Strategic Water Resource Development Plan

Summary of Wastewater Treatment Systems

Pennyrile Area Development District

Water Resource Development Commission

March, 2000
CONTENTS

CONTENTS ....................................................................................................................... 2
MAP LISTING.................................................................................................................... 3
Caldwell County ........................................................................................................... 6
   Caldwell County Sewer Plan ..................................................................................... 6
   City of Fredonia Water and Sewer Department ....................................................... 6
   City of Princeton Water & Wastewater Commission ............................................. 7
   On-Site Treatment Systems .................................................................................... 8
Christian County ........................................................................................................ 11
   Christian County Sewer Plan ................................................................................ 11
   City of Crofton Water Department ........................................................................ 12
   City of Oak Grove Water Department .................................................................. 13
   Hopkinsville Water Environment Authority ....................................................... 14
   On-Site Treatment Systems ................................................................................... 15
Crittenden County ...................................................................................................... 20
   Crittenden County Sewer Plan ............................................................................ 20
   Marion Water System ............................................................................................. 21
   On-Site Treatment Systems .................................................................................. 21
Hopkins County ........................................................................................................ 23
   Hopkins County Sewer Plan ................................................................................ 23
   On-Site Treatment Systems .................................................................................. 23
Livingston County ...................................................................................................... 25
   Livingston County Sewer Plan ............................................................................ 25
   City of Grand Rivers Water and Sewer Department ........................................... 26
   City of Smithland Water Works ......................................................................... 26
   On-Site Treatment Systems .................................................................................. 27
Lyon County ................................................................................................................ 30
   Lyon County Sewer Plan ..................................................................................... 30
   Eddyville Water Department ............................................................................... 31
   On-Site Treatment Systems ................................................................................... 32
Muhlenberg County .................................................................................................. 34
   Muhlenberg County Sewer Plan .......................................................................... 34
   On-Site Treatment Systems ................................................................................... 35
Todd County .............................................................................................................. 38
   Todd County Sewer Plan ..................................................................................... 38
   On-Site Treatment Systems ................................................................................... 39
Trigg County ................................................................................................................ 41
   Trigg County Sewer Plan ..................................................................................... 41
   On-Site Treatment Systems ................................................................................... 42
# MAP LISTING

<table>
<thead>
<tr>
<th>Service</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADD Sewer Service (map)</td>
<td>Error! Bookmark not defined.</td>
</tr>
<tr>
<td>Caldwell County Sewer Service (map)</td>
<td>6</td>
</tr>
<tr>
<td>Christian County Sewer Service (map)</td>
<td>11</td>
</tr>
<tr>
<td>Crittenden County Sewer Service (map)</td>
<td>20</td>
</tr>
<tr>
<td>Hopkins County Sewer Service (map)</td>
<td>23</td>
</tr>
<tr>
<td>Livingston County Sewer Service (map)</td>
<td>25</td>
</tr>
<tr>
<td>Lyon County Sewer Service (map)</td>
<td>30</td>
</tr>
<tr>
<td>Muhlenberg County Sewer Service (map)</td>
<td>34</td>
</tr>
<tr>
<td>Todd County Sewer Service (map)</td>
<td>38</td>
</tr>
<tr>
<td>Trigg County Sewer Service (map)</td>
<td>41</td>
</tr>
</tbody>
</table>
Pennyrile Area Development District

300 Hammond Drive
Hopkinsville, KY 42240
(502) 886-9484

ADD WASTEWATER SUMMARY

ADD Sewer Service (map)

- Estimated 1999 population of 207,000--52% on public sewer
- Estimated 2020 population of 228,000--60% on public sewer
- Proposed projects would connect about 6,500 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--$76,200,000
- Estimated funding needs for public sewer 2006-2020--$0

The Pennyrile Area Development District region had an estimated population of 206,990 (83,759 households) in 1999 with a projected population of 222,700 (94,600 households) in 2020. Public sewer systems serve 108,000 area residents, or 52 percent of the population.

Proposed sewer line extensions for the period 2000-2020 would provide service to an additional 6,500 households. About 99,000 people in the region currently rely on onsite treatment systems.

Estimated populations and public sewer service for the nine counties in the region are given below (26 public sewer systems serve the region):

<table>
<thead>
<tr>
<th>County</th>
<th>1999 Pop</th>
<th>On Public</th>
<th>2020 Pop</th>
<th>On Public</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caldwell</td>
<td>13,300</td>
<td>6,700 (50%)</td>
<td>13,700</td>
<td>7,500 (55%)</td>
</tr>
<tr>
<td>Christian</td>
<td>66,700</td>
<td>46,700 (70%)</td>
<td>77,500</td>
<td>58,100 (75%)</td>
</tr>
<tr>
<td>Crittenden</td>
<td>9,350</td>
<td>3,300 (35%)</td>
<td>8,950</td>
<td>3,400 (38%)</td>
</tr>
<tr>
<td>Hopkins</td>
<td>45,700</td>
<td>27,400 (60%)</td>
<td>44,800</td>
<td>26,900 (60%)</td>
</tr>
<tr>
<td>Livingston</td>
<td>9,300</td>
<td>2,500 (27%)</td>
<td>9,300</td>
<td>3,400 (37%)</td>
</tr>
<tr>
<td>Lyon</td>
<td>6,800</td>
<td>2,200 (32%)</td>
<td>7,300</td>
<td>3,300 (45%)</td>
</tr>
<tr>
<td>Muhlenberg</td>
<td>32,000</td>
<td>11,200 (35%)</td>
<td>34,100</td>
<td>15,300 (45%)</td>
</tr>
<tr>
<td>Todd</td>
<td>11,200</td>
<td>3,900 (35%)</td>
<td>11,100</td>
<td>4,400 (40%)</td>
</tr>
<tr>
<td>Trigg</td>
<td>12,600</td>
<td>4,200 (25%)</td>
<td>16,000</td>
<td>10,400 (65%)</td>
</tr>
<tr>
<td>Region</td>
<td>207,000</td>
<td>108,000 (52%)</td>
<td>223,000</td>
<td>133,000(60%)</td>
</tr>
</tbody>
</table>
EXISTING & PROPOSED SEWER SERVICE
PEADD
Kentucky
Prepared By:
Water Resource Development Commission
Department for Local Government
1024 Capital Center Drive, Suite 340
Frankfort, Kentucky 40601-8204
502-573-2382 – 502-573-2939 fax
http://dlgnt1.state.ky.us/wrdc/
Bob Arnold, Chairman
Lawrence Wetherby, Executive Director
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 as to the accuracy of such information, 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

<table>
<thead>
<tr>
<th>System</th>
<th>New Customers Served</th>
<th>Cost ($1,000)</th>
<th>Line Upgrade ($1,000)</th>
<th>Treatment Expansion ($1,000)</th>
<th>New Treatment ($1,000)</th>
<th>Lift Stations, and other ($1,000)</th>
<th>Total Costs ($1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CALDWELL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Jurisdiction</td>
<td>288</td>
<td>3,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,000</td>
</tr>
<tr>
<td>Princeton</td>
<td>42</td>
<td>500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>500</td>
</tr>
<tr>
<td>Fredonia</td>
<td>5</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>County Total</td>
<td>335</td>
<td>3,600</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,600</td>
</tr>
<tr>
<td>CHRISTIAN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outside existing Jurisdiction</td>
<td>700</td>
<td>8,952</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8,952</td>
</tr>
<tr>
<td>Oak Grove</td>
<td>225</td>
<td>2,250</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,250</td>
</tr>
<tr>
<td>Hopkinsville</td>
<td>395</td>
<td>3,950</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,950</td>
</tr>
<tr>
<td>Crofton</td>
<td>20</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>200</td>
</tr>
<tr>
<td>County Total</td>
<td>1,340</td>
<td>15,352</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15,352</td>
</tr>
<tr>
<td>CRITTENDEN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marion</td>
<td>104</td>
<td>1,070</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,070</td>
</tr>
<tr>
<td>HOPKINS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>none</td>
<td></td>
</tr>
<tr>
<td>LIVINGSTON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outside existing systems</td>
<td>313</td>
<td>3,100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,100</td>
</tr>
<tr>
<td>Grand River 21139005</td>
<td>65</td>
<td>950</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>950</td>
</tr>
<tr>
<td>Smithland 2139003</td>
<td>24</td>
<td>1,250</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,250</td>
</tr>
<tr>
<td>County Total</td>
<td>402</td>
<td>5,300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5,300</td>
</tr>
<tr>
<td>LYON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outside existing jurisdictions</td>
<td>199</td>
<td>2,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,500</td>
</tr>
<tr>
<td>Eddyville</td>
<td>239</td>
<td>2,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,500</td>
</tr>
<tr>
<td>County Total</td>
<td>438</td>
<td>5,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7,000</td>
</tr>
<tr>
<td>MUHLENBERG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outside existing systems</td>
<td>1,232</td>
<td>15,250</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15,250</td>
</tr>
<tr>
<td>TODD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outside existing systems</td>
<td>305</td>
<td>3,600</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,600</td>
</tr>
<tr>
<td>TRIGG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barkley Lake Area*</td>
<td>2,336</td>
<td>25,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25,000</td>
</tr>
<tr>
<td>*Costs under lines includes an allowance for a treatment plant.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Pennyrile ADD Total** | 6,492 | 74,172 | 2,000 | 76,172 |

### Proposed Projects 2006-2020

All sewer needs were for the period 2000-2005.
Caldwell County had an estimated population of 13,331 (5,707 households) in 1999 with a projected population of 13,741 (6,123 households) in 2020. Public sewer is provided to about 50 percent of the county's residents. About 2,850 households in the county use on-site wastewater treatment. About 335 customers could be added to public sewer service through new line extensions in 2000-2020.

Caldwell County Sewer Service (map)

- Estimated 1999 population of 13,300--50% on public sewer
- Estimated 2020 population of 13,700--55% on public sewer
- Proposed projects would connect about 335 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--$3,600,000
- Estimated funding needs for public sewer 2006-2020--$0

CITY OF FREDONIA WATER AND SEWER DEPARTMENT

The City of Fredonia operates a sanitary sewer collection system which serves all of the residences and businesses within its’ corporate limits. The system, established in 1995 is

Proposed Projects 2006-2020

All sewer needs were for the period 2000-2005.

<table>
<thead>
<tr>
<th>System</th>
<th>New Customers Served</th>
<th>Cost ($1,000)</th>
<th>Line Upgrade ($1,000)</th>
<th>Treatment Expansion ($1,000)</th>
<th>New Treatment ($1,000)</th>
<th>Lift Stations, and other ($1,000)</th>
<th>Total Costs ($1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRINCETON</td>
<td>42</td>
<td>500</td>
<td>500</td>
<td></td>
<td></td>
<td>500</td>
<td>500</td>
</tr>
<tr>
<td>FREDONIA</td>
<td>5</td>
<td>100</td>
<td>100</td>
<td></td>
<td></td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>COUNTY TOTAL</td>
<td>335</td>
<td>3,600</td>
<td>3,600</td>
<td></td>
<td></td>
<td></td>
<td>3,600</td>
</tr>
</tbody>
</table>
composed of both gravity flow and force main lines of various sizes. Once the wastewater has been collected, it is then pumped by one of the systems two pump stations to the city of Eddyville's treatment facility for treatment. Fredonia currently has a contractual agreement with the city of Eddyville for treatment services at its 750,000 gallons per day treatment facility.

The system currently has a total of 217 service connections, of which 203 are residential connections and 14 are commercial. The minimum bill for a customer of the system is $21.30 for the first 2000 gallons with each additional 1,000 gallons costing an additional $2.90. Due to the newness of its collection system, there are very few repair needs, but as a result of population growth in and around the city of Fredonia, the following project has been documented.

Proposed Projects
SX21033005
Area: along highway 902 just outside of the city of Fredonia
Number of Lots: 3-5
Problem: Small lots and Shallow soil depth

CITY OF PRINCETON WATER & WASTEWATER COMMISSION

The City of Princeton operates a sanitary sewer collection and treatment system which serves all of the residences and businesses within its’ corporate limits. The collection system, established in 1997 is composed of both gravity flow and force main lines of various sizes. Once the wastewater has been collected, it is then pumped by one of the systems six pump stations to the city’s treatment facility for treatment. Princeton’s treatment facility currently has a capacity of 1.57 million gallons per day and is currently operating at approximately 70% of its design capacity.

The system currently has a total of 3,400 service connections, of which 3,060 are residential, 338 are commercial and 2 are industrial connections. The minimum bill for a customer of the system is $5.78 for the first 150 cubic feet of water usage with the next 800 cubic feet costing $3.53 per 100 cubic feet. Due to the newness of its collection system, there are very few repair needs, but due to the terrain in and around the city there are areas that are as of
now not provided with Publicly administered services. The following listing details those areas.

<table>
<thead>
<tr>
<th>Area:</th>
<th>Problem</th>
<th>Number of Lots</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandlick Road Area (#637-1431)</td>
<td>Heavy rock content</td>
<td>approx. 13</td>
</tr>
<tr>
<td>Hopkinsville Road (UK center to KY stone)</td>
<td>Heavy rock content</td>
<td>approx. 19</td>
</tr>
<tr>
<td>Lakeshore Drive &amp; Morse Ave</td>
<td>Heavy rock content</td>
<td>approx. 05</td>
</tr>
<tr>
<td>N. Jefferson &amp; Oak Street</td>
<td>Elevation problems</td>
<td>approx. 05</td>
</tr>
</tbody>
</table>

**ON-SITE TREATMENT SYSTEMS**

Of all the Caldwell County residents only those residing within the city limits of Princeton and Fredonia have access to public sewer services. The remaining residents are afforded the services via individual septic systems. Caldwell County has mostly an agricultural based economy and those areas outside of city limits of Princeton and Fredonia are very sparsely populated and therefore the extension of sewer lines throughout the county maybe financially unfeasible. However, there are some developments within areas of the county that are experiencing problems and could possibly benefit from some sort of cluster system. The areas listed below have been determined to be problem areas due to lack of properly functioning septic systems. The extension of the lines and boundaries of existing municipal systems have been determined to be the best solution for those areas that lie within an acceptable distance from existing service. For the areas that are located outside of any municipal systems’ jurisdiction and (in most cases) a cluster system has been identified as a possible solution, the following would apply:

1.) A wetlands or lagoon would best serve any area with a daily flow of less than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

Before this recommendation can be made the following must be taken into account:

- The required amount of land for this area must be available
- A soil type and depth analysis must be performed to determine if both are adequate
- The operations & maintenance issue must be addressed.

2.) A package treatment plant would best serve any area with a daily waste flow of more than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

Before this recommendation can be made the following must be taken into account:

- This plant must be permitted by the EPA and have a surface discharge.
• This plant must also be located near a “Blue Line Stream that can handle the discharge from the facility
• The required amount of land for the facility must be available
• The operations & maintenance issue must be addressed.

**Proposed Projects**

**SI21033002**  
**Area:** Railroad Lake Subdivision off of Highway 91 South (bordered by Hwy 91, Hwy 128 & Pool Cemetery Road)  
**Number of Lots:** six (2-7 acre) tracts  
**Problem:** Shallow Fragipan, limestone outcroppings and limestone bedrock

**SI21033001**  
**Area:** Scarlett Oaks (Pines) Subdivision off of Hwy 139 North (bordered by Carner Hill Rd & Easy Street)  
**Number of Lots:** 96 Lots (10 are occupied)  
**Problems:** Shallow Fragipan and massive amounts of clay deposits

**SI21033003**  
**Area:** Green Acres Subdivision off of Hwy 293 North (bordered by Hwy 293 & Old Wilson Warehouse Rd)  
**Number of Lots:** Approximately 25 (6 currently occupied)  
**Problems:** Shallow Fragipan

**SI21033004**  
**Area:** Sugar Creek Subdivision off of Hwy 293 North (bordered by Hwy 293, Hwy 1119 & Sugar Creek Rd)  
**Number of Lots:** Approximately 8  
**Problem:** Shallow Fragipan and elevation doesn’t allow curtain drains to gravity drain into roadside ditches

**SI21033006**  
**Area:**  
<table>
<thead>
<tr>
<th>Lake Beshears Area Subdivisions</th>
<th>Number of Lots</th>
</tr>
</thead>
<tbody>
<tr>
<td>Redden Boat Dock Road</td>
<td>21</td>
</tr>
<tr>
<td>Lakewood Drive</td>
<td>approx. 15</td>
</tr>
<tr>
<td>Lisanby Point Road</td>
<td>6</td>
</tr>
<tr>
<td>Bayshore Drive</td>
<td>3</td>
</tr>
<tr>
<td>Lakeshore Drive</td>
<td>32</td>
</tr>
<tr>
<td>Amon Lisanby Road &amp; Rotweiller Lane</td>
<td>30</td>
</tr>
</tbody>
</table>
Amon Lisanby Spur Road  3
Island Cove Road & Island Cove Lane  19
Big Bluff (gated community)  approx. 15
Markham Road  9

Problem: Small lot sizes, limestone deposits, and area are scheduled to get county water and will become a high growth area creating more problems in area of sewer disposal
CHRISTIAN COUNTY

Christian County Sewer Service (map)

- Estimated 1999 population of 66,700--70% on public sewer
- Estimated 2020 population of 77,500--75% on public sewer
- Proposed projects would connect about 1,350 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--$15,400,000
- Estimated funding needs for public sewer 2006-2020--$0

Christian County had an estimated population of 66,747 (25,098 households) in 1999 with a projected population of 77,456 (29,756 households) in 2020. Public sewer is provided to about 70 percent of the households. About 7,500 households use on-site systems. About 1,350 customers could be added to public sewer service through new line extensions in 2000-2020.

CHRISTIAN COUNTY SEWER PLAN

Proposed Projects 2000-2005

<table>
<thead>
<tr>
<th>System</th>
<th>New Customers Served</th>
<th>Cost ($1,000)</th>
<th>Line Upgrade ($1,000)</th>
<th>Treatment Expansion ($1,000)</th>
<th>New Treatment ($1,000)</th>
<th>Lift Stations, and other ($1,000)</th>
<th>Total Costs ($1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHRISTIAN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outside existing Jurisdiction</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SX21047001</td>
<td>20</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>200</td>
</tr>
<tr>
<td>SX21047002</td>
<td>25</td>
<td>350</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>350</td>
</tr>
<tr>
<td>SX21047004</td>
<td>20</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>200</td>
</tr>
<tr>
<td>SX21047005</td>
<td>50</td>
<td>500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>500</td>
</tr>
<tr>
<td>SX21047007</td>
<td>50</td>
<td>500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>500</td>
</tr>
<tr>
<td>SX21047008</td>
<td>20</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>300</td>
</tr>
<tr>
<td>SX21047009</td>
<td>100</td>
<td>1,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td>SX21047012</td>
<td>20</td>
<td>200</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>200</td>
</tr>
<tr>
<td>SX21047013</td>
<td>70</td>
<td>1,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td>SX21047018</td>
<td>50</td>
<td>700</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>700</td>
</tr>
<tr>
<td>SX21047019</td>
<td>50</td>
<td>750</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>750</td>
</tr>
<tr>
<td>SX21047020</td>
<td>50</td>
<td>750</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>750</td>
</tr>
<tr>
<td>SX21047021</td>
<td>50</td>
<td>750</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>750</td>
</tr>
<tr>
<td>SX21047022</td>
<td>50</td>
<td>750</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>750</td>
</tr>
<tr>
<td>SX21047023</td>
<td>50</td>
<td>750</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>750</td>
</tr>
<tr>
<td>SX21047024</td>
<td>25</td>
<td>252</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>252</td>
</tr>
<tr>
<td>Total</td>
<td>700</td>
<td>8,952</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8,952</td>
</tr>
</tbody>
</table>
Proposed Projects 2006-2020
All sewer needs were for the period 2000-2005.

CITY OF CROFTON WATER DEPARTMENT
The City of Crofton operates a sanitary sewer collection and treatment system which serves all of the residences and businesses within its corporate limits. The collection system is composed of both gravity flow and force main lines of various sizes. Once the wastewater has been collected, it is then pumped by one of the systems four pump stations to the city's treatment facility for treatment.

The system currently has a total of 613 service connections, of which 591 are residential, 20 are commercial and 2 are industrial connections. Customers of the system are charged according to the following rate structure:

- city residential customers are charged a minimum of $10.71 for the first 1,000 gallons of usage with all above being charged at $4.06 per 1,000 gallons;
- county residential customers are charged a minimum of $12.21 for the first 1,000 gallons of usage with all above being charged at $4.06 per 1,000 gallons;
- business customers are charged a minimum of $13.21 for the first 1,000 gallons of usage with all above being charged at $4.06 per 1,000 gallons.

The Christian County Health Department has identified the following project area as having potential or existing problems with their septic systems. It has also been determined that a possible solution would be the extension of the existing system boundary to provide adequate service.
**Proposed Projects**
**SX21047003**
*Area: North Christian County area along Hwy 800 and Old Palestine Road*

*Number of Lots: approximately 20*

*Problems: Poor soil content*

---

**CITY OF OAK GROVE WATER DEPARTMENT**

The City of Oak Grove operates a sanitary sewer collection and treatment system which serves all of the residences and businesses within its' corporate limits. The collection system is composed of both gravity flow and force main lines of various sizes. Once the wastewater has been collected, it is then pumped by one of the systems eleven pump stations to the city's treatment facility for treatment.

The system currently has a total of 1,804 service connections, of which 1701 are residential and 103 are commercial. Customers of the system are charged according to the following rate structure:

- residential customers are charged a minimum of $12.10 for the first 1,000 gallons of usage with all above being charged at $3.60 per 1,000 gallons
- commercial customers are charged minimums (1,000 gallons of usage) based on the size of the meters from which they are served: 5/8 x 3/4 inch - $15.00; 1 inch - $28.00; 1.5 inch - $35.00; 2 inch - $60.00; 3 inch - $105.00; 4 inch - $145.00; and 6 inch $325.00 with each additional 1,000 gallons of usage being $4.25.

The Christian County Health Department has identified the following project area as having potential or existing problems with their septic systems. It has also been determined that a possible solution would be the extension of the existing system boundary to provide adequate service.

**Proposed Projects**
**SX21047017**
*Area: Southeast Christian County, developments along Good Hope Cemetery Road, Derby Park, Bumpus Mill Road Carneal Lane and Anderson Estates*

*Number of Lots: approximately 200*

*Problems: Poor soil content and Small lot sizes*
SX21047016
Area: Southeast Christian County, the St. Elmo Community

Number of Lots: approximately 25

Problems: Sink holes and Small lot sizes

HOPKINSVILLE WATER ENVIRONMENT AUTHORITY

The Hopkinsville Water Environment Authority operates a sanitary sewer collection and treatment system which serves all of the residences and businesses within its' corporate limits, the citizens of Pembroke as well as a number of residents located out in the county. The collection system, established in 1896 which has experienced tremendous growth and improvements, is composed of both gravity flow and force main lines of various sizes. Once the wastewater has been collected, it is then pumped by one of the systems seventy or so pump stations to one of the system’s two-treatment facility for treatment. The Hammond-Wood Treatment plant, the systems largest, has a design capacity of 6.0 million gallons per day. At present it is operating at 40% of its design capacity. The systems other facility, the Northside Wastewater treatment plant, has a 2.88 MGD capacity and is operating at 54% of its capacity.

The system currently has a total of 11,719 service connections, of which 10,113 are residential connections 1,454 are commercial, 98 are institutional and 54 are industrial connections. The minimum bill for a customer of the system is $7.47 for up to 300 cubic feet of water usage. The systems rate structure is as follows:

- $2.490 per 100 cubic feet for up to 3000 cubic feet of usage
- $2.157 per 100 cubic feet for usage of greater than 3000 cubic feet up to 6000 cubic feet
- $1.804 per 100 cubic feet for usage of greater than 6000 cubic feet up to 9000 cubic feet
- $1.532 per 100 cubic feet for usage of greater than 9000 cubic feet

The Christian County Health Department has identified the following project areas as having potential or existing problems with their septic systems. It has also been determined that a possible solution would be the extension of the existing system boundary to provide adequate service.
Appendix B - Pennyrile Area Development District • DRAFT

Proposed Projects
SX21047026
Area: North Christian County area along Butler & Gospel Peace Road
Number of Lots: approximately 150
Problems: Small lot sizes and Poor Drainage

SX21047008
Area: North Christian County area that includes developments along Hwy 41 North, Billy Goat Road, Green Hill Road, Mt Zoar Road and Latham Road
Number of Lots: approximately 100
Problems: Small lot sizes and Poor soil conditions

SX21047010
Area: North Christian County area along Dawson Springs Road
Number of Lots: approximately 40
Problems: Small lot sizes and Poor soil conditions

SX21047011
Area: North Christian County area along Princeton Road (including 3 subdivisions – Country Acres, Ridgehill & Happy Hollow)
Number of Lots: approximately 40
Problems: Poor soil conditions

SX21047014
Area: Southeast Christian County – the Caskey Community
Number of Lots: approximately 25
Problems: Small lot sizes and Poor soil conditions

SX21047015
Area: Southeast Christian County area along Hwy 41-A (existing line exists)
(Trailer Park & subdivision - Berry’s Mobile Home Park & Pleasant View Acres)
Number of Lots: approximately 40
Problems: Small lot sizes and Poor soil conditions

ON-SITE TREATMENT SYSTEMS
Of all the Christian County residents only those residing within the city limits of Crofton, Oak Grove, Pembroke and Hopkinsville have access to public sewer services (with the
possible exceptions of residents that live in areas outside of the Hopkinsville City Limits). The remaining residents are afforded the services via individual septic systems. Because of the County's large Industrial base and the activities of the nearby Fort Campbell Army Installation, the county has experienced tremendous growth in its rural areas. Due to the expansive area of Christian County and the great distances between developments, the extension of sewer lines throughout the county maybe financially unfeasible. However, due to this rapid growth, there are some developments within areas of the county that are experiencing problems and could possibly benefit from some sort of cluster system. The areas listed below have been determined to be problem areas due to lack of properly functioning septic systems. The extension of the lines and boundaries of existing municipal systems have been determined to be the best solution for those areas that lie within an acceptable distance from existing service. For the areas that are located outside of any municipal systems’ jurisdiction and (in most cases) a cluster system has been identified as a possible solution, the following would apply:

1.) A wetlands or lagoon would best serve any area with a daily flow of less than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

   Before this recommendation can be made the following must be taken into account:
   - The required amount of land for this area must be available
   - A soil type and depth analysis must be performed to determine if both are adequate
   - The operations & maintenance issue must be addressed.

2.) A package treatment plant would best serve any area with a daily waste flow of more than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

   Before this recommendation can be made the following must be taken into account:
   - This plant must be permitted by the EPA and have a surface discharge.
   - This plant must also be located near a “Blue Line Stream that can handle the discharge from the facility
   - The required amount of land for the facility must be available
   - The operations & maintenance issue must be addressed.

Proposed Projects
SI21047009
Area: North Christian County along Greenville Road, Cansler Road and Woodburn Highway
Number of Lots: approximately 100
Problems: Poor Drainage

SI21047001
Area: North Christian County along Johnson Mills Road
Number of Lots: approximately 20
Problems: Poor Soil Conditions

SI21047013
Area: North Christian County, the Community of Fairview
Number of Lots: approximately 70
Problems: Very Small Lots, Large Rock Deposits, and Poor Soil Conditions

SI21047007
Area: North Christian County, the Community of Kelly
Number of Lots: approximately 50
Problems: Very Small Lots and Poor Soil Conditions

SI21047006
Area: North Christian County, the Lake Beshears area off Hwy 109
Number of Lots: approximately 20
Problems: Large Rock Deposits, and Poor Soil Conditions

SI21047005
Area: North Christian County, the Community of Mannington off KY Hwy 407
Number of Lots: approximately 50
Problems: Very Small Lots and Poor Soil Conditions

SI21047004
Area: North Christian County, the Community of Empire off US Hwy 41
Number of Lots: approximately 20
Problems: Very Small Lots and Poor Soil Conditions

SI21047002
Area: North Christian County, the Community of Fearsville off KY Hwy 107
Number of Lots: approximately 25
Problems: Very Small Lots and Poor Soil Conditions
SI21047012
Area: North Christian County, the area along Gilkey & Whitty Lane
Number of Lots: approximate 20
Problems: Very Small Lots and Poor Soil Conditions

SI21047025
Area: Southwestern Christian County, area on Everett’s Lane and Petsch Lane
Number of Lots: approximately 75
Problems: Large Rock Deposits, Sinkholes and Poor Soil Conditions

SI21047023
Area: Southwestern Christian County, area on Quisenberry Lane (KY 1349)
Number of Lots: approximately 50
Problems: Large Rock Deposits, Sinkholes and Poor Soil Conditions

SI21047018
Area: Southwestern Christian County, Community of Lafayette
Number of Lots: approximately 50
Problems: Water Table

SI21047022
Area: Southwestern Christian County, Community of Gracey
Number of Lots: approximately 50
Problems: Extremely Small Lots and Poor Soil Conditions

SI21047019
Area: Southwestern Christian County, Community of Herndon
Number of Lots: approximately 50
Problems: Extremely Small Lots and Poor Soil Conditions

SI21047021
Area: Southwestern Christian County, Community of Julien
Number of Lots: approximately 50
Problems: Extremely Small Lots and Poor Soil Conditions
SI21047024
Area: Southwestern Christian County, area on Shurdan Creek Road (off of KY hwy 1349)
Number of Lots: approximately 25
Problems: Large Rock Deposits

SI21047020
Area: Southwestern Christian County, area on Binns Mill Road (in the area of KY hwy 164)
Number of Lots: approximately 50
Problems: Large Rock Deposits, Elevation problems and extremely small lots.
CRITTENDEN COUNTY

Crittenden County Sewer Service (map)

- Estimated 1999 population of 9,350--35% on public sewer
- Estimated 2020 population of 8,950--38% on public sewer
- Proposed projects would connect about 100 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--$1,070,000
- Estimated funding needs for public sewer 2006-2020--$0

Crittenden County had an estimated population of 9,354 (3,955 households) in 1999 with a projected population of 8,955 (4,108 households) in 2020. Public sewer is provided to about 35 percent of the county's residents. About 2,600 households in the county use on-site treatment systems. About 100 customers could be added to public sewer service through new line extensions in 2000-2020.

CRITTENDEN COUNTY SEWER PLAN

Proposed Projects 2000-2005

<table>
<thead>
<tr>
<th>System</th>
<th>New Customers Served</th>
<th>Cost ($1,000)</th>
<th>Line Upgrade ($1,000)</th>
<th>Treatment Expansion ($1,000)</th>
<th>New Treatment ($1,000)</th>
<th>Lift Stations, and other ($1,000)</th>
<th>Total Costs ($1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRITTENDEN Marion Sewer System</td>
<td>65</td>
<td>270</td>
<td>270</td>
<td>270</td>
<td>104</td>
<td>1,070</td>
<td></td>
</tr>
<tr>
<td>SX21055001</td>
<td>65</td>
<td>270</td>
<td>270</td>
<td>270</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SX21055002</td>
<td>27</td>
<td>650</td>
<td>650</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SX21055003</td>
<td>12</td>
<td>150</td>
<td>150</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>104</td>
<td>1,070</td>
<td>1,070</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Proposed Projects 2006-2020

All sewer needs were for the period 2000-2005.

Crittenden County residents are provided water services by two water systems, the City of Marion Water / Sewer System which services 1,730 customers and the Crittenden-Livingston Water District which serves 1,260 of the County's residents. Of these two systems only the City of Marion Water / Sewer System provides the residents of the City of Marion publicly operated sewer services. The remaining residents are afforded the services via individual septic systems.
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 ... for a particular use, nor any such warranties to be implied, with respect to the information or data furnished herein.
MARION WATER SYSTEM

The City of Marion operates a sanitary sewer collection and treatment system which serves all of the residences and businesses within its’ corporate limits. The collection system, established in 1924 is composed of both gravity flow and force main lines of various sizes. Once the wastewater has been collected, it is then pumped to the city's treatment facility for treatment. Marion’s treatment facility currently has a capacity of 0.66 million gallons per day and is currently operating at approximately 124 % of its design capacity. Marion is in dire need of treatment facility expansion, not only to meet the demand of its' existing customer base but also to meet the needs created by any future expansion projects. The system is frequently in non-compliance due to its Inflow and Infiltration problem which is primarily due to the age of its' system.

The Crittenden County Health Department has identified the following project areas as having potential or existing problems with their septic systems. It has also been determined that a possible solution would be the extension of the existing system boundary to provide adequate service.

**Proposed Projects**

**SX21055001**
*Area:* Area just to the west of the city limits of Marion down Hwy 60, along Airport Road and down to Taylor Road (at the top of Moore Hill)
*Number of Lots:* 57 residences and 8 commercial establishments
*Problem:* Bad soil content

**SX21055003**
*Area:* The Rudd-Hart and Oak Hill Subdivisions (located on Hart Street and Oak Hill Road within the city of Marion)
*Number of Lots:* 12 residences
*Problem:* Bad soil content and uneven slopes

**ON-SITE TREATMENT SYSTEMS**

Since Crittenden County has mostly an agricultural based economy and those areas outside of city limits of Marion are very sparsely populated, the extension of sewer lines throughout the county maybe financially unfeasible. However, there are some developments within areas of the county that are experiencing problems and could possibly benefit from some sort
of cluster system. The areas listed below have been determined to be problem areas due to lack of properly functioning septic systems. The extension of the lines and boundaries of existing municipal systems have been determined to be the best solution for those areas that lie within an acceptable distance from existing service. For those areas that are located outside of any municipal systems’ jurisdiction and (in most cases) a cluster system has been identified as a possible solution, the following would apply:

1.) A wetlands or lagoon would best serve any area with a daily flow of less than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

Before this recommendation can be made the following must be taken into account:

- The required amount of land for this area must be available
- A soil type and depth analysis must be performed to determine if both are adequate
- The operations & maintenance issue must be addressed.

2.) A package treatment plant would best serve any area with a daily waste flow of more than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

Before this recommendation can be made the following must be taken into account:

- This plant must be permitted by the EPA and have a surface discharge.
- This plant must also be located near a “Blue Line Stream that can handle the discharge from the facility
- The required amount of land for the facility must be available
- The operations & maintenance issue must be addressed.

**Proposed Projects**

SI21055002

**Area:** Area off Hwy 91 along Coleman Road

**Number of Lots:** 12 residences and approximately 15 developable lots

**Problem:** Small lots and Bad soil content
HOPKINS COUNTY

Hopkins County Sewer Service (map)

- Estimated 1999 population of 45,700--60% on public sewer
- Estimated 2020 population of 44,800--60% on public sewer
- Estimated funding needs for public sewer 2000-2005--no estimate
- Estimated funding needs for public sewer 2006-2020--no estimate

Hopkins County had an estimated population of 45,683 (18,815 households) in 1999 with a projected population of 44,756 (19,795 households) in 2020. Public sewer is provided to about 60 percent of the county's residents. About 7,500 households treat wastewater on site.

HOPKINS COUNTY SEWER PLAN

Proposed Projects 2000-2005

<table>
<thead>
<tr>
<th>System</th>
<th>New Customers Served</th>
<th>Cost ($1,000)</th>
<th>Line Upgrade ($1,000)</th>
<th>Treatment Expansion ($1,000)</th>
<th>New Treatment ($1,000)</th>
<th>Lift Stations, and other ($1,000)</th>
<th>Total Costs ($1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOPKINS</td>
<td>none</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>none</td>
</tr>
</tbody>
</table>

Proposed Projects 2006-2020

NONE

Of the seven municipal water systems -- Dawson Springs, Earlington, Hanson, Madisonville, Mortons Gap, Nortonville and White Plains -- only White Plains has yet to offer publicly operated sewer services to its residents. Dawson Springs, Nortonville, and Madisonville are the only systems in the county that actually operate a treatment facility.

ON-SITE TREATMENT SYSTEMS

Hopkins County, in times past has been heavily strip mined and now contains a large portion of its land that is uninhabited because of it. Another large portion of the county is agricultural and yet another is mostly forest land and wetlands. Due to these land uses, population growth has primarily taken place in pockets, which makes the extension of sewer throughout the county fiscally and in some cases physically unfeasible. However, there are some developments within areas of the county that are experiencing problems and could possibly benefit from some sort of cluster system.
The areas listed below have been determined to be problem areas due to lack of properly functioning septic systems or it has been determined because of the density of the area, that a cluster system might be warranted. The extension of the lines and boundaries of existing municipal systems have been determined to be the best solution for those areas that lie within an acceptable distance from existing service. For the areas that are located outside of any municipal systems’ jurisdiction and (in most cases) a cluster system has been identified as a possible solution, the following would apply:

1.) A wetlands or lagoon would best serve any area with a daily flow of less than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

Before this recommendation can be made the following must be taken into account:

- The required amount of land for this area must be available
- A soil type and depth analysis must be performed to determine if both are adequate
- The operations & maintenance issue must be addressed.

2.) A package treatment plant would best serve any area with a daily waste flow of more than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

Before this recommendation can be made the following must be taken into account:

- This plant must be permitted by the EPA and have a surface discharge.
- This plant must also be located near a “Blue Line Stream that can handle the discharge from the facility
- The required amount of land for the facility must be available
- The operations & maintenance issue must be addressed.
LIVINGSTON COUNTY

Livingston County Sewer Service (map)

- Estimated 1999 population of 9,300--27% on public sewer
- Estimated 2020 population of 9,300--37% on public sewer
- Proposed projects would connect about 400 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--$5,300,000
- Estimated funding needs for public sewer 2006-2020--$0

Livingston County had an estimate population of 9,339 (4,025 households) in 1999 with a projected population of 9,252 (4,398 households) in 2020. Public sewer is provided to about 27 percent of the county's residents. About 2,900 households treat wastewater on site. About 400 customers could be added to public sewer service through new line extensions in 2000-2020.

LIVINGSTON COUNTY SEWER PLAN

Proposed Projects 2000-2005

<table>
<thead>
<tr>
<th>System</th>
<th>New Customers Served</th>
<th>Cost ($1,000)</th>
<th>Line Upgrade ($1,000)</th>
<th>Treatment Expansion ($1,000)</th>
<th>New Treatment ($1,000)</th>
<th>Lift Stations, and other ($1,000)</th>
<th>Total Costs ($1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIVINGSTON Outside</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>existing systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SX21139001</td>
<td>100</td>
<td>350</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>350</td>
</tr>
<tr>
<td>SX21139002</td>
<td>200</td>
<td>2,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,500</td>
</tr>
<tr>
<td>SX21139004</td>
<td>13</td>
<td>250</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>250</td>
</tr>
<tr>
<td>Total</td>
<td>313</td>
<td>3,100</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,100</td>
</tr>
<tr>
<td>Grand River 21139005</td>
<td>65</td>
<td>950</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>950</td>
</tr>
<tr>
<td>Smithland 2139003</td>
<td>24</td>
<td>1,250</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,250</td>
</tr>
<tr>
<td>County Total</td>
<td>402</td>
<td>5,300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5,300</td>
</tr>
</tbody>
</table>

Proposed Projects 2006-2020

All sewer needs were for the period 2000-2005.

The residents of Livingston County are presently provided water service by five different water systems: the cities of Grand Rivers, Smithland, and Salem, the Ledbetter Water District and the Crittenden-Livingston Water District. The Livingston county residents that reside within the city limits of Grand Rivers, Smithland, and Salem along with those that are within the territory of the Ledbetter Water District are afforded sewer services via a
publicly operated sewer system. The remaining residents are afforded the services by means of individual septic systems.

**CITY OF GRAND RIVERS WATER AND SEWER DEPARTMENT**

The City of Grand Rivers operates a sanitary sewer collection and treatment system which serves all of the residences and businesses within its’ corporate limits as well as those within the limits of the nearby Lake City. The system, established in 1968 is composed of both gravity flow and force main lines of various sizes. Once the wastewater has been collected, it is then pumped by one of the systems five pump stations to the city’s treatment facility for treatment. Grand Rivers’ treatment facility currently has a capacity of 300,000 gallons per day and is currently operating at approximately 66 % of its design capacity.

The Livingston County Health Department has identified the following project areas as having potential or existing problems with their septic systems. It has also been determined that a possible solution would be the extension of the existing system lines as well as the other necessary equipment to provide adequate service.

**Proposed Projects**

SX21139006

Area: Unsewered areas of Grand River/Lake City (down Depot, Railroad Hill, Ridge, Hill, Megan, Kendale, Cheryl and Brandon Streets)

Number of Lots: approximately 65 residences.

Problem: Bad soil content, uneven slopes and small lots

**CITY OF SMITHLAND WATER WORKS**

The City of Smithland operates a sanitary sewer collection and treatment system which serves all of the residences and businesses within its corporate limits, which totals about 304 customers. The system is composed of both gravity flow and force main lines of various sizes. Once the wastewater has been collected, it is then pumped by one of the systems two pump stations to the city’s treatment facility for treatment. Smithland's treatment facility currently has a capacity of 700,000 gallons per day and is currently operating at approximately 150 % of its design capacity.
Over the past several years the city has and continues to experience numerous deficiencies in their wastewater system. The system, which was constructed in 1970, consists primarily of clay tile pipe is in dire need of comprehensive repair and improvement. Some of the problems of the system include, overflowing manhole covers and effluent discharge limit violations resulting from severe inflow and infiltration. These problems have resulted in raw sewage overflowing into ditches, yards and its groundwater supply.

Also, the system is exceeding of the treatment facility’s design capacity. On an average day the system treats over 50% more wastewater than it was designed to treat and over the past year has seen days where it treated double its capacity. Therefore, monies will also be needed to upgrade its treatment capacity. The cost of this upgrade will be determined after the collection has been repaired using the over $700,000.00 provided by a Community Development Block Grant, a grant from Rural Development and a Rural Development loan.

**Proposed Projects**

**SX21139001**
Area: Area just outside of the city limits along hwy 133

*Number of Lots:* 25 residences

*Problems:* Bad soil with uneven elevations

**SX21139004**
Area: Down Hwy 453 from the NE corner of the city limits to Coon Chapel Road

*Number of Lots:* approximately 24 residences

*Problem:* Bad soil content and small lots

**ON-SITE TREATMENT SYSTEMS**

Livingston County has mostly an agricultural based economy and those areas outside of the incorporated areas of the county are very sparsely populated and therefore the extension of sewer lines throughout the county maybe financially unfeasible. However, there are some developments within areas of the county that are experiencing problems and could possibly benefit from some sort of cluster system. The areas listed below have been determined to be problem areas due to lack of properly functioning septic systems. The extension of the lines and boundaries of existing municipal systems have been determined to be the best solution for those areas that lie within an acceptable distance from existing service. For the areas that
are located outside of any municipal systems' jurisdiction and (in most cases) a cluster system has been identified as a possible solution, the following would apply:

1.) A wetlands or lagoon would best serve any area with a daily flow of less than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

Before this recommendation can be made the following must be taken into account:
- The required amount of land for this area must be available
- A soil type and depth analysis must be performed to determine if both are adequate
- The operations & maintenance issue must be addressed.

2.) A package treatment plant would best serve any area with a daily waste flow of more than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

Before this recommendation can be made the following must be taken into account:
- This plant must be permitted by the EPA and have a surface discharge.
- This plant must also be located near a “Blue Line Stream that can handle the discharge from the facility
- The required amount of land for the facility must be available
- The operations & maintenance issue must be addressed.

The Livingston County Health Department has identified the following project areas as having potential or existing problems with their septic systems. It has also been determined that a possible solution would be the extension of the existing system lines as well as the other necessary equipment to provide adequate service.

**Proposed Projects**

**SI21139003**

*Area:* The community of Burna along Hwy 60 from North Livingston Elementary School down to Mitchell Road

*Number of Lots:* 155 residences, 8 commercial establishments and 2 subdivisions under development that will contain at least 20 lots each.

*Problem:* Bad soil content and very small lots

**SI21139005**

*Area:* Area off of Newbern Road down Ringstaff Road

*Number of Lots:* 12 residences and 1 Church

*Problems:* Impoverished area with no way of upgrading septic systems
SI21139002
Area: The community of Carrsville along Highways 135 & 137
Number of Lots: 100 residences
Problem: Bad soil content and very small lots
LYON COUNTY

Lyon County Sewer Service (map)

- Estimated 1999 population of 6,800--32% on public sewer
- Estimated 2020 population of 7,300--45% on public sewer
- Proposed projects would connect about 450 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--$7,000,000
- Estimated funding needs for public sewer 2006-2020--$0

Lyon County had an estimated population of 6,780 (3,090 households) in 1999 with a projected population of 7,340 (3,445 households) in 2020. Public sewer is provided to about 32 percent of the county's residents. About 2,100 households treat wastewater on site. About 450 customers could be added to public sewer service through new line extensions in 2000-2020.

LYON COUNTY SEWER PLAN

Proposed Projects 2000-2005

<table>
<thead>
<tr>
<th>System</th>
<th>New Customers Served</th>
<th>Cost ($1,000)</th>
<th>Line Upgrade ($1,000)</th>
<th>Treatment Expansion ($1,000)</th>
<th>New Treatment ($1,000)</th>
<th>Lift Stations, and other ($1,000)</th>
<th>Total Costs ($1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LYON</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outside existing jurisdictions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SX21147001</td>
<td>65</td>
<td>700</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>700</td>
</tr>
<tr>
<td>SX21147002</td>
<td>37</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>400</td>
</tr>
<tr>
<td>SX21147005</td>
<td>20</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>400</td>
</tr>
<tr>
<td>SX21147006</td>
<td>20</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>400</td>
</tr>
<tr>
<td>SX21147007</td>
<td>57</td>
<td>600</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>600</td>
</tr>
<tr>
<td>Total</td>
<td>199</td>
<td>2,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,500</td>
</tr>
<tr>
<td>Eddyville</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SX2147003</td>
<td>143</td>
<td>1,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,500</td>
</tr>
<tr>
<td>SX2147004</td>
<td>39</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,400</td>
</tr>
<tr>
<td>SX2147008</td>
<td>57</td>
<td>600</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>600</td>
</tr>
<tr>
<td>Total</td>
<td>239</td>
<td>2,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,500</td>
</tr>
<tr>
<td>County Total</td>
<td>438</td>
<td>5,000</td>
<td></td>
<td></td>
<td></td>
<td>2,000</td>
<td>7,000</td>
</tr>
</tbody>
</table>

Proposed Projects 2006-2020

All sewer needs were for the period 2000-2005.

The residents of Lyon County are presently provided water by a total of three public water systems. Those systems are the Lyon County Water District, the City of Kuttawa Water System and the City of Eddyville Water Department. Only residents of Eddyville and
Kuttawa have access to public sewer services. The remaining residents rely on individual septic systems. Since the 1990 census the areas household population has grown by an estimated 33% and it has been projected that by the year 2020 expected growth will be around 46%. The areas experiencing the highest growth have tended to be the lakefront areas along the banks of Lake Barkley.

**EDDYVILLE WATER DEPARTMENT**

The City of Eddyville operates a sanitary sewer collection and treatment system which serves all of the residences and businesses within its’ corporate limits. The collection system, established in 1960 is composed of both gravity flow and force main lines of various sizes. Once the wastewater has been collected, it is then pumped by one of the systems nine pump stations to the city's treatment facility for treatment. Eddyville's treatment facility currently has a capacity of 375,000 gallons per day and is currently operating at approximately 80% of its design capacity.

- city residential customers are charged a minimum of $9.25 for the first 2,000 gallons of usage with the next 8,000 costing $2.00 per 1,000 gallons and all above 10,000 being charged at $50 per 1,000 gallons.
- county residential customers are charged a minimum of $10.49 for the first 2,000 gallons of usage with all above being charged at $2.00 per 1,000 gallons.
- city business customers are charged a minimum of $11.25 for the first 2,000 gallons of usage, with the next 8,000 costing $2.00 per 1,000 gallons, with the next 40,000 costing $1.82 per 1,000 gallons, with the next 50,000 costing $1.68 per 1,000 gallons with all above 100,000 being charged at $1.20 per 1,000 gallons.
- county business customers are charged a minimum of $12.94 for the first 2,000 gallons of usage, with the next 8,000 costing $2.00 per 1,000 gallons, with the next 40,000 costing $1.82 per 1,000 gallons, with the next 50,000 costing $1.68 per 1,000 gallons with all above 100,000 being charged at $1.20 per 1,000 gallons.

The Lyon County Health Department has identified the following project areas as having potential or existing problems with their septic systems. It has also been determined that a possible solution would be the extension of the existing system boundary to provide adequate service.

**Proposed Projects**

**SX1147008**

*Area:* The area down hwy 62 between the Eddyville city limits and the community of Suwanee
Number of Lots: Approximately 56 households, 1 restaurant and 1 hotel
Problem: Shallow Fragipan and small lots with High clay deposits.

SX21147003
Area: The Eddyville Shores subdivision
Number of Lots: Approximately 143 households
Problem: Small lots in a high poverty area (numerous failing systems)

SX21147004
Area: Country Lake Estates Subdivision
Number of Lots: Approximately 39 households, 1 restaurant and 1 hotel
Problem: Shallow Fragipan and small lots with High clay deposits.

ON-SITE TREATMENT SYSTEMS

Due to the growth patterns of the county (growth along the lakefront), the extension of sewer lines throughout the county maybe financially unfeasible. However, due to this rapid growth, there are some developments within areas of the county that are experiencing problems and could possibly benefit from some sort of cluster system. The areas listed below have been determined to be problem areas due to lack of properly functioning septic systems. The extension of the lines and boundaries of existing municipal systems have been determined to be the best solution for those areas that lie within an acceptable distance from existing service. For the areas that are located outside of any municipal systems' jurisdiction and (in most cases) a cluster system has been identified as a possible solution, the following would apply:

1.) A wetlands or lagoon would best serve any area with a daily flow of less than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

Before this recommendation can be made the following must be taken into account:
- The required amount of land for this area must be available
- A soil type and depth analysis must be performed to determine if both are adequate
- The operations & maintenance issue must be addressed.

2.) A package treatment plant would best serve any area with a daily waste flow of more than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

Before this recommendation can be made the following must be taken into account:
- This plant must be permitted by the EPA and have a surface discharge.
- This plant must also be located near a “Blue Line Stream that can handle the discharge from the facility
The required amount of land for the facility must be available
The operations & maintenance issue must be addressed.

Proposed Projects
SI21147005
Area: The Eddy Bay Subdivision, bordered by highway 93 & Friendship Church Road
Number of Lots: Approximately 20 households
Problem: Shallow Fragipan and small lots with High clay deposits.

SI21147006
Area: The Champion Hills Subdivision
Number of Lots: Approximately 20 households
Problem: Shallow Fragipan and small lots with High clay deposits.

SI21147007
Area: The area along highway 93 between Interstate 24 & Hwy 810
Number of Lots: Approximately 57 households
Problem: Shallow Fragipan

SI21147001
Area: The area along highway 818 between Hwy 293 & Leroy Drive
Number of Lots: Approximately 65 households
Problem: Shallow Fragipan.

SI21147002
Area: Eddyville Springs Estates Subdivision
Number of Lots: Approximately 37 households
Problem: Uneven Contours and small lots with high clay deposits.
MUHLENBERG COUNTY

Muhlenberg County Sewer Service (map)

- Estimated 1999 population of 32,000--35% on public sewer
- Estimated 2020 population of 34,100--45% on public sewer
- Proposed projects would connect about 1,250 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--$15,300,000
- Estimated funding needs for public sewer 2006-2020--$0

Muhlenberg County had an estimated population of 32,037 (12,944 households) in 1999 with a projected population of 34,112 (14,566 households) in 2020. Public sewer is provided to 35 about percent of the county's residents. About 8,400 of the county's households treat wastewater on site. About 1,250 customers could be added to public sewer service through new line extensions in 2000-2020.

MUHLENBERG COUNTY SEWER PLAN

**Proposed Projects 2000-2005**

<table>
<thead>
<tr>
<th>System</th>
<th>New Customers Served</th>
<th>Cost ($1,000)</th>
<th>Line Upgrade ($1,000)</th>
<th>Treatment Expansion ($1,000)</th>
<th>New Treatment ($1,000)</th>
<th>Lift Stations, and other ($1,000)</th>
<th>Total Costs ($1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUHLENBERG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outside existing systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SX21177001</td>
<td>291</td>
<td>3,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3,500</td>
</tr>
<tr>
<td>SX21177002</td>
<td>70</td>
<td>1,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td>SX21177003</td>
<td>475</td>
<td>6,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6,000</td>
</tr>
<tr>
<td>SX21177004</td>
<td>207</td>
<td>2,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,000</td>
</tr>
<tr>
<td>SX21177005</td>
<td>71</td>
<td>750</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>750</td>
</tr>
<tr>
<td>SX21177006</td>
<td>118</td>
<td>2,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,000</td>
</tr>
<tr>
<td>Total</td>
<td>1,232</td>
<td>15,250</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15,250</td>
</tr>
</tbody>
</table>

**Proposed Projects 2006-2020**

All sewer needs were for the period 2000-2005.

Of all the Muhlenberg County residents only those residing within the city limits of Greenville, Central City and Drakesboro have access to public sewer services. The remaining residents are afforded this service via individual septic systems.
ON-SITE TREATMENT SYSTEMS

Muhlenberg County, in times past has been heavily strip mined and now contains a large portion of its land that is uninhabited because of it. Another large portion of the County is Agricultural and yet another is mostly forest land and wetlands. Due to these land uses, population growth has primarily taken place in pockets, which makes the extension of sewer throughout the county fiscally and in some cases physically unfeasible. However, there are some developments within areas of the county that are experiencing problems and could possibly benefit from some sort of cluster system. The areas listed below have been determined to be problem areas due to lack of properly functioning septic systems. The extension of the lines and boundaries of existing municipal systems have been determined to be the best solution for those areas that lie within an acceptable distance from existing service. For the areas that are located outside of any municipal systems’ jurisdiction and (in most cases) a cluster system has been identified as a possible solution, the following would apply:

1.) A wetlands or lagoon would best serve any area with a daily flow of less than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

Before this recommendation can be made the following must be taken into account:

- The required amount of land for this area must be available
- A soil type and depth analysis must be performed to determine if both are adequate
- The operations & maintenance issue must be addressed.

2.) A package treatment plant would best serve any area with a daily waste flow of more than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

Before this recommendation can be made the following must be taken into account:

- This plant must be permitted by the EPA and have a surface discharge.
- This plant must also be located near a “Blue Line Stream that can handle the discharge from the facility
- The required amount of land for the facility must be available
- The operations & maintenance issue must be addressed.

Proposed Projects
SI21177003
Area: The Beechmont-Beechcreek area that is located 5 miles south of the City of Drakesboro along highways 431 & 246
Number of Lots: Approximately 475 households
Problem: Shallow Fragipan and older systems were installed too deep into the fragipan and now have failed.

SI21177006
Area: The Community of Bremen, located in the northern part of the county along State Routes 81, 181 and 175.
Number of Lots: Approximately 118 households
Problem: The soil in the area has a seasonal water table and a shallow fragipan and older systems were installed too deep into the fragipan and now have failed.

SI21177004
Area: The Cleaton community that is located 2 miles south of the City of Central City along highway 431 and State Route 2107
Number of Lots: Approximately 207 households
Problem: Many of the houses have no system or improper ones that are no more than containers and some even pipe into a ditch.

SI21177001
Area: The Lake Malone area in the southern end of the county from rosewood to Dunmor
Number of Lots: Approximately 291 households with an additional 53 currently under development
Problem: Soil has high sand and rock content that is close to the surface.

SI21177002
Area: The Luzerne area that is located just west of the City of Greenville along State Route 601
Number of Lots: Approximately 70 households
Problem: Very shallow fragipan of less than 30 inches, a high water table and the older systems were installed too deep into the fragipan and now are failing.

SI21177005
Area: The Community of South Carrollton that is located 2 miles from downtown Central City
Number of Lots: Approximately 71 households
Problem: Shallow Fragipan and older systems were installed too deep into the fragipan and now have failed.
TODD COUNTY

Todd County Sewer Service (map)

- Estimated 1999 population of 11,200--35% on public sewer
- Estimated 2020 population of 11,100--40% on public sewer
- Proposed projects would connect about 300 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--$3,600,000
- Estimated funding needs for public sewer 2006-2020--$000

Todd County had an estimated population of 11,165 (4,577 households) in 1999 with a projected population of 11,150 (4,855 households) in 2020. Public sewer is provided to about 35 percent of the county's residents. About 3,000 of the county's households treat wastewater on site. About 300 customers could be added to public sewer service through new line extensions in 2000-2020.

TODD COUNTY SEWER PLAN

**Proposed Projects 2000-2005**

<table>
<thead>
<tr>
<th>System</th>
<th>New Customers Served</th>
<th>Cost ($1,000)</th>
<th>Line Upgrade ($1,000)</th>
<th>Treatment Expansion ($1,000)</th>
<th>New Treatment ($1,000)</th>
<th>Lift Stations, and other ($1,000)</th>
<th>Total Costs ($1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TODD Outside existing systems</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SX21219001</td>
<td>30</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>300</td>
</tr>
<tr>
<td>SX21219002</td>
<td>30</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>300</td>
</tr>
<tr>
<td>SX21219003</td>
<td>50</td>
<td>500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>500</td>
</tr>
<tr>
<td>SX21219004</td>
<td>120</td>
<td>1,500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,500</td>
</tr>
<tr>
<td>SX21219005</td>
<td>75</td>
<td>1,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>305</td>
<td>3,600</td>
<td></td>
<td></td>
<td></td>
<td>3,600</td>
</tr>
</tbody>
</table>

**Proposed Projects 2006-2020**

All sewer needs were for the period 2000-2005.

Todd County residents within the city limits of Elkton, Guthrie and Trenton have access to public sewer services (with the possible exceptions of residents that live in areas just outside of those municipalities). The remaining residents rely on individual septic systems. Because the activities of the nearby Fort Campbell Army Installation, the county has experienced tremendous growth in its rural areas. Due to the expansive area of Todd County and the great distances between developments, the extension of sewer lines throughout the county
may be financially unfeasible. However, due to this rapid growth, there are some developments within areas of the county that are experiencing problems and could possibly benefit from some sort of cluster system. The areas listed below have been determined to be problem areas due to lack of properly functioning septic systems. The extension of the lines and boundaries of existing municipal systems have been determined to be the best solution for those areas that lie within an acceptable distance from existing service.

**ON-SITE TREATMENT SYSTEMS**

For the areas that are located outside of any municipal systems’ jurisdiction and (in most cases) a cluster system has been identified as a possible solution, the following would apply:

1.) A wetlands or lagoon would best serve any area with a daily flow of less than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

   Before this recommendation can be made the following must be taken into account:
   - The required amount of land for this area must be available
   - A soil type and depth analysis must be performed to determine if both are adequate
   - The operations & maintenance issue must be addressed.

2.) A package treatment plant would best serve any area with a daily waste flow of more than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

   Before this recommendation can be made the following must be taken into account:
   - This plant must be permitted by the EPA and have a surface discharge.
   - This plant must also be located near a “Blue Line Stream that can handle the discharge from the facility
   - The required amount of land for the facility must be available
   - The operations & maintenance issue must be addressed.

**Proposed Projects**

SI21219004
Area: Lake Malone Area
Number of Lots: 120 homes
Problem: Very little topsoil with heavy rock content

SI21219001
Area: Area along Highway 181
Number of Lots: approximately 30 homes
Problem: Shallow fragipan and bad soil content
SI21219002
Area: Area along Highway 68/80 West of City Limits of Elkton
Number of Lots: approximately 30 homes and various subdivisions being planned
Problem: Shallow fragipan and bad soil content

SI21219003
Area: Area along Highway 68/80 East of City Limits of Elkton
Number of Lots: approximately 50 homes
Problem: Shallow fragipan and bad soil content

SI21219005
Area: Hodgensville Area
Number of Lots: 75 homes
Problem: Very little topsoil with heavy rock content
TRIGG COUNTY

Trigg County Sewer Service (map)

- Estimated 1999 population of 12,600--25% on public sewer
- Estimated 2020 population of 16,000--65% on public sewer
- Proposed projects would connect about 2,350 new households to public sewer during 2000-2020
- Estimated funding needs for public sewer 2000-2005--$25,000,000
- Estimated funding needs for public sewer 2006-2020--$000

Trigg County had an estimated population of 12,552 (5,549 households) in 1997 with a projected population of 15,985 (7,518 households) in 2020. Public sewer is provided to about 25 percent of the county's residents. About 4,200 of the county's households treat wastewater on site. About 2,350 customers could be added to public sewer service through new line extensions in 2000-2020.

TRIGG COUNTY SEWER PLAN

Proposed Projects 2000-2005

<table>
<thead>
<tr>
<th>System</th>
<th>New Customers Served</th>
<th>Cost ($1,000)</th>
<th>Line Upgrade ($1,000)</th>
<th>Treatment Expansion ($1,000)</th>
<th>New Treatment ($1,000)</th>
<th>Lift Stations, and other ($1,000)</th>
<th>Total Costs ($1,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRIGG</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barkley Lake Area*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SX21221001</td>
<td>75</td>
<td>803</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>803</td>
</tr>
<tr>
<td>SX21221002</td>
<td>120</td>
<td>1,284</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,284</td>
</tr>
<tr>
<td>SX21221003</td>
<td>50</td>
<td>525</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>525</td>
</tr>
<tr>
<td>SX21221004</td>
<td>375</td>
<td>4,013</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4,013</td>
</tr>
<tr>
<td>SX21221005</td>
<td>68</td>
<td>728</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>728</td>
</tr>
<tr>
<td>SX21221006</td>
<td>8</td>
<td>86</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>86</td>
</tr>
<tr>
<td>SX21221007</td>
<td>127</td>
<td>1,359</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,359</td>
</tr>
<tr>
<td>SX21221008</td>
<td>135</td>
<td>1,445</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,445</td>
</tr>
<tr>
<td>SX21221010</td>
<td>86</td>
<td>920</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>920</td>
</tr>
<tr>
<td>SX21221012</td>
<td>45</td>
<td>482</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>482</td>
</tr>
<tr>
<td>SX21221013</td>
<td>55</td>
<td>589</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>589</td>
</tr>
<tr>
<td>SX21221014</td>
<td>256</td>
<td>2,750</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,750</td>
</tr>
<tr>
<td>SX21221016</td>
<td>85</td>
<td>910</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>910</td>
</tr>
<tr>
<td>SX21221018</td>
<td>150</td>
<td>1,605</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,605</td>
</tr>
<tr>
<td>SX21221020</td>
<td>39</td>
<td>417</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>417</td>
</tr>
<tr>
<td>SX21221021</td>
<td>41</td>
<td>439</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>439</td>
</tr>
<tr>
<td>SX21221023</td>
<td>149</td>
<td>1,594</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,594</td>
</tr>
<tr>
<td>SX21221026</td>
<td>35</td>
<td>375</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>375</td>
</tr>
<tr>
<td>SX21221027</td>
<td>32</td>
<td>342</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>342</td>
</tr>
<tr>
<td>SX21221028</td>
<td>44</td>
<td>471</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>471</td>
</tr>
<tr>
<td>SX21221029</td>
<td>213</td>
<td>2,279</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2,279</td>
</tr>
<tr>
<td>SX21221030</td>
<td>137</td>
<td>1,466</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,466</td>
</tr>
<tr>
<td>SX21221031</td>
<td>11</td>
<td>118</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>118</td>
</tr>
</tbody>
</table>
SEWER SERVICE AREAS
TRIGG COUNTY
Kentucky

Prepared By:
Water Resource Development Commission
Department for Local Government
1024 Capital Center Drive, Suite 340
Frankfort, Kentucky 40601-6204
502-573-2382 – 502-573-2939 fax
http://dlgnt1.state.ky.us/wrdc/

Bob Arnold, Chairman
Lawrence Wetherby, Executive Director

Final GIS & Cartographic Operations By:
Kent & 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 ... for a particular use, nor any such warranties to be implied, with respect to the information or data furnished herein.

SEWER SERVICE STATUS BY OWNER

EXISTING SERVICE AREA  PROPOSED SERVICE AREA

CITY OF CADIZ
### Proposed Projects 2006-2020

All sewer needs were for the period 2000-2005.

The residents of Trigg County are presently provided water by two systems: the Barkley Lake Water District and the City of Cadiz Waterworks. Only the Cadiz Waterworks, which services the resident of the city of Cadiz, has a sewer component to it. The remaining residents of Trigg County rely on individual septic systems. Over the past decade this area has experienced tremendous growth due to the development of its Lakefront areas. Since the 1990 census the areas household population has grown by an estimated 26% and it has been projected that by the year 2020 expected growth will be around 45%. The areas experiencing the highest growth have tended to be the lakefront areas along the banks of Lake Barkley.

### ON-SITE TREATMENT SYSTEMS

Due to the growth patterns of the county (growth along the lakefront), the extension of sewer lines throughout the county maybe financially unfeasible. However, due to this rapid growth, there are some developments within areas of the county that are experiencing problems and could possibly benefit from some sort of cluster system. The areas listed below have been determined to be problem areas due to lack of properly functioning septic systems. The extension of the lines and boundaries of existing municipal systems have been determined to be the best solution for those areas that lie within an acceptable distance from existing service. For the areas that are located outside of any municipal systems’ jurisdiction and (in most cases) a cluster system has been identified as a possible solution, the following would apply:

1.) A wetlands or lagoon would best serve any area with a daily flow of less than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

Before this recommendation can be made the following must be taken into account:

- The required amount of land for this area must be available
- A soil type and depth analysis must be performed to determine if both are adequate
- The operations & maintenance issue must be addressed.
2.) A package treatment plant would best serve any area with a daily waste flow of more than 7,000 gallons per day (i.e. twenty 3-bedroom homes).

Before this recommendation can be made the following must be taken into account:

- This plant must be permitted by the EPA and have a surface discharge.
- This plant must also be located near a “Blue Line Stream that can handle the discharge from the facility
- The required amount of land for the facility must be available
- The operations & maintenance issue must be addressed.

**Proposed Projects**

SI21221013  
Area: Gray’s Hillview and Prizer Point Area  
Number of Lots: 55 homes  
Problem: Small lots with very steep elevations

SI21221012  
Area: Gray’s Acres and Carriage Cove Area  
Number of Lots: 45 homes  
Problem: Small lots with very steep elevations

SI21221014  
Area: Rockcastle Shores  
Number of Lots: 256 homes and numerous vacant lots for development  
Problem: Small lots with older homes that don’t meet today's regulations of size or depth

SI21221010  
Area: Parkview Shores, Enchanted Shores and Everlasting Springs Area  
Number of Lots: 85 homes  
Problem: Small lots with very poor soil content

SI21221010  
Area: Little River Estates  
Number of Lots: 86 homes  
Problem: Extremely small lots limiting repair options

SI21221008  
Area: The Hall Road Area  
Number of Lots: 135 homes
Problems: Extremely small lots limiting repair options, poor soil content and drainage problems

SI21221007  
Area: The Allen & Whitecrest Subdivisions, Woodlawn Estates an area along 68 west of the city of Cadiz  
Number of Lots: 127 homes  
Problems: Extremely small lots with poor soil (high clay content)

SI21221006  
Area: Blue Ridge Estates  
Number of Lots: 8 homes  
Problems: Poor drainage

SI21221005  
Area: Countryside Estates  
Number of Lots: 68 total lots (17 homes)  
Problems: Poor drainage, shallow fragipan

SI21221018  
Area: Blue Springs Estates  
Number of Lots: 150 homes  
Problems: Large homes located on small lots limiting repair options, most of which will not comply with today’s regulatory requirements

SI21221020  
Area: Canton Shores  
Number of Lots: 39 homes  
Problems: Extremely small lots with poor soil (high clay content)

SI21221021  
Area: LBL Subdivision  
Number of Lots: 41 homes and numerous vacant lots  
Problems: The upland lots have poorly draining soil with high clay content. The lots are also extremely small, limiting repair options.
SI21221023
Area: Cumberland Shores and Terrapin Creek Area
Number of Lots: 149 homes and numerous vacant lots
Problems: The lots are extremely small limiting repair options.

SI21221001
Area: the Calendonia Community
Number of Lots: 75 homes
Problems: Densely populated area.

SI21221002
Area: the Cerulean Community
Number of Lots: 120 homes
Problems: Densely populated area.

SI21221003
Area: the Wallonia Community
Number of Lots: 50 homes
Problems: Densely populated area.

SI21221004
Area: the Area adjacent to the Fort Campbell Military Installation
Number of Lots: 375 (or more) homes
Problems: Densely populated area with high expectation of future growth.

SI212210026
Area: the Linton Community
Number of Lots: 35 homes
Problems: Densely populated area.

SI21221027
Area: an area along Rhett Blvd.
Number of Lots: 32 homes
Problem: Very poor soil content
SI21221028
Area: an area that includes Glenwood Estates and houses along Glenwood Mill Road
Number of Lots: 44 homes
Problem: Very poor soil content

SI21221029
Area: an area which includes Dogwood Estate, Kings Chapel Estates, Valleyview Subdivision, Kingspoint Subdivision along with houses along Hopkinsville & Kings Chapel Roads
Number of Lots: 213 homes
Problem: Very poor soil content (high rock content)

SI21221030
Area: an area along Noel Drive, Joey Drive, Westend Street & Cerulean Road
Number of Lots: 137 homes
Problem: Very poor soil content (high rock content)

SI21221031
Area: an area along Will Jackson Road
Number of Lots: 11 homes
Problem: Very poor soil content

Other areas of projected growth within the county:
SI21221015
Area: Woodfield Estates

SI21221011
Area: Woodland Acres I & II

SI21221009
Area: Siloam Point Subdivision (phase I & II)

SI21221017
Area: Rimcrest, Shawnee Hills and Sutherland Winds

SI21221019
Area: Canton Heights I, II & III

SI21221022
Area: Waterford I, II, III & IV
SI21221024
Area: Cumberland Hills Shores, Fisherman’s Paradise & Donaldson Bay Estates

SI21221025
Area: Howdy Doody Drive