities. An industrial pre-treatment program is in place at Dart Inc., and works reasonably well. There are 79 lift stations in the system, which serve all of the customers in Horse Cave and Cave City. A study has shown that most of the inflow and infiltration comes from pump station CC-2 in Cave City and pump station HC-2 in Horse Cave.

David Peterson operates the system and Steve Hogan operates the treatment plants. They report to Caveland Sanitation Authority, of which David Peterson is the manager. Sewer rates for residential and commercial customers are set at \$9.08 base price for 2000 gallons and \$4.54 per 1000 gallons thereafter.

Both treatment plants generally meet permit requirements and do not experience imbalance. The only problem experienced by the sewer system is occasional line stoppage. The staff at Caveland Sanitation Authority easily handles this.

The capacity of each of the sewer treatment plants, in the Caveland Sanitation Authority system, is great enough to support the needs of the system. Currently, there are no plans for expansion of either plant.

Funds are needed for general maintenance and upkeep of the system. Also, funds will be used for expansion of the system. The collector system will be extended to reach new customers.

**Proposed Projects 2000-2005**

**SX21009002**

Priority	Project Owner	Cost Estimates	Customers
I	CSA	\$125,000	12

This 2,000 linear feet sewer main extension, along Highway 90, will extend sanitary sewer services to 12 existing households and enhance growth in the area.

**SX21009004**

Priority	Project Owner	Cost Estimates	Customers
I	CSA	\$74,000	6

This 400 linear feet gravity main and 1,000 linear feet force main extension will extend sanitary sewer services to six existing households and enhance growth in the area. A pump station will also be installed.

**SX21009005**

Priority	Project Owner	Cost Estimates	Customers
I	CSA	\$277,000	50

This 5,000 linear feet sewer main extension will begin where SX21009004 ends. It will extend sanitary sewer services to 50 existing households and enhance growth in the area.

**SX21009006**

Priority	Project Owner	Cost Estimates	Customers
I	CSA	\$3,500,000	200

This project consists of installing a collection system in Hiseville. An eight-mile long force main and two pump stations will then be installed to carry the waste to the CSA system.

**SX21009008**

Priority	Project Owner	Cost Estimates	Customers
I	CSA	\$163,000	26

This project consists of installing 26 grinder pumps, along Grinstead Mill Road, to improve

flow.

**SX21009013**

Priority	Project Owner	Cost Estimates	Customers
I	CSA	\$9,500	6

This 500 linear feet sewer main extension, along Blakeman Street, will extend sanitary sewer services to six existing households and enhance growth in the area.

**Proposed Projects 2006-2020**

**SX21009011**

Priority	Project Owner	Cost Estimates	Customers
L	CSA	\$320,000	26

This 6,000 linear feet gravity main and 8,000 linear feet of six-inch force main will extend sanitary sewer services to 26 existing households and enhance growth in the area. A pump station will also be installed.

**SX21009012**

Priority	Project Owner	Cost Estimates	Customers
L	CSA	\$1,800,000	23

This 8,000 linear feet sewer main extension, along Highway 70, will extend sanitary sewer services to 23 existing households and enhance growth in the area.

## BUTLER COUNTY

### Butler County Sewer Service (map)

- Estimated 1999 population of 11,800--20% on public sewer
- Estimated 2020 population of 12,700--19% on public sewer
- Proposed projects would connect about 15 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--\$480,000
- Estimated funding needs for public sewer 2006-2020--\$1,000,000

Butler County had an estimated population of 11,761 (4,766 households) in 1999 with a projected population of 12,700 (5,500 households) in 2020. Public sewer is provided to about 20 percent of the households. About 3,800 households use on-site systems. About 15 customers could be added to public sewer service through new line extensions in 2000-2020.

### BUTLER COUNTY SEWER PLAN

#### *Proposed Projects 2000-2005*

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
BUTLER							-
MORGANTOWN Utilities							-
SX21031001	2	50					50
SX21031002			100				100
SX21031003	8	90					90
SX21031004			200				200
SX21031005	5	40					40
BUTLER County Total	15	180	300	0			480

#### *Proposed Projects 2006-2020*

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
BUTLER							-
MORGANTOWN Utilities				1,000			1,000
BUTLER County Total				1,000			1,000

#### MORGANTOWN UTILITIES

The Morgantown Utilities operates a sanitary sewer system, which serves all of the residences, businesses, and industry within the corporate limits. The system has 603 residential customers, 170 commercial customers, and 13 industrial customers.

# SEWER SERVICE AREAS BUTLER COUNTY Kentucky



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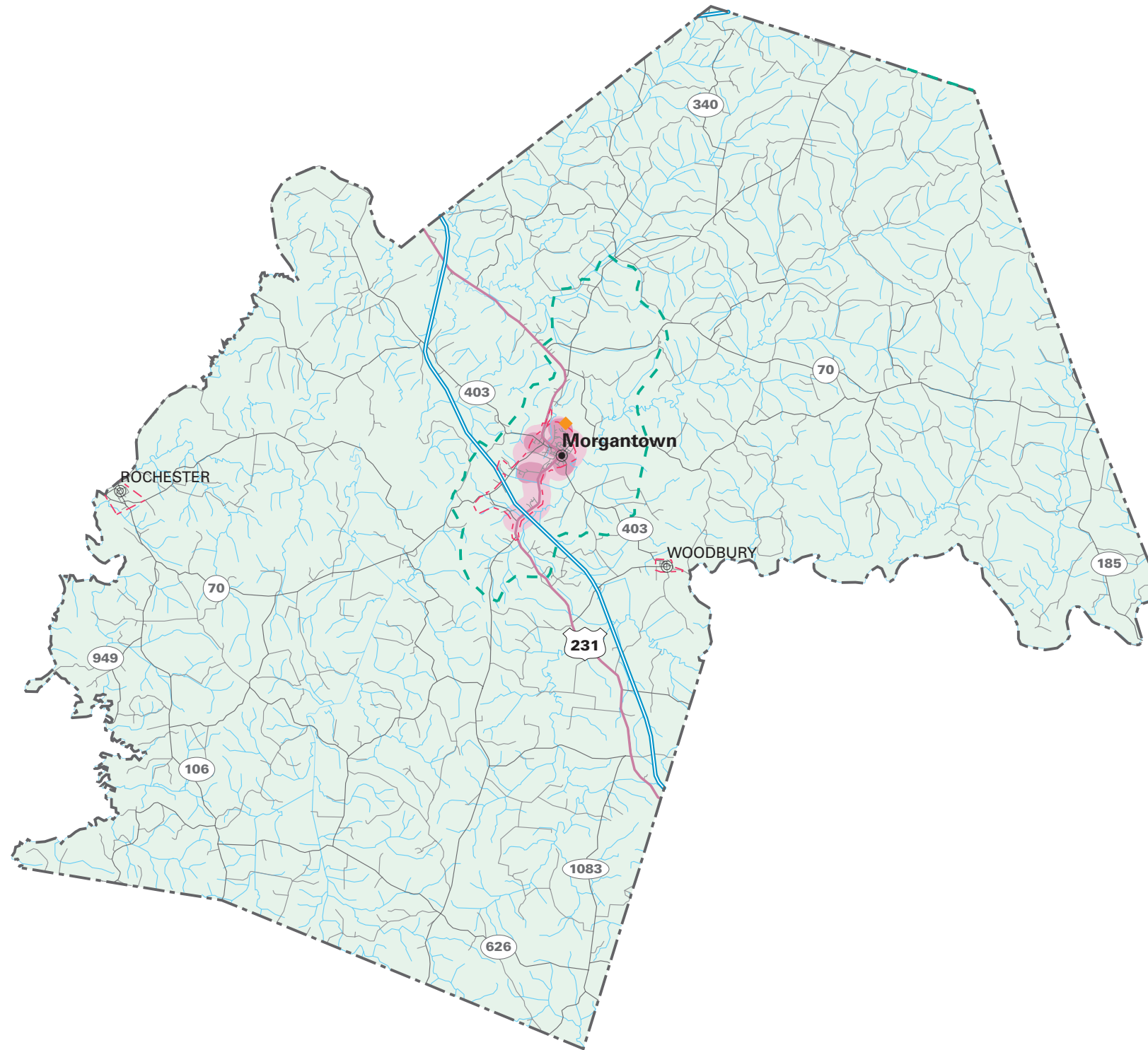
Final GIS & Cartographic Operations By:  
Kent Anness & Kim Anness

Data Collection & GIS Input By:  
Kentucky Area Development Districts



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- - - 201k Facility Planning Area
- - - Incorporated City Boundary
- ◆ Sewage Treatment Plant



**SEWER SERVICE STATUS BY OWNER**

EXISTING SERVICE AREA	PROPOSED SERVICE AREA	
<span style="display: inline-block; width: 20px; height: 10px; background-color: #f0d0d0; border: 1px solid black;"></span>	<span style="display: inline-block; width: 20px; height: 10px; background-color: #d08080; border: 1px solid black;"></span>	MORGANTOWN UTILITIES

The sewage treatment plant discharges into the Green River. It was built in 1980, to a total rated capacity of 0.500 mgd. The dry weather load on the plant is about 0.230 mgd, with a wet weather load of about 0.450 mgd. There is an industrial pre-treatment program in place and it works very well. There are nine lift stations in the system, which serve both the residential and industrial customers. A study has shown that most of the infiltration/inflow comes from the older parts of the system which were constructed around 1935.

Randell Gaskey who reports to the Morgantown Utility Board operates the sanitary sewer system. Sewer rates for residential and commercial customers are set at 110% of the total water bill.

The treatment plant generally meets its permit requirements and the only problems experienced are from power failures, due to inclement weather.

The capacity of the sewer treatment plant is great enough to support any future development. Currently, there are no plans to expand the capacity of the sewer treatment plant.

Funds are needed to extend the collector system to households which are not currently served by Morgantown Utilities Sanitary Sewer System. Also, funds are needed for general maintenance and upkeep of the system.

**Proposed Projects 2000-2005**

**SX21031001**

Priority	Project Owner	Cost Estimates	Customers
I	MU	\$50,000	2

This 1,000 linear feet sewer main, along Middle Ferry Road, will extend sanitary sewer services to two existing households.

**SX21031002**

Priority	Project Owner	Cost Estimates	Customers
I	MU	\$100,000	5

This 465 linear feet sewer main, along North Taylor Street, will connect existing sewer mains, to improve flow, and will serve an additional five households in the area.

**SX21031003**

Priority	Project Owner	Cost Estimates	Customers
I	MU	\$90,000	8

This 1,415 linear feet sewer main, along Saw Mill Road, will extend sanitary sewer services to eight existing households. A lift station will also be added to improve flow where gravity lines are not adequate.

**SX21031004**

Priority	Project Owner	Cost Estimates	Customers
I	MU	\$200,000	12

This 870 linear feet sewer main, along Hillside and Allen Drive, will extend sanitary sewer services to 12 existing households. A lift station will also be added to improve flow where gravity lines are not adequate.

**SX21031005**

Priority	Project Owner	Cost Estimates	Customers
I	MU	\$40,000	5

This 235 linear feet sewer main, along Hillview Drive, will extend sanitary sewer services to five existing households.

**Proposed Projects 2006-2020**

**SX21031006**

Priority	Project Owner	Cost Estimates	Customers
L	MU	\$1,000,000	System-wide

The sewer treatment plant will be upgraded to adequately serve the systems needs as the City of Morgantown grows.

## EDMONSON COUNTY

### Edmonson County Sewer Service (map)

- Estimated 1999 population of 11,500-- 11% on public sewer
- Estimated 2020 population of 13,600--10% on public sewer
- Proposed projects would connect about 15 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--\$125,000
- Estimated funding needs for public sewer 2006-2020--\$0

Edmondson County had an estimated population of 11,494 (4,635 households) in 1999, with a projected population of 13,574 (5,913 households) by the year 2020. Public sewer is provided to about 11 percent of the county's residents. About 4,100 households in the county use on-site treatment systems. About 15 customers could be added to public sewer service through new line extensions in 2000-2020.

### EDMONSON COUNTY SEWER PLAN

#### *Proposed Projects 2000-2005*

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
EDMONSON COUTY							
Brownsville Sewer System							
SX21061001	15	125					125
EDMONSON COUNTY TOTAL	15	125					125

#### *Proposed Projects 2006-2020*

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
EDMONSON							none

#### CITY OF BROWNSVILLE SANITARY SEWER SYSTEM

The City of Brownsville operates a sanitary sewer system, which serves all of the residences, businesses, and institutions within the corporate limits. The system has 376 residential customers, 49 commercial customers, and 6 institutional customers.

The sewage treatment plant discharges into the Green River. It was built in 1986 with a total rated capacity of 0.218 mgd. The dry weather load on the plant is about 0.05 mgd, with a wet weather load of about 0.08 mgd. There is no industrial pre-treatment program in place.



# SEWER SERVICE AREAS

## EDMONSON COUNTY

### Kentucky



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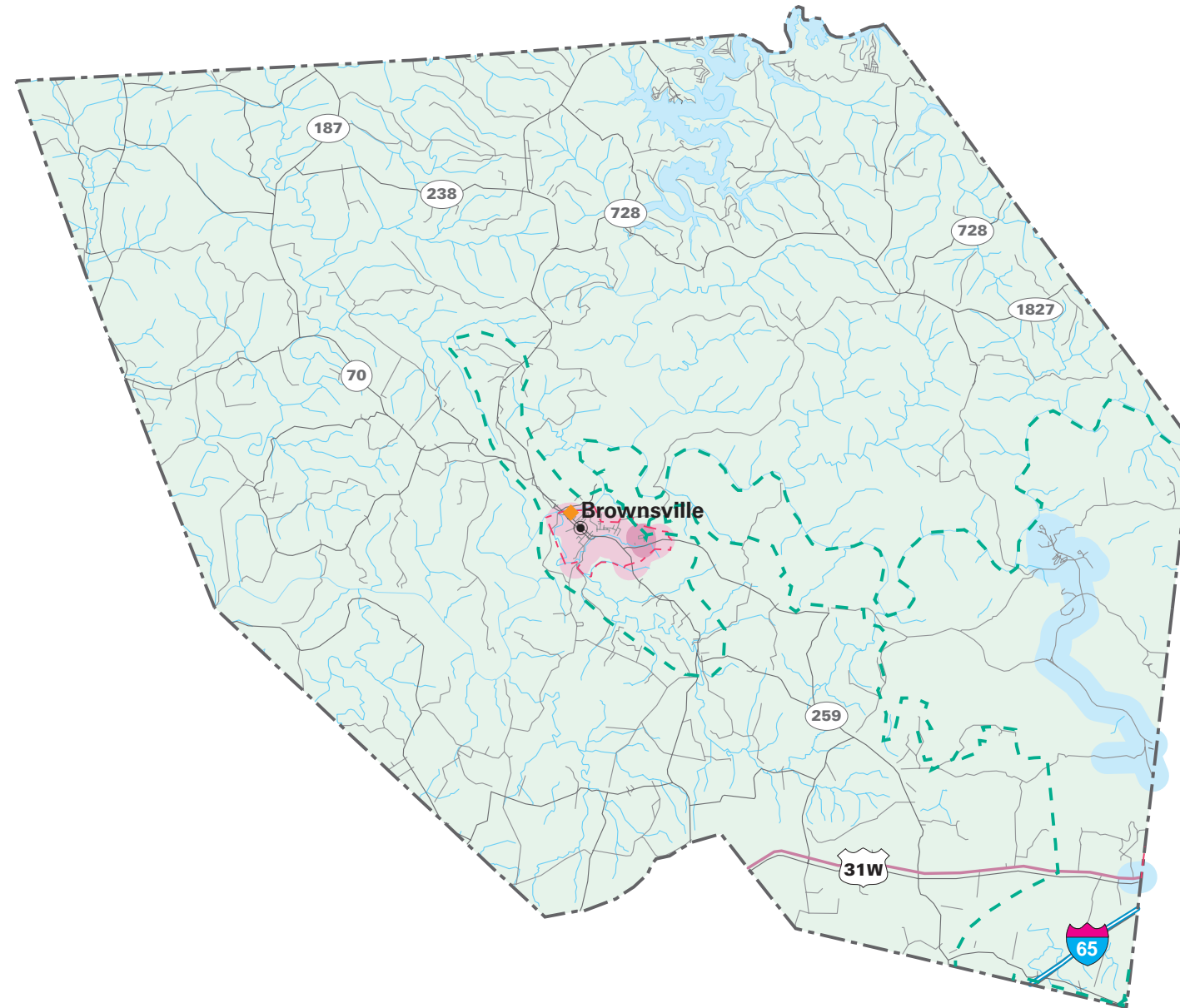
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- - - - - 201k Facility Planning Area
- - - - - Incorporated City Boundary
- ◆ Sewage Treatment Plant



**SEWER SERVICE STATUS BY OWNER**

EXISTING SERVICE AREA	PROPOSED SERVICE AREA	
<span style="color: lightblue;">■</span>	<span style="color: blue;">■</span>	CAVELAND SANITATION AUTHORITY
<span style="color: pink;">■</span>	<span style="color: magenta;">■</span>	BROWNSVILLE SEWER SYSTEM

There are five lift stations in the system, which serve both the residential and commercial customers. It is unknown where the infiltration and inflow comes from within the system.

Jerry Spainhoward who reports to the mayor and the city council operates the sanitary sewer system. Sewer rates for residential and commercial customers are set at \$2 less than the total water charge.

The treatment plant generally meets its permit requirements; however, it does experience imbalance during very wet weather or large amounts of rainfall. The excess precipitation causes inflow and infiltration.

The capacity of the treatment plant is great enough to support projected future development. Currently there are no plans to upgrade the capacity of the plant.

Funds are needed to correct inflow and infiltration problems throughout the system. Also the system needs to be expanded to serve new customers in areas which the current system does not cover.

**Proposed Projects 2005-2020**

**SX21061001**

<u>Priority</u>	<u>Project Owner</u>	<u>Cost Estimates</u>	<u>Customers</u>
I	Brownsville	\$125,000	15

This 2,500 linear feet sanitary sewer extension, along Papa Court, will provide service to 15 existing households. It will also enhance growth potential in the area.

## HART COUNTY

### Hart County Sewer Service (map)

- Estimated 1999 population of 16,900--25% on public sewer
- Estimated 2020 population of 19,400--30% on public sewer
- Proposed projects would connect about 500 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--\$8,880,000
- Estimated funding needs for public sewer 2006-2020--\$0

Hart County had a population of 16,940 (6,947 households) in 1999 with a projected population of 19,431 (8,518 households) in 2020. Public sewer is provided to about 25 percent of the county's residents. About 5,200 households treat wastewater on site. About 500 customers could be added to public sewer service through new line extensions in 2000-2020.

### HART COUNTY SEWER PLAN

#### Proposed Projects 2000-2005

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
<b>HART COUNTY</b>							-
City of Bonnieville							-
SX21099001	235	1,900					1,900
<b>Caveland Sanitation Authority</b>							
SX21099003	51	277					277
SX21099004	175	3,000					3,000
<b>Total</b>	<b>226</b>	<b>3,277</b>					<b>3,277</b>
<b>City of Munfordville</b>							
SX21099018	6	66					66
SX21099019	4	43					43
SX21099020	2	20					20
SX21099021	8	65					65
SX21099022	12	50					50
SX21099023	2	21					21
SX21099024			3,440				3,440
<b>Total</b>	<b>34</b>	<b>265</b>	<b>3,440</b>				<b>3,705</b>
<b>HART County Total</b>	<b>495</b>	<b>5,442</b>	<b>3,440</b>				<b>8,882</b>

# SEWER SERVICE AREAS

## HART COUNTY

### Kentucky

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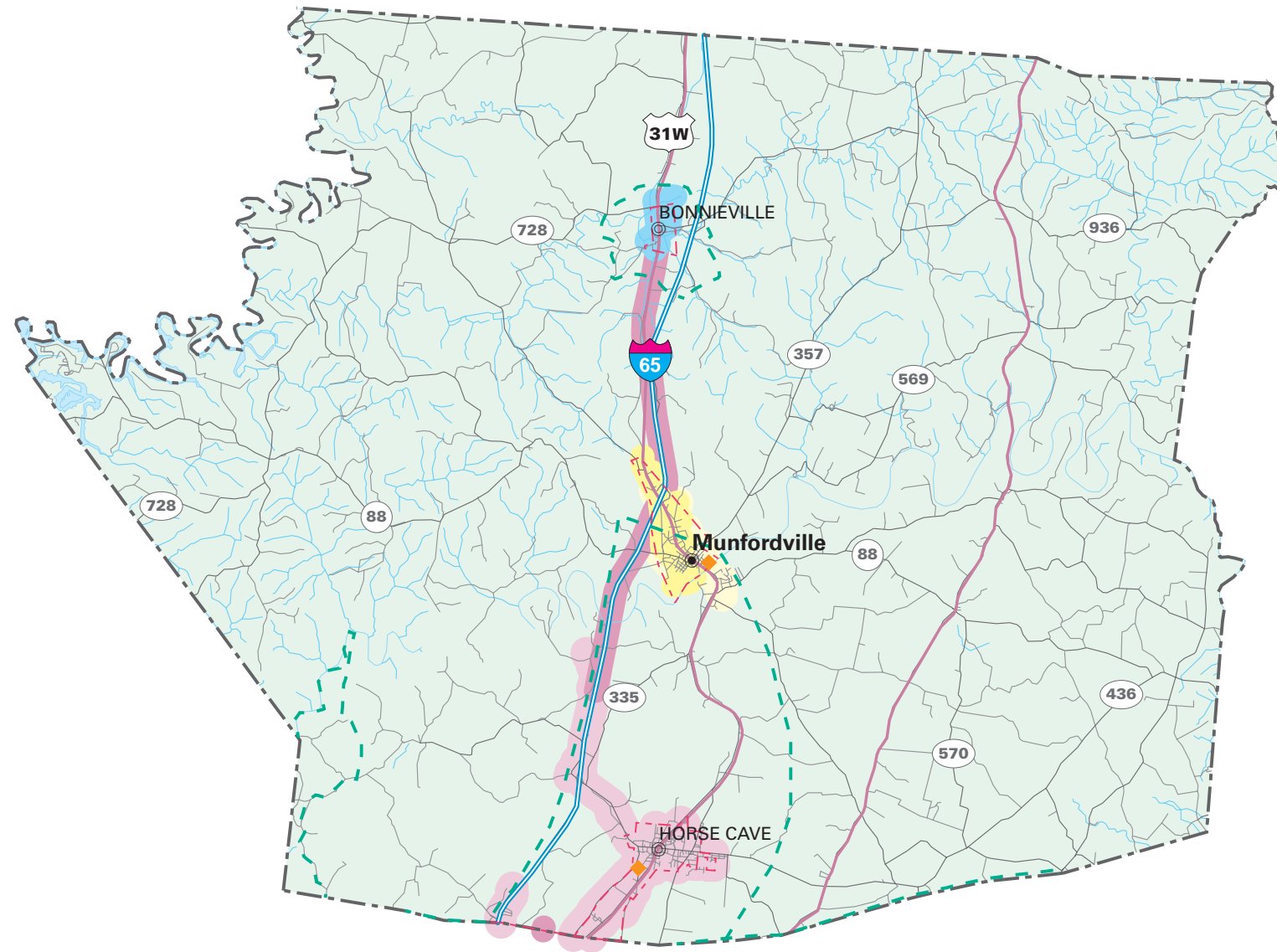
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- - - 201k Facility Planning Area
- - - Incorporated City Boundary
- ◆ Sewage Treatment Plant



#### WATER SERVICE STATUS BY OWNER

EXISTING SERVICE AREA	PROPOSED SERVICE AREA	OWNER
<span style="background-color: #ffffcc; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span>	<span style="background-color: #ffffcc; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span>	CITY OF MUNFORDVILLE
<span style="background-color: #add8e6; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span>	<span style="background-color: #add8e6; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span>	CITY OF BONNIEVILLE
<span style="background-color: #ffb6c1; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span>	<span style="background-color: #ffb6c1; border: 1px solid black; display: inline-block; width: 20px; height: 10px;"></span>	CAVELAND SANITATION AUTHORITY



**Proposed Projects 2006-2020**

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
HART							none

**CITY OF MUNFORDVILLE SANITARY SEWER SYSTEM**

The City of Munfordville operates a sanitary sewer system, which serves all of the residences, businesses, and industry within the corporate limits, and Munfordville High School, which is beyond the corporate limits. The system has 418 residential customers, 93 commercial customers, 2 industrial customers, and 3 institutional customers.

The sewage treatment plant discharges into the Green River. It was built in 1963, and was expanded in 1997 to a total rated capacity of 0.235 mgd. The dry weather load on the plant is about 0.090 mgd, with a wet weather load of about 0.110 mgd. There is no industrial pre-treatment program in place. There are 15 lift stations in the system, which serve both the residential and industrial customers. A study has shown that most of the infiltration/inflow comes from the older areas in the downtown part of the system.

Tim Wilkerson operates the sanitary sewer system. He reports to the mayor of Munfordville and the city council. Sewer rates for residential and commercial customers are set at \$9.40 base for 2000 gallons and \$4.70 per 1000 gallons thereafter.

The treatment plant generally meets its permit requirements and currently experiences no problems or imbalance.

The capacity of the treatment plant is great enough to support projected future development and currently there are no plans to upgrade the plant.

Funds are needed to repair and replace sections of the system that are aging. Also funds can be used to extend services to areas not currently covered with the existing collection system.

**Proposed Projects 2000-2005**

**SX21099018**

Priority	Project Owner	Cost Estimates	Customers
I	MWW	\$65,500	6

This 13,010 linear feet sewer main extension, along McCubbins Road, will extend sanitary sewer services to six existing households and enhance growth in the area.

**SX21099019**

Priority	Project Owner	Cost Estimates	Customers
I	MWW	\$43,000	4

This 860 linear feet sewer main extension, along Devore Lane, will extend sanitary sewer services to four existing households and enhance growth in the area.

**SX21099020**

Priority	Project Owner	Cost Estimates	Customers
I	MWW	\$19,500	2

This 390 linear feet sewer main extension, along Howard Street, will extend sanitary sewer services to two existing households and enhance growth in the area.

**SX21099021**

Priority	Project Owner	Cost Estimates	Customers
I	MWW	\$65,000	8

This 1,300 linear feet sewer main extension, along Stewart Street, will extend sanitary sewer services to eight existing households and enhance growth in the area.

**SX21099022**

Priority	Project Owner	Cost Estimates	Customers
I	MWW	\$50,000	12

This 990 linear feet sewer main extension, along Washington Street, will extend sanitary sewer services to 12 existing households and enhance growth in the area.

**SX21099023**

Priority	Project Owner	Cost Estimates	Customers
I	MWW	\$21,000	2

This 426 linear feet sewer main extension, along Miller Drive, will extend sanitary sewer services to two existing households and enhance growth in the area.

**SX21099024**

Priority	Project Owner	Cost Estimates	Customers
I	MWW	\$3,440,000	9

This 13,010 linear feet sewer main extension, near Fourth Street, will extend sanitary sewer services to nine existing households and enhance growth in the area.

**CAVELAND SANITATION AUTHORITY**

***Proposed Projects 2000-2005***

**SX21099003**

Priority	Project Owner	Cost Estimates	Customers
I	CSA	\$277,000	51

This project consists of installing 4,000 linear feet of eight-inch sewer main and 1,000 linear feet of four-inch force main, in the Rolling Hills subdivision. Two pump stations will also be

installed to increase the flow in the area.

**SX21099004**

<u>Priority</u>	<u>Project Owner</u>	<u>Cost Estimates</u>	<u>Customers</u>
I	CSA	\$3,000,000	175

This project consists of installing eight miles of force main to hook the Bonnieville sewer system to the Caveland Sanitation system.

**CITY OF BONNIEVILLE**

***Proposed Projects 2000-2005***

**SX21099001**

<u>Priority</u>	<u>Project Owner</u>	<u>Cost Estimates</u>	<u>Customers</u>
I	Bonnieville	\$1,896,500	235

This project consists of installing a sanitary sewer system for the entire city of Bonnieville. This includes lines and a treatment plant adequate to serve the needs of this growing city.

## LOGAN COUNTY

### Logan County Sewer Service (map)

- Estimated 1999 population of 26,400--45% on public sewer
- Estimated 2020 population of 29,000--60% on public sewer
- Proposed projects would connect about 1,500 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--\$9,170,000
- Estimated funding needs for public sewer 2006-2020--\$10,050,000

Logan County had a population of 26,405 (10,824 households) in 1999 with a projected population of 29,004 (12,489 households) in 2020. Public sewer is provided to about 45 percent of the county's residents. About 6,000 households treat wastewater on-site. About 1,500 customers could be added to public sewer service through new line extensions in 2000-2020.

### LOGAN COUNTY SEWER PLAN

#### *Proposed Projects 2000-2005*

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
<b>LOGAN</b>							
<b>ADAIRVILLE WATER WORKS</b>							
SX21141015			300				300
SX21141016	7	155					155
<b>Total</b>	7	155	300				455
							-
<b>City of Auburn</b>							-
SX21141022	15	241					241
SX21141023	15	133					133
SX21141024	25	242					242
SX21141025				1,500			1,500
<b>Total Auburn</b>	55	616		1,500			2,116
<b>CITY OF RUSSELLVILLE</b>							-
SX21141026	100	350					350
SX21141027	20	300					300
SX21141028	IND	150					150
SX21141029	125	200					200
SX21141030			650				650
SX21141031	50	375					375
SX21141032	80	600					600
SX21141033	200	150					150
SX21141034						190	190
SX21141035			180				180



# SEWER SERVICE AREAS

## LOGAN COUNTY

### Kentucky

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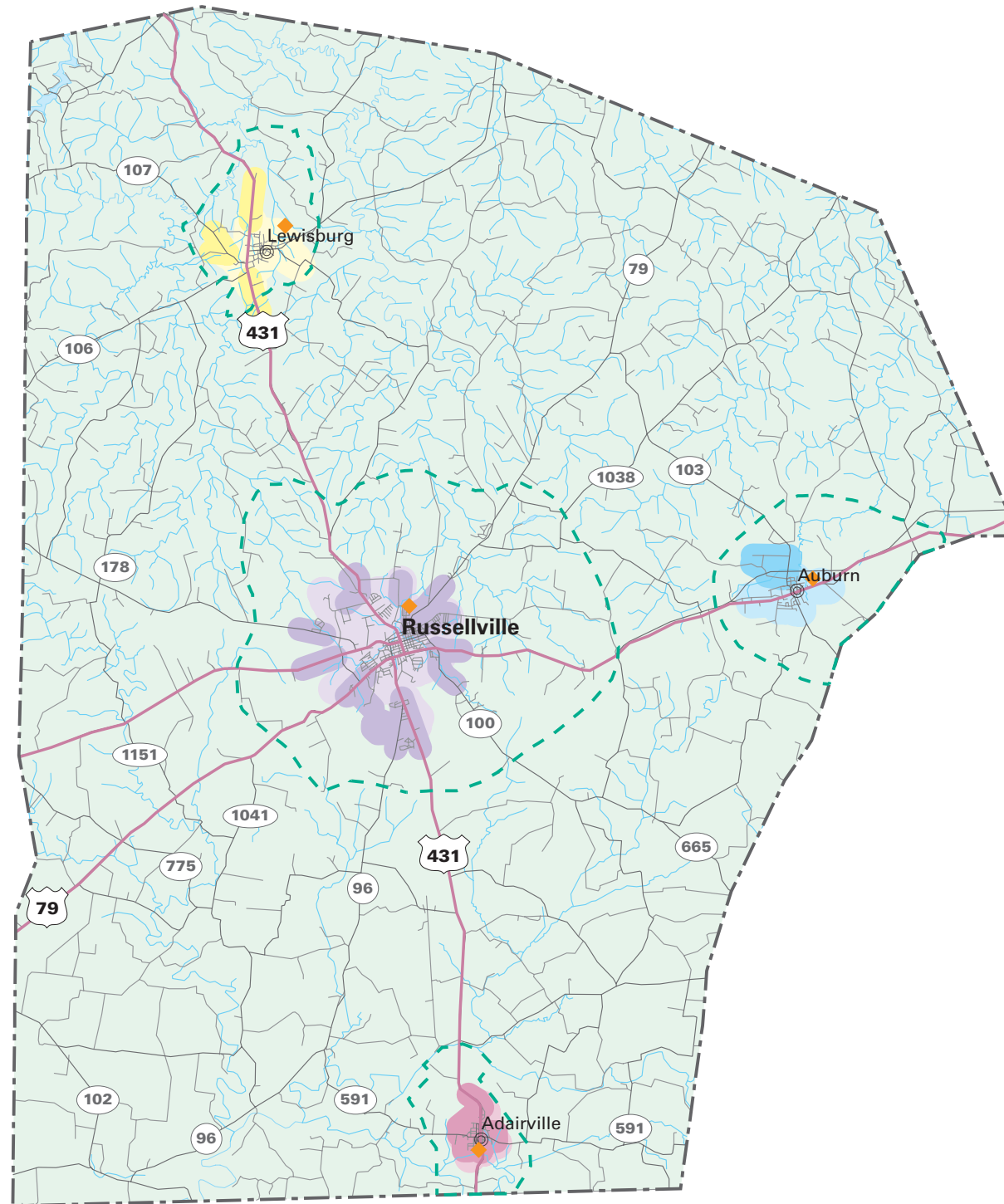
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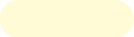
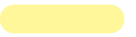
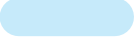





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-  201k Facility Planning Area
-  Incorporated City Boundary
-  Sewage Treatment Plant



#### SEWER SERVICE STATUS BY OWNER

EXISTING SERVICE AREA	PROPOSED SERVICE AREA	OWNER
		RUSSELLVILLE MUNICIPALITY
		CITY OF LEWISBURG
		CITY OF AUBURN
		CITY OF ADAIRVILLE



SX21141036			1,000				1,000
SX21141037						200	200
SX21141038						350	350
SX21141039							-
<b>Total</b>	575	2,125	1,830			740	4,695
<b>Lewisburg</b>							
<b>Non-Conventional Sewers</b>							
Lake Malone Area	215	900			1,000		1,900
<b>Total non conventional</b>	215	900			1,000		1,900
<b>LOGAN County Total</b>	852	3,796	2,130	1,500	1,000	740	9,166

**Proposed Projects 2006-2020**

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
<b>LOGAN</b>							-
<b>ADAIRVILLE WATER WORKS</b>							-
SX21141017			500				500
SX21141018	20	175					175
SX21141019	25	200					200
SX21141020			100				100
SX21141021			200				200
<b>Adairsville Total</b>	45	375	800				1,175
							-
<b>City of Russellville</b>							-
SX21141001	40	275					275
SX21141002	60	166					166
SX21141003	15	228					228
SX21141004	10	353					353
SX21141005	65	1,044					1,044
SX21141006	65	282					282
SX21141007	40	164					164
SX21141008	30	296					296
SX21141009	20	337					337
SX21141010	40	275					275
SX21141039	100	651					651
<b>Total</b>	485	4,071					4,071
<b>Non-Conventional Sewers</b>							
Gordonsville Area	25	300					300
Olmstead Area	25	300					300
<b>Total</b>	50	600					600
							-
<b>LEWISBURG WATER WORKS</b>							-
SX21141011	20	250					250
SX21141012	20	200					200
SX21141013	20	550					550
SX21141014	10	200					200
					3,000		3,000
<b>Total Lewisburg</b>	70	1,200		3,000			4,200
<b>LOGAN County Total</b>	650	6,246	800	3,000			10,046

**CITY OF ADAIRVILLE SANITARY SEWER SYSTEM**

The City of Adairville operates a sanitary sewer system, which serves all of the residences, businesses, and industry within the corporate limits. The system has 364 residential customers, 21 commercial customers, and 2 industrial customers. All of these customers are within the corporate limits of Adairville.

The sewage treatment plant discharges into South Fork Red River. It was built in 1964, and has a total rated capacity of 0.260 mgd. The dry weather load on the plant is about 0.075 mgd, with a wet weather load of about 0.200 mgd. There is no industrial pre-treatment program in place. There are three lift stations in the system, which serve both the residential and industrial customers. A study has shown that most of the infiltration/inflow comes from the area near the north lift station.

Russell Law and Joe Dean Smith operate the sanitary sewer system. They report to the mayor and the city council. Sewer rates for residential and commercial customers are set at \$9.19 base for 2000 gallons and \$4.26 per 1000 gallons thereafter.

The treatment plant generally meets its permit requirements, but occasionally sludge from the water treatment plant causes imbalance at the sewer treatment plant. The staff at the plant easily handles this problem.

The capacity of the treatment plant is great enough to support projected future development. Currently there are no plans to upgrade the capacity of the plant.

Funds are needed to correct inflow and infiltration problems near the north pump station. New lift stations need to be purchased to replace existing lift stations that no longer handle the load of the system. Also the system needs to be expanded to serve new customers in areas where the current system does not cover.

**Proposed Projects 2000-2005**

**SX21141015**

Priority	Project Owner	Cost Estimates	Customers
I	Adairville	\$300,000	1,320

This project consists of correcting the inflow and infiltration problem of the original system built in the 1960's.

**SX21141016**

Priority	Project Owner	Cost Estimates	Customers
I	Adairville	\$155,000	7

This 240 linear feet sewer main extension, along Red River Drive and First Street, will extend sanitary sewer services to 7 existing households and enhance growth in the area.

**Proposed Projects 2006-2020**

**SX21141017**

Priority	Project Owner	Cost Estimates	Customers
L	Adairville	\$500,000	1,320

This 5,100 linear feet sewer main extension and lift stations, near the Industrial Park, will extend sanitary sewer services to 1,320 existing households and enhance growth in the area.

**SX21141018**

Priority	Project Owner	Cost Estimates	Customers
L	Adairville	\$175,000	20

This 2,000 linear feet sewer main extension, near the Franklynn Hills subdivision, will extend sanitary sewer services to 20 existing households and enhance growth in the area.

**SX21141019**

Priority	Project Owner	Cost Estimates	Customers
L	Adairville	\$200,000	25

This 1,600 linear feet sewer main extension, along Railroad Street and School Avenue, will extend sanitary sewer services to 25 existing households and enhance growth in the area.

**SX21141020**

Priority	Project Owner	Cost Estimates	Customers
L	Adairville	\$100,000	System-wide

This 2,500 linear feet sewer main extension, along Cemetery Street, will improve sanitary sewer services to the entire system and enhance growth in the area.

**SX21141021**

Priority	Project Owner	Cost Estimates	Customers
L	Adairville	\$200,000	System-wide

This 2,500 linear feet sewer main extension, near the northern city limits, will improve sanitary sewer services to the entire system and enhance growth in the area.

**CITY OF AUBURN SANITARY SEWER SYSTEM**

The City of Auburn operates a sanitary sewer system, which serves all of the residences, businesses, and industry within the corporate limits. The system has 551 residential customers, four industrial customers, and 54 commercial customers.

The sewage treatment plant discharges into Black Lick Creek. It was built in 1960, and was expanded in 1991 to a total rated capacity of 0.350 mgd. The dry weather load on the plant is about 0.275 mgd, with a wet weather load of over 0.350 mgd. There is one industrial pre-treatment program in place at Auburn Hosiery. There are 11 lift stations in the system, which serve both the residential and industrial customers. A study has shown that most of the infiltration/inflow comes from the low-lying areas within the system.

A company named Earthtech operates the sanitary sewer system. Earthtech reports to the mayor and the city council in Auburn. Sewer rates for residential and commercial customers are set at 100% of the water consumed. The minimum bill is \$6.50.

The treatment plant generally meets its permit requirements, but occasionally sludge from the water treatment plant causes imbalance at the sewer treatment plant. The plant also experiences problems due to Infiltration and Inflow and from dyes.

The capacity of the sewer treatment plant does not meet the growing needs of the system. The plant currently falls behind on demand. It needs to be upgraded immediately. Funds are needed to upgrade the plant and to improve areas of the collection system that are old and in need of repair. Once the plant is upgraded, funds can be used to expand the collection system to areas currently unserved.

***Proposed Projects 2000-2005***

**SX21141022**

Priority	Project Owner	Cost Estimates	Customers
I	Auburn	\$241,000	15

This 5,000 linear feet sewer main extension will extend sanitary sewer services to 15 existing households and enhance growth in the area.

**SX21141023**

Priority	Project Owner	Cost Estimates	Customers
I	Auburn	\$133,350	15

This 2,700 linear feet sewer main extension will extend sanitary sewer services to 15 existing

households and enhance growth in the area.

**SX21141024**

Priority	Project Owner	Cost Estimates	Customers
I	Auburn	\$242,150	25

This 4,800 linear feet sewer main extension will extend sanitary sewer services to 25 existing households and enhance growth in the area.

**SX21141025**

Priority	Project Owner	Cost Estimates	Customers
I	Auburn	\$1,500,000	System-wide

This project consists of upgrading the wastewater treatment plant in Auburn.

**CITY OF LEWISBURG SANITARY SEWER SYSTEM**

The City of Lewisburg operates a sanitary sewer system, which serves all of the residences, businesses, and industry within the corporate limits. The system has 340 residential customers, 39 commercial customers, five industrial customers, two institutional customers, and two other customers. They also serve residential customers outside of the corporate limits of Lewisburg.

The sewage treatment plant discharges into the Mud River. It was built in 1973, and was expanded in 1992 to a total rated capacity of 0.350 mgd. The dry weather load on the plant is about 0.06 mgd, with a wet weather load of about 0.30 mgd. There is no industrial pre-treatment program in place. There are two lift stations in the system. A study has shown that most of the infiltration/inflow comes from the entire collector system.

Bill Conn, who reports to the Mayor and the city council, operates the sanitary sewer system. Sewer rates for residential and commercial customers are set at \$12.76 base for 2000 gallons and \$6.38 per 1000 gallons thereafter.

The treatment plant generally meets its permit requirements and rarely experiences any form of imbalance.

The capacity of the treatment plant is great enough to support projected future development. Currently there are no plans to upgrade the capacity of the plant.

Funds are needed to correct inflow and infiltration problems throughout the system. Also, funds are needed for industry add on because of high discharge from industry.

**Proposed Projects 2006-2020**

**SX21141011**

Priority	Project Owner	Cost Estimates	Customers
L	LWW	\$250,000	20

This 4,500 linear feet sewer main extension, along U.S. 431 South, will extend sanitary sewer services to 20 existing households and enhance growth in the area.

**SX21141012**

Priority	Project Owner	Cost Estimates	Customers
L	LWW	\$200,000	20

This 5,500 linear feet sewer main extension, along U.S. 431 North, will extend sanitary sewer services to 20 existing households and enhance growth in the area.

**SX21141013**

Priority	Project Owner	Cost Estimates	Customers
L	LWW	\$550,000	20

This 3,500 linear feet sewer main extension, along Highway 107, will extend sanitary sewer services to 20 existing households and enhance growth in the area.

**SX21141014**

Priority	Project Owner	Cost Estimates	Customers
L	LWW	\$200,000	10

This 2,200 linear feet sewer main extension, along Deer Lick Road, will extend sanitary sewer services to 10 existing households and enhance growth in the area.

**CITY OF RUSSELLVILLE SANITARY SEWER SYSTEM**

The City of Russellville operates a sanitary sewer system, which serves all of the residences, businesses, and industry within the corporate limits plus a wire fence manufacturer on the west edge of the city limits. The system has 2,330 residential customers, and 369 commercial and multi-family customers, and 11 industrial customers. Twenty residences outside the city, but next to the treatment plant are included in the above total.

The sewage treatment plant, discharging into Town Branch, at mile point 3.0 is within the city limits. The original plant was constructed in 1936 with upgrades in 1946, 1962, and 1981. The 1998 expansion, to be completed this year, takes the plant to a total rated capacity of 2.4 mgd. The dry weather load on the plant is about 0.755 mgd, with a wet weather load of about 2.334 mgd. An industrial pre-treatment program is in place, effecting six of the industrial users. There are six lift stations in the system. A study has shown that

most of the infiltration/inflow comes from the Mini-system 8 and the downtown area. There are no funds available to repair or replace these lines.

Class III Superintendent, J. Kisselbaugh, operates the sanitary sewer system. The Superintendent reports to the Public Utilities Director, Charles I. McCollum, who reports to the council and the mayor. The books of the water and sewer systems are separate from the general revenue fund books of the City. Sewer rates are \$5.50 per 1000 gallons. The sewer staff is separate from the water system staff with the Public Utilities Director overseeing both departments.

The treatment plant meets its permit requirements with few exceptions. Excess inflow during wet seasons does cause some handling problems, expected to lessen as the new basins are brought on line. Industrial “slugging” does pose an occasional problem. An aggressive Inflow/Infiltration Program is in place as well as a knowledgeable Pretreatment Coordinator to address industrial loading.

There is undeveloped land within the city limits that, when developed, will use the remaining treatment capacity. With the completion of the Bypass, it is expected that more commercial and residential customers outside the city will express a desire to connect to the sewer system on completion of expansion.

Funds are needed to replace and repair the Mini-System 8 and the downtown collection systems. This would decrease the inflow and infiltration problem at the plant and aid in reserving capacity, for future commercial and residential development.

**Proposed Projects 2000-2005**

**SX21141026**

Priority	Project Owner	Cost Estimates	Customers
I	Russellville	\$350,000	100

This project consists of adding a collection system to the Manshart subdivision area. Sewer lines would open this 350-acre water shed area for development. A lift station would be necessary.

**SX21141027**

Priority	Project Owner	Cost Estimates	Customers
I	Russellville	\$300,000	20

This project consists of extending sewer lines southeast of the Whippoorwill subdivision.



This is a prime area for residential development.

**SX21141028**

Priority	Project Owner	Cost Estimates	Customers
I	Russellville	\$150,000	Industrial

This project consists of installing sewer lines in the Industrial Park located in the southwest portion of Russellville. A tap-on ban has prevented installation of sewer lines in this area; however the city expects the ban will be lifted by October 1999.

**SX21141029**

Priority	Project Owner	Cost Estimates	Customers
I	Russellville	\$200,000	125

After annexation of the Reiville area the city will install sewer lines, lift stations, and manholes.

**SX21141030**

Priority	Project Owner	Cost Estimates	Customers
I	Russellville	\$650,000	250

The sewer system in the Brookhaven area is inadequate. The lines must be replaced and re-graded. Also, manholes must be replaced.

**SX21141031**

Priority	Project Owner	Cost Estimates	Customers
I	Russellville	\$375,000	50

The Greens area has been annexed to the city. This area is in need of sewer lines to replace septic systems and a lift station is needed.

**SX21141032**

Priority	Project Owner	Cost Estimates	Customers
I	Russellville	\$600,000	80

The Newtown area is a prime residential area where several subdivisions have already been approved. The area needs sewer lines and lift stations to serve these developments.

**SX21141033**

Priority	Project Owner	Cost Estimates	Customers
I	Russellville	\$150,000	200

To accommodate industries along the new 68-80 Bypass a road bore, lift station, and force main are needed.

**SX21141034**

Priority	Project Owner	Cost Estimates	Customers
I	Russellville	\$190,000	75

This project consists of adding a lift station and force main to this area in the northern part of Russellville.

**SX21141035**

Priority	Project Owner	Cost Estimates	Customers
I	Russellville	\$180,000	System-wide

This project consists of upgrading 150 manholes to improve the collection of the system citywide.

**SX21141036**

Priority	Project Owner	Cost Estimates	Customers
I	Russellville	\$1,000,000	System-wide

This project consists of eliminating infiltration and inflow problems in the central section of Russellville. Once corrected, tap-on bans can be lifted and services can be extended to residences, businesses, and industries.

**SX21141037**

Priority	Project Owner	Cost Estimates	Customers
I	Russellville	\$200,000	System-wide

This project consists of installing back-up and emergency energy for all lift station within the system.

**SX21141038**

Priority	Project Owner	Cost Estimates	Customers
I	Russellville	\$350,000	System-wide

A minimum of 12 road bores are needed at the city’s perimeter to facilitate tap-ons.

**Proposed Projects 2000-2005**

**SX21141038**

Priority	Project Owner	Cost Estimates	Customers
L	Russellville	\$651,000	100

This 1,000-acre area, southeast of Russellville, contains a single drainage that would accommodate gravity fed sewer system. There are few homes here now but the population may increase when the 68-80 Bypass is finished.

**SX21141001**

Priority	Project Owner	Cost Estimates	Customers
L	Russellville	\$274,850	40

This project consists of replacing old private, on-site sewer systems, in the Sportsman Club Lane area, that are located close to the Russellville Municipality system.

**SX21141002**

Priority	Project Owner	Cost Estimates	Customers
L	Russellville	\$166,065	60

This project consists of replacing old private, on-site sewer systems, in the Hunters Ridge subdivision area, that are located close to the Russellville Municipality system.

**SX21141003**

Priority	Project Owner	Cost Estimates	Customers
L	Russellville	\$227,850	15

This project consists of replacing old private, on-site sewer systems, along U. S. 68-80, that are located close to the Russellville Municipality system.

**SX21141004**

Priority	Project Owner	Cost Estimates	Customers
L	Russellville	\$352,750	10

This project consists of replacing old private, on-site sewer systems, in the Emerson By-pass area, that are located close to the Russellville Municipality system.

**SX21141005**

Priority	Project Owner	Cost Estimates	Customers
L	Russellville	\$1,043,850	65

This project consists of replacing old private, on-site sewer systems, in the Orndorf Mill Road area, that are located close to the Russellville Municipality system.

**SX21141006**

Priority	Project Owner	Cost Estimates	Customers
L	Russellville	\$282,000	65

This project consists of replacing old private, on-site sewer systems, in the Franklin Road area, that are located close to the Russellville Municipality system.

**SX21141007**

Priority	Project Owner	Cost Estimates	Customers
L	Russellville	\$163,900	40

This project consists of replacing old private, on-site sewer systems, along 68-80, towards Bowling Green, that are located close to the Russellville Municipality system.

**SX21141008**

Priority	Project Owner	Cost Estimates	Customers
L	Russellville	\$295,873	30

This project consists of replacing old private, on-site sewer systems, in the U. S. 79 North area, that are located close to the Russellville Municipality system.

**SX21141009**

Priority	Project Owner	Cost Estimates	Customers
L	Russellville	\$336,750	20

This project consists of replacing old private, on-site sewer systems, in the U. S. 431 North area, that are located close to the Russellville Municipality system.

**SX21141010**

Priority	Project Owner	Cost Estimates	Customers
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L	Russellville	\$274,850	40
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This project consists of replacing old private, on-site sewer systems, in the Sportsman Club Lane area, that are located close to the Russellville Municipality system.

## METCALFE COUNTY

### Metcalfe County Sewer Service (map)

- Estimated 1999 population of 9,500--17% on public sewer
- Estimated 2020 population of 10,200--16% on public sewer
- Proposed projects would connect about 30 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--\$335,000
- Estimated funding needs for public sewer 2006-2020--\$0

Metcalfe County had a population of 9,501 (3,952 households) in 1999 with a projected population of 10,200 (4,410 households) in 2020. Public sewer is provided to about 17 percent of the county's residents. About 3,300 households treat wastewater on site. About 30 customers could be added to public sewer service through new line extensions in 2000-2020.

### METCALFE COUNTY SEWER PLAN

#### *Proposed Projects 2000-2005*

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
METCALFE COUNTY							-
CITY OF EDMONTON	30	335					335
METCALFE Total	30	335					335

#### *Proposed Projects 2006-2020*

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
METCALFE							none

#### CITY OF EDMONTON SANITARY SEWER SYSTEM

The City of Edmonton operates a sanitary sewer system, which serves all of the residences within the corporate limits. The system has 640 residential customers.

The sewage treatment plant discharges into Receiving Stream. The sewage treatment plant was expanded in 1989 to a total rated capacity of 0.510 mgd. The dry weather load on the plant is about 0.140 mgd, with a wet weather load of about 0.356 mgd. There is no industrial pre-treatment program in place. There are five lift stations in the system. A study has shown that most of the infiltration/inflow comes from the portion of the system between the jail

# SEWER SERVICE AREAS METCALFE COUNTY Kentucky

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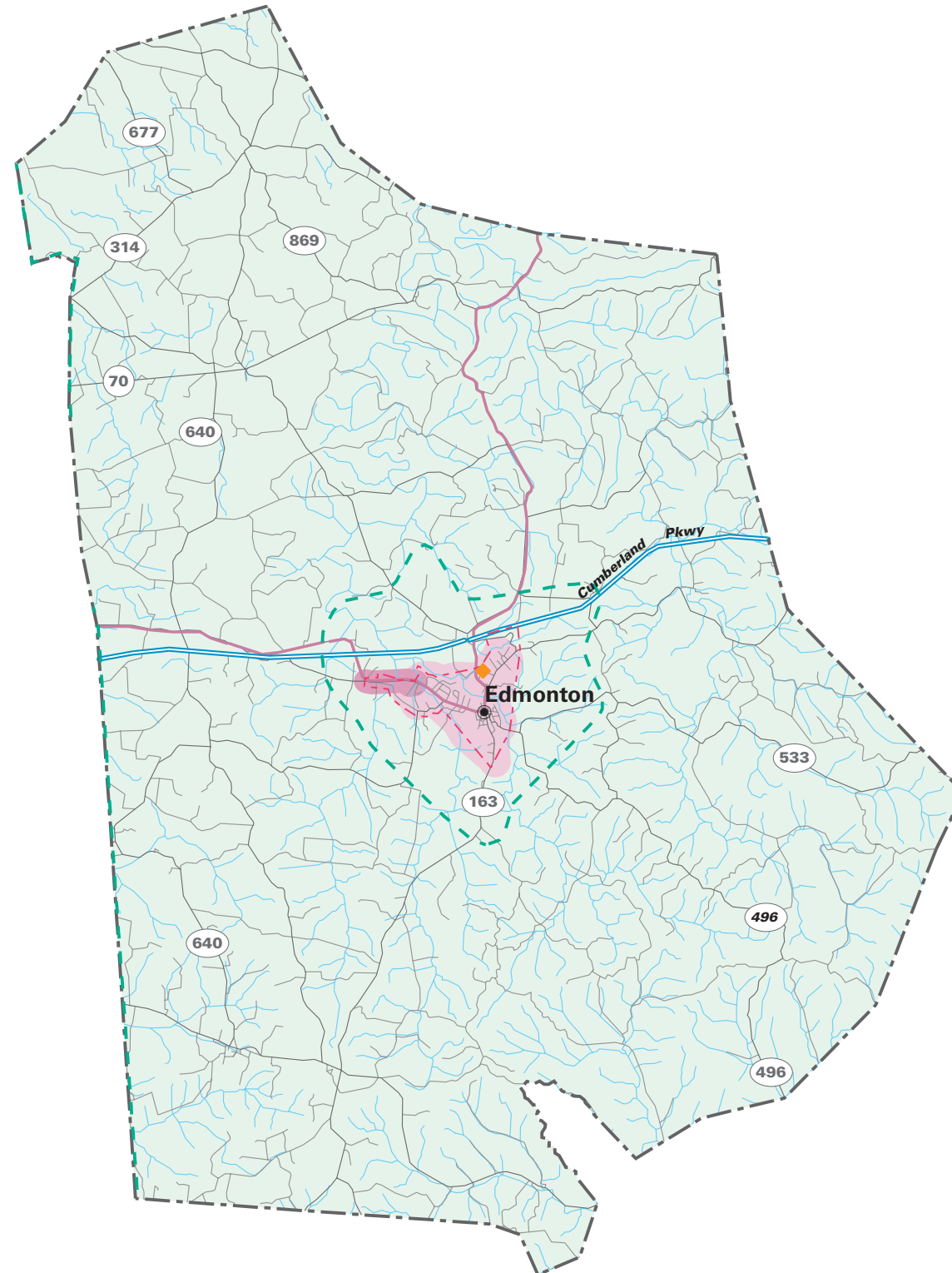
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Kentucky Area Development Districts





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-  201k Facility Planning Area
-  Incorporated City Boundary
-  Sewage Treatment Plant



**SEWER SERVICE STATUS BY OWNER**

		EDMONTON WATER WORKS
EXISTING SERVICE AREA	PROPOSED SERVICE AREA	

and the Branstetter Lift Station, and the portion of the system between Roger Creek Bridge and the Fairgrounds Lift Station.

Gusty Walker, who reports to a superintendent, operates the sanitary sewer system. The superintendent reports to the state and regional office. Sewer rates for residential and commercial customers are set at \$8.25 base for 2000 gallons and \$3.09 per 1000 gallons thereafter.

The treatment plant generally meets its permit requirements, but occasionally experiences imbalance. This imbalance is due to inflow and infiltration.

The capacity of the treatment plant is great enough to support projected future development. There are currently no plans to upgrade the capacity of the treatment plant.

Funds are needed to replace some above ground sewer lines and place slip lining in some of the leaking clay tile. The motors in the Fairground Lift Station need to be replaced with larger, more powerful motors, to increase the flow in the system. There are also several manholes that need to be repaired because of leakage, causing the inflow and infiltration problem.

**Proposed Projects 2000-2005**

**SX21169001**

<u>Priority</u>	<u>Project Owner</u>	<u>Cost Estimates</u>	<u>Customers</u>
I	Edmonton	\$335,000	30

This project consists of installing 4,400 linear feet of gravity main and 1,400 linear feet of force main, along Highway 68-80. A lift station will be installed to control the flow in the force main line.

## MONROE COUNTY

### Monroe County Sewer Service (map)

- Estimated 1999 population of 10,900--30% on public sewer
- Estimated 2020 population of 9,700--35% on public sewer
- Proposed projects would connect about 14 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--\$1,880,000
- Estimated funding needs for public sewer 2006-2020--\$0

Monroe County had an estimated population of 10,946 (4,580 households) in 1999 with a projected population of 9,675 (4,272 households) in 2020. Public sewer is provided to about 30 percent of the county's residents. About 3,200 of the county's households treat wastewater on-site. About 14 customers could be added to public sewer service through new line extensions in 2000-2020.

### MONROE COUNTY SEWER PLAN

#### *Proposed Projects 2000-2005*

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
<b>MONROE</b>							-
City of Fountain Run							-
SX21171001			70				70
SX21171002					1,000		1,000
<b>Total Fountain Run</b>			70		1,000		1,070
City of Gamaliel							
SX21171003	IND	46					46
SX21171004	14	260					260
<b>Total Gamaliel</b>	14	306					306
Tompkinsville SX21171005	IND	500					500
<b>MONROE TOTAL</b>	14	806	70		1,000		1,876

#### *Proposed Projects 2006-2020*

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
<b>MONROE</b>							none



# SEWER SERVICE AREAS MONROE COUNTY Kentucky



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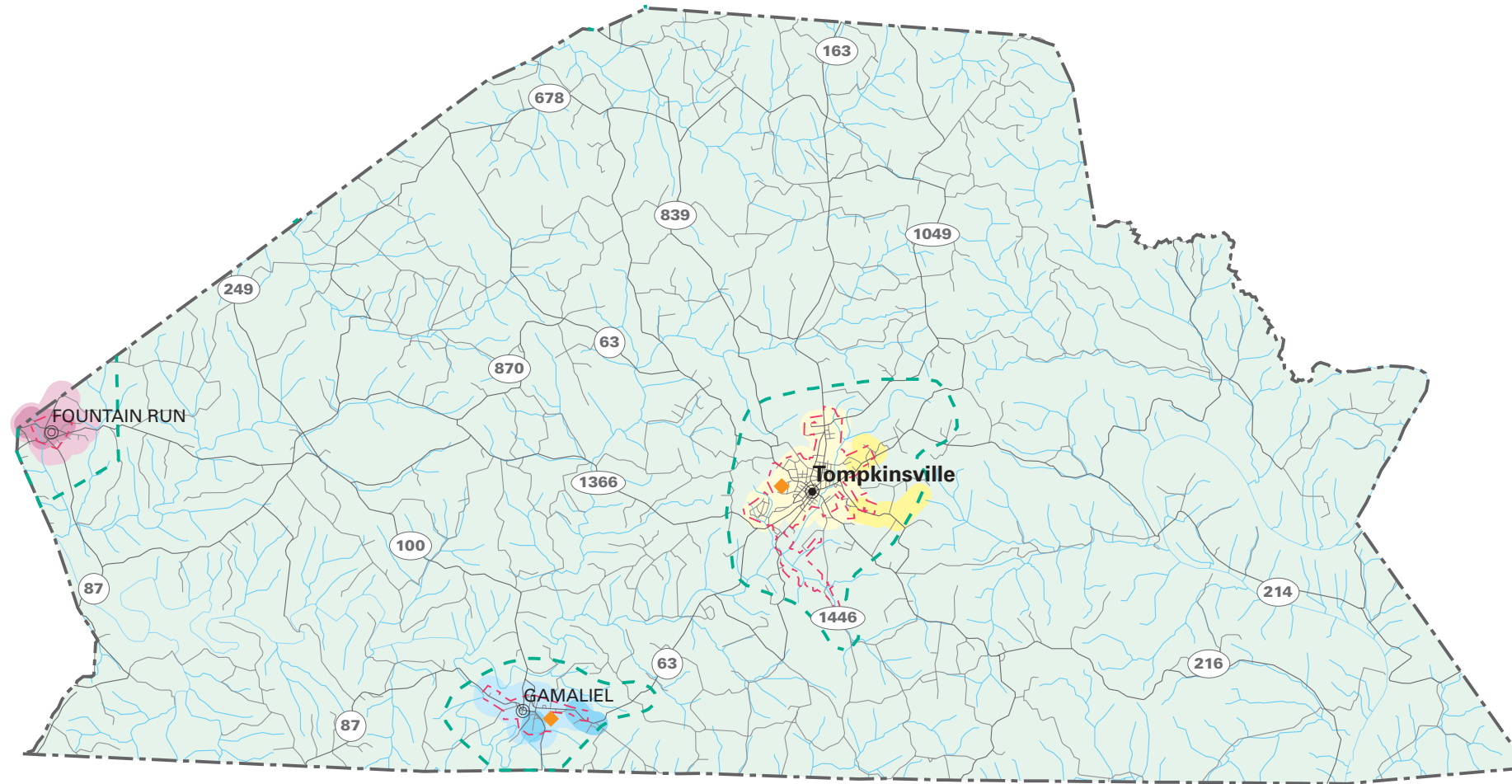
Final GIS & Cartographic Operations By:  
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Data Collection & GIS Input By:  
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- 201k Facility Planning Area
- Incorporated City Boundary
- Sewage Treatment Plant



### SEWER SERVICE STATUS BY OWNER

EXISTING SERVICE AREA	PROPOSED SERVICE AREA	OWNER
		CITY OF TOMPKINSVILLE
		CITY OF GAMALIEL
		CITY OF FOUNTAIN RUN

**CITY OF FOUNTAIN RUN SANITARY SEWER SYSTEM**

The City of Fountain Run operates a sanitary sewer system, which serves all of the residences, businesses, and industry within the corporate limits. The system has 123 residential customers, 10 commercial customers, and 2 industrial customers.

Fountain Run does not have a sewage treatment plant. The system discharges into discharge fields and is absorbed into the ground. The system was built in 1985 on an experimental basis. There is no industrial pre-treatment program in place. There are nine lift stations in the system, which serve both the residential and industrial customers.

Harold White who reports to the water board operates the sanitary sewer system. Sewer rates for residential and commercial customers are set at \$7.50 for a base 1000 gallons and \$0.20 per 1000 gallons thereafter.

Funds are needed for new pumps and general upkeep of the system. The collection system occasionally experiences problems due to aging infrastructure. The system was built on an experimental basis and has proven effective thus far. Funds are also needed to add septic tanks, repair lines, and purchase equipment to maintain the system.

***Proposed Projects 2000-2005***

**SX21171001**

Priority	Project Owner	Cost Estimates	Customers
I	FRWS	\$70,000	30

This project consists of replacing and upgrading many of the existing sewer lines in the city.

**SX21171002**

Priority	Project Owner	Cost Estimates	Customers
I	FRWS	\$1,000,000	System-wide

This project consists of constructing a 100,000 gpd wastewater treatment plant in Fountain Run.

**CITY OF GAMALIEL SANITARY SEWER SYSTEM**

The City of Gamaliel operates a sanitary sewer system, which serves all of the residences and businesses within the corporate limits. The system has 218 residential customers and 32 commercial customers.

The sewage treatment plant discharges into Line Creek. It was built in 1993 and has a total rated capacity of 0.100 mgd. The dry weather load on the plant is about 0.042 mgd, with a

wet weather load of about 0.052 mgd. There is no industrial pre-treatment program in place. There are three lift stations in the system.

Roger Barlow who reports to the city commission operates the sanitary sewer system. Sewer rates for residential and commercial customers are set at \$18.80 base for 2000 gallons and \$3.20 per 1000 gallons thereafter.

The treatment plant generally meets its permit requirements but occasionally experiences imbalance. This imbalance is a result of inflow and infiltration during periods of high rainfall.

The capacity of the sewer treatment plant is great enough to support projected future development. At this time there are no plans for upgrading.

The Gamaliel Sewer System, constructed in 1993, is a relatively new system. It has not experienced the effects of aging as most systems have. Funds are generally needed for maintenance and upkeep of this system.

**Proposed Projects 2000-2005**

**SX21171003**

Priority	Project Owner	Cost Estimates	Customers
I	Gamaliel	\$45,550	1

This project consists of extending sewer services to the site of a proposed 100-bed nursing home.

**SX21171004**

Priority	Project Owner	Cost Estimates	Customers
I	Gamaliel	\$260,000	14

This 5,280 linear feet extension, along Highway 100, will provide 14 existing households sewer service. It will also enhance the growth potential in the area.

**CITY OF TOMPKINSVILLE SANITARY SEWER SYSTEM**

The City of Tompkinsville operates a sanitary sewer system, which serves all of the residences, businesses, and industry within the corporate limits. The system has 847 residential customers, 171 commercial customers, 8 industrial customers, and 34 institutional customers.

The sewage treatment plant discharges into Curtis Branch. It was built in 1972, and was expanded in 1989 to a total rated capacity of 0.670 mgd. The dry weather load on the plant

is about 0.268 mgd, with a wet weather load of about 0.750 mgd. There is an approved industrial pre-treatment program in place; however, it has an inactive status. There are nine lift stations in the system. A study has shown that most of the infiltration/inflow comes from the older portions of the system which were constructed with brick and mortar manholes. Ricky Ross and Randall Hagan operate the sanitary sewer system. Mr. Ross operates the collection system and Mr. Hagan operates the treatment facility. They report to the mayor of Tompkinsville. Sewer rates for residential and commercial customers are set at \$6.53 base for 2000 gallons.

The treatment plant generally meets its permit requirements but occasionally experiences imbalance. This imbalance is the result of hydraulic washout due to large amounts of rainfall. The capacity of the sewer treatment plant is great enough to support projected future development. At this time there are no plans for upgrading.

Funds are needed for sewer collection system rehabilitation due to aging infrastructure. Some pumps and pump drives need to be replaced due to age: some are more than 27 years old. Also, a power failure back up system is needed at the treatment plant.

**Proposed Projects 2000-2005**

**SX21171005**

Priority	Project Owner	Cost Estimates	Customers
I	Tompkinsville	\$500,000	Potential

This project consists of a sewer extension and lift station in the Green Acres area, along with an extension and lift station in the Industrial park area.

**CITY OF FOUNTAIN RUN**

**Proposed Projects 2000-2005**

**SI21171001**

Priority	Project Owner	Cost Estimates	Customers
I	FRWS		1

This project consists of extending sewer services to one customer in the Gamaliel road area. This customer is currently on septic.

**SI21171002**

Priority	Project Owner	Cost Estimates	Customers
I	FRWS		6

This project consists of extending sewer services to six customers in the Gamaliel road area. These customers are currently on septic.

## SIMPSON COUNTY

### Simpson County Sewer Service (map)

- Estimated 1999 population of 16,300--60% on public sewer
- Estimated 2020 population of 17,700--60% on public sewer
- Proposed projects would connect about 130 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--\$3,140,000
- Estimated funding needs for public sewer 2006-2020--\$15,000,000

Simpson County had an estimated population of 16,294 (6,532 households) in 1999 with a projected population of 17,734 (7,598 households) in 2020. Public sewer is provided to about 60 percent of the county's residents. About 2,600 households treat wastewater on-site. About 130 customers could be added to public sewer service through new line extensions in 2000-2020.

### SIMPSON COUNTY SEWER PLAN

#### Proposed Projects 2000-2005

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
SIMPSON COUNTY							-
City of Franklin							-
SX21213001	62	1,000					1,000
SX21213002	65	500					500
SX21213003			235				235
SX21213004			650				650
SX21213006						750	750
City of Franklin Total	127	1,500	885			750	3,135
SIMPSON County Total	127	1,500	885			750	3,135

#### Proposed Projects 2006-2020

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
SIMPSON							-
CITY OF FRANKLIN							-
SX21213005			15,000				15,000
SIMPSON County Total			15,000				15,000

# SEWER SERVICE AREAS SIMPSON COUNTY Kentucky



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**Water Resource Development Commission**

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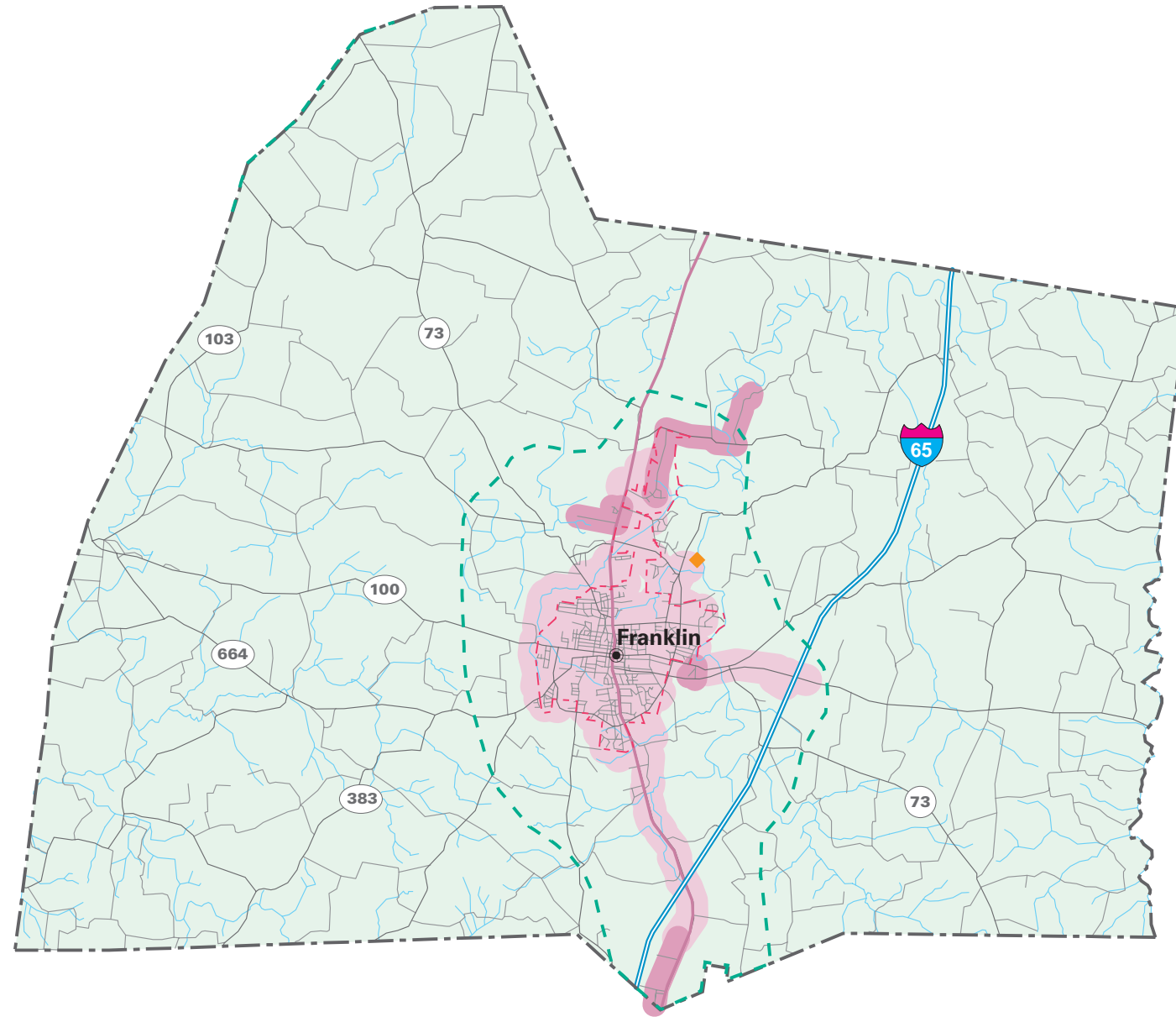
Final GIS & Cartographic Operations By:  
Kent Anness & Kim Anness

Data Collection & GIS Input By:  
Kentucky Area Development Districts



LIMITATION OF LIABILITY: The Water Resource Development Commission has no reason to believe that there are any inaccuracies or defects in information incorporated in this work and make no representations of any kind, including, but not limited to, the warranties of merchantability or fitness for a particular use, nor any such warranties to be implied, with respect to the information or data furnished herein.

- 201k Facility Planning Area
- Incorporated City Boundary
- Sewage Treatment Plant



**SEWER SERVICE STATUS BY OWNER**

- |                       |                       |                  |
|-----------------------|-----------------------|------------------|
|                       |                       | CITY OF FRANKLIN |
| EXISTING SERVICE AREA | PROPOSED SERVICE AREA |                  |

CITY OF FRANKLIN SANITARY SEWER SYSTEM

The City of Franklin operates a sanitary sewer system, which serves all of the residences, businesses, and industry within the corporate limits. The system has 3,019 residential customers, 460 commercial customers, and 10 industrial customers. The system serves residences, businesses, and industries outside of the corporate limits, which are included in the above totals.

The sewage treatment plant discharges into West Fork Drakes Creek. The plant was expanded in 1985 to a total rated capacity of 3.2 mgd. The dry weather load on the plant is about 1.5 mgd, with a wet weather load of about 4.8 mgd. The plant has a peak flow of 14 mgd. There are currently nine industrial pre-treatment programs in place, as follows: Siemen's, National Dust, Dana Co., Kendall, Old KY Leather, Global Laundry, Quebecor, Variety Dayton Walther, and S. C. Johnson Wax. There are nine lift stations in the system which serve both the residential and industrial customers. A study has shown that most of the infiltration/inflow comes from the downtown area of the system.

A superintendent who reports to the city manager and the city commission operates the sanitary sewer system. Sewer rates for residential and commercial customers are set at \$8.95 base for 2000 gallons and \$2.63 per 1000 gallons thereafter.

The treatment plant generally meets its permit requirements and rarely experiences any form of imbalance. Occasionally, solids from the water treatment plant pose a problem for the sewer treatment plant.

The capacity of the plant is great enough to support future growth in the area. Recently the plant has been upgraded to handle a peak flow of 14.0 mgd, which is sufficient to handle any of Franklin's wastewater needs.

Funds are needed to replace and repair the aging infrastructure in the downtown collector system. With the upgrade of the treatment plant, new customers can be added to the system. Funds could be used to expand the system to reach new customers expressing an interest to connect to the system.

**Proposed Projects 2000-2005**

**SX21213001**

Priority	Project Owner	Cost Estimates	Customers
I	FWW	\$1,000,000	62

This project consists of supplying 8,625 linear feet of 8-inch gravity line and 3,600 linear feet of force main. 28 manholes will be constructed to access the lines and control inflow and infiltration. Two lift stations will be installed to control the force mains.

**SX21213002**

Priority	Project Owner	Cost Estimates	Customers
I	FWW	\$500,000	65

This project consists of supplying 5,000 linear feet of 8-inch gravity line. 13 manholes will be constructed to access the lines and control inflow and infiltration.

**SX21213003**

Priority	Project Owner	Cost Estimates	Customers
I	FWW	\$235,350	50

This project consists of supplying 3,000 linear feet of 8-inch gravity line and 500 linear feet of force main. Eight manholes will be constructed to access the lines and control inflow and infiltration. One lift station may possibly be installed to control the force mains.

**SX21213004**

Priority	Project Owner	Cost Estimates	Customers
I	FWW	\$650,000	75

This project consists of supplying 9,000 linear feet of 8-inch gravity line. Twenty-three manholes will be constructed to access the lines and control inflow and infiltration.

**SX21213006**

Priority	Project Owner	Cost Estimates	Customers
I	FWW	\$750,000	50

This project consists of supplying 2,015 linear feet of 8-inch gravity line. A lift station and a force main may be constructed in this area, depending on the topography.

**Proposed Projects 2006-2020**

**SX21213005**

Priority	Project Owner	Cost Estimates	Customers
L	FWW	\$15,000,000	2,000

This project consists of rehabilitating existing, eight to twenty-four inch sewer mains. This project covers the downtown area.



## WARREN COUNTY

### Warren County Sewer Service (map)

- Estimated 1999 population of 83,200--60% on public sewer
- Estimated 2020 population of 94,700--70% on public sewer
- Proposed projects would connect about 3,900 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--\$40,400,000
- Estimated funding needs for public sewer 2006-2020--\$41,500,000

Warren County had an estimated population of 83,215 (34,918 households) in 1999 with a projected population of 94,716 (42,741 households) in 2020. Public sewer is provided to about 60 percent of the county's residents. About 14,000 households treat wastewater on-site. About 3,900 customers could be added to public sewer service through new line extensions in 2000-2020.

### WARREN COUNTY SEWER PLAN

#### *Proposed Projects 2000-2005*

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
<b>WARREN COUNTY</b>							-
<b>BOWLING GREEN MUNICIPAL UTILITIES</b>							-
SX21227008			24,000				24,000
SX21227009			1,100				1,100
SX21227010				12,000			12,000
<b>Bowling Green Total</b>			25,100	12,000			37,100
							-
<b>WARREN COUNTY WATER DISTRICT</b>							-
SX21227001	80	440					440
SX21227002	POT	1,445					1,445
SX21227003	1,440	1,450					1,450
<b>Warren County WD Total</b>	1,520	3,335					3,335
<b>WARREN COUNTY TOTAL</b>	1,520	3,335	25,100	12,000			40,435

# SEWER SERVICE AREAS

## WARREN COUNTY

### Kentucky



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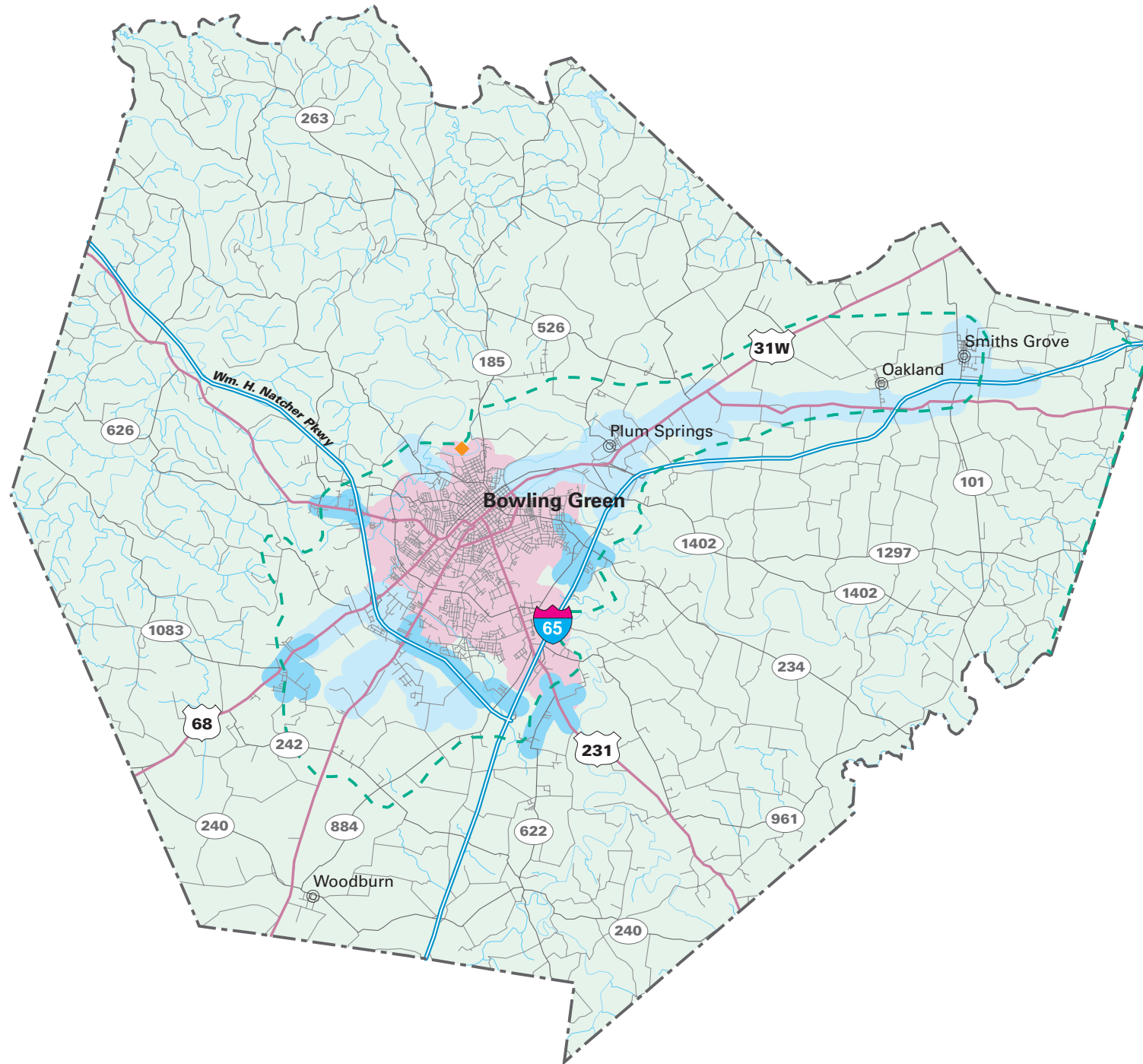
Final GIS & Cartographic Operations By:  
 Kent Anness & Kim Anness

Data Collection & GIS Input By:  
 Kentucky Area Development Districts



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- - - 201k Facility Planning Area
- - - Incorporated City Boundary
- ◆ Sewage Treatment Plant



**SEWER SERVICE STATUS BY OWNER**

EXISTING SERVICE AREA	PROPOSED SERVICE AREA	
<span style="color: lightblue;">■</span>	<span style="color: blue;">■</span>	WARREN COUNTY WATER DISTRICT
<span style="color: pink;">■</span>	<span style="color: magenta;">■</span>	BOWLING GREEN MUNICIPAL UTILITIES

**Proposed Projects 2006-2020**

System	New Customers Served	Cost (\$1000)	Line Upgrade (\$1000)	Treatment Expansion (\$1000)	New Treatment (\$1000)	Lift Stations, and other (\$1000)	Total Costs (\$1000)
WARREN COUNTY							-
BOWLING GREEN							-
SX21227011			24,000				24,000
SX21227012			1,000				1,000
SX21227013				13,000			13,000
Bowling Green total			25,000	13,000			38,000
WARREN COUNTY WATER DISTRICT							
SX21227004	950	440					440
SX21227005	1,180	785					785
SX21227006	160	1,850					1,850
SX21227007	80	450					450
Warren County WD Total	2,370	3,525					3,525
WARREN County Total	2,370	3,525	25,000	13,000			41,525

**BOWLING GREEN MUNICIPAL UTILITIES**

The Bowling Green Municipal Utilities operates a sanitary sewer system, which serves all of the residences, businesses, and industry within the corporate limits. The system has 12,559 residential customers and 2,795 industrial and commercial customers.

The sewage treatment plant discharges into the Barren River. It was expanded in 1992 to a total rated capacity of 10.6 mgd. The dry weather load on the plant is about 8.0 mgd, with a wet weather load of about 9.0 mgd. An industrial pre-treatment program has been in place since 1984. The system has 42 lift stations throughout. A study has shown that most of the infiltration/inflow comes from the original collector system which was constructed in 1933.

The sanitary sewer system is operated by Bowling Green Municipal Utilities who reports to a Board of Directors. Sewer rates for residential and commercial customers are set at \$5.48 base for 2000 gallons.

The treatment plant generally meets its permit requirements and the only problems experienced are from power failures, due to inclement weather.

The capacity of the sewer treatment plant is great enough to support near future development. Upgrading the plant is not anticipated for about five to ten years.

Funds are needed to expand the collector system to households not currently served by the sanitary sewer system and for general maintenance of the existing system.

**Proposed Projects 2000-2005**

**SX21227008**

Priority	Project Owner	Cost Estimates	Customers
I	BGMU	\$24,000,000	System-wide

This project is the beginning of a two-part project in conjunction with SX21227011. The estimated cost of this project is \$24 million. The project will consist of the rehabilitation of 46 miles of sewer mains. These lines range in size from 8- to 48-inches in diameter. Many of these are clay and must be replaced because of inflow and infiltration problems.

**SX21227009**

Priority	Project Owner	Cost Estimates	Customers
I	BGMU	\$1,100,000	System-wide

The estimated cost of this project is \$1.1 million. The project will consist of the rehabilitation of 1100 sewer manholes. Many of these are brick and must be replaced because of inflow and infiltration problems.

**SX21227010**

Priority	Project Owner	Cost Estimates	Customers
I	BGMU	\$12,000,000	System-wide

The estimated cost of this project is \$12 million. The project will consist of upgrading the sewer treatment facility. This upgrade will increase treatment capabilities from 10.6 to 13.6 MGD.

**Proposed Projects 2006-2020**

**SX21227011**

Priority	Project Owner	Cost Estimates	Customers
L	BGMU	\$24,000,000	System-wide

This project is a continuation of SX21227008. The estimated cost of this project is \$24 million. The project will consist of the rehabilitation of 46 miles of sewer mains. These lines range in size from 8- to 48-inches in diameter. Many of these are clay and must be replaced because of inflow and infiltration problems.

**SX21227012**

Priority	Project Owner	Cost Estimates	Customers
L	BGMU	\$1,000,000	System-wide

The estimated cost of this project is one million dollars. The project will consist of the rehabilitation of 1000 sewer manholes. Many of these are brick and must be replaced because of inflow and infiltration problems.

**SX21227013**

Priority	Project Owner	Cost Estimates	Customers
L	BGMU	\$13,000,000	System-wide

The estimated cost of this project is \$13 million. The project will consist of upgrading the sewer treatment facility. This upgrade will increase treatment capabilities from 13.6 to 16.6 MGD.

**WARREN COUNTY WATER DISTRICT SANITARY SEWER SYSTEM**

The Warren County Water District operates a sanitary sewer system, which serves the residences, businesses, and industry in Warren County, outside of the corporate limits of Bowling Green. The system has 849 residential customers and 259 commercial and industrial customers.

The BGMU sewage treatment plant handles all sewage treatment. It is unknown if there are industrial pre-treatment programs in place. There are 26 lift stations in the system which serve both the residential and commercial customers. A study has shown that most of the infiltration/inflow comes from the North section of the system.

Joe Liles who reports to the Warren County Water District Board of Commissioners operates the sanitary sewer system. Sewer rates for residential and commercial customers are set at \$15.22 base for 2000 gallons and \$3.76 per 1000 gallons thereafter.

Funds for this system are needed to construct interceptors. Also, funds are needed to expand the system to serve customers in the area that are not currently served. The collection system needs to be expanded to reach these customers.

***Proposed Projects 2000-2005***

**SX21227001**

Priority	Project Owner	Cost Estimates	Customers
I	WCWD	\$440,000	80

This 18,070 linear feet sewer main extension, in the Lover's Lane and Mount Victor area, will extend sanitary sewer services to 80 existing households. There has been rapid growth in this area due to the construction of several subdivisions.

**SX21227002**

Priority	Project Owner	Cost Estimates	Customers
I	WCWD	\$1,445,000	10

The Bowling Green Annex Area is in need of an adequate sewer system to serve customers

in the area and promote future growth.

**SX21227003**

Priority	Project Owner	Cost Estimates	Customers
I	WCWD	\$1,450,000	1,440

This 22,620 linear feet sewer main extension, in the Three Springs area, will extend sanitary sewer services to 1,440 existing households. This extension will serve as an interceptor along the Natcher Parkway.

**Proposed Projects 2006-2020**

**SX21227004**

Priority	Project Owner	Cost Estimates	Customers
L	WCWD	\$440,000	950

This 17,660 linear feet sewer main extension, in the Plano area, will extend sanitary sewer services to 950 existing households.

**SX21227005**

Priority	Project Owner	Cost Estimates	Customers
L	WCWD	\$785,000	1,180

The Cave Mill Road area is in need of expansion and upgrades to improve the sanitary sewer service in the area.

**SX21227006**

Priority	Project Owner	Cost Estimates	Customers
L	WCWD	\$1,850,000	160

This 19,570 linear feet sewer main extension, in the Rockfield area, will extend sanitary sewer services to 160 existing households.

**SX21227007**

Priority	Project Owner	Cost Estimates	Customers
L	WCWD	\$450,000	80

This 8,000 linear feet sewer main extension, in the Morgantown Road area, will extend sanitary sewer services to 80 existing households.