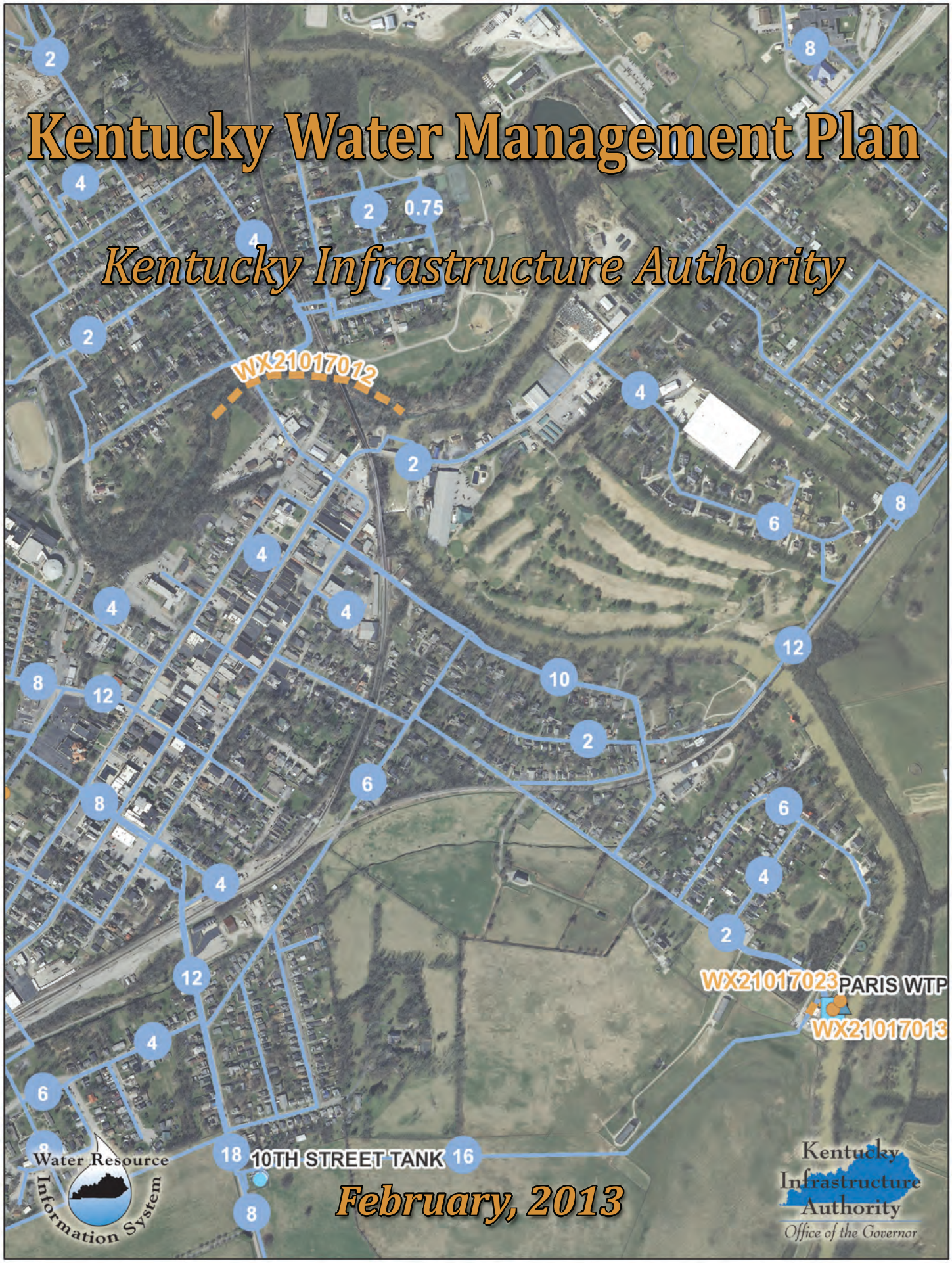
# Kentucky Water Management Plan

## *Kentucky Infrastructure Authority*




Water Resource Information System

*February, 2013*

Kentucky Infrastructure Authority
*Office of the Governor*

**KENTUCKY INFRASTRUCTURE AUTHORITY**

**Steven L. Beshear**
Governor

Capital Center Complex
1024 Capital Center Drive, Suite 340
Frankfort, Kentucky 40601
(502) 573-0260
(502) 573-0157 (fax)
kia.ky.gov

**John E. Covington III**
Executive Director

February 4, 2013

Dear Governor Beshear and Members of the General Assembly:

Drinking water and wastewater infrastructure is vital to Kentucky's future. Adequate drinking water infrastructure is essential to providing clean, safe drinking water and protecting public health. Kentucky is blessed in both quantity and quality of beautiful lakes, rivers and streams. To protect these valuable natural resources, we must build and maintain the necessary wastewater infrastructure. Without both drinking water and wastewater infrastructure our economic future is at risk. New home construction comes to a halt. Businesses cannot start, expand or relocate to our great Commonwealth. Jobs are lost.

Kentucky has long recognized the need for adequate drinking water and wastewater infrastructure. In 2000, the Governor and General Assembly working together established a framework to plan for Kentucky's needs. Area Water Management Councils were created in each of Kentucky's Area Development Districts (ADDs) with the ADDs responsible for facilitating their meetings. The Councils are a forum for local utilities and local officials to discuss and identify each area's drinking water and wastewater needs. The Councils are tasked with reviewing and prioritizing projects that address the local needs.

For the Councils to successfully plan for the future, they must have information about the location and condition of existing infrastructure. The Kentucky Infrastructure Authority (KIA) was given the responsibility for maintaining and updating the Water Resource Information System (WRIS). The WRIS is a geo-database of existing infrastructure and of the projects reviewed by the Councils. The ADDs work with both the Councils and with each individual utility to gather information about the system, its infrastructure and its proposed projects through the creation of Project Profiles. This document was created using the WRIS.

The WRIS facilitates a bottom up planning process and is truly a collaborative effort between the Councils, the ADDs and KIA. The information about Kentucky's drinking water and wastewater utilities, existing drinking water and wastewater infrastructure and the projects needed to maintain and improve the existing drinking water and wastewater infrastructure in the WRIS is an invaluable resource.

Kentucky should be proud of the significant improvements we have made to our drinking water and wastewater infrastructure. This document identifies the drinking water and wastewater needs across the Commonwealth that are still to be met and the projects that will address those needs.

Sincerely

John E. Covington, III
Executive Director

DRAFT

When you talk to us, you talk to all of Kentucky

KCADD

KY Council of Area Development Districts

501 Capital Avenue • Frankfort, Kentucky 40601 • Office 502.875.2515 • Fax 502.875.0946

January 25, 2013

Governor Beshear and Members of the General Assembly:

The Kentucky Area Development Districts (KADD), in conjunction with our local units of government, water and sewer systems, and the Kentucky Infrastructure Authority (KIA), are pleased to be a partner in providing the enclosed Infrastructure Assessment of providers and projects in our districts. Each Area Development District (ADD) collects and updates information in the Water Resource Information System (WRIS) that is critical to the planning process. The ADD's relationship with local utilities and elected officials give us the ability to successfully maintain the information in the WRIS, which was utilized to generate this report. This information is used by numerous agencies throughout the state, and provides much of the information needed for all aspects of water planning and emergency management decision-making.

This report demonstrates the importance of these projects to the viability of our communities, by providing detail as to the affected areas, services needed, residents/businesses impacted, funding requirements, and projected timeframes for completion. Not only have these projects been identified as important within each county, but they have also been reviewed and ranked as priority projects by each ADD Regional Water Management Planning Council. The prioritization process in each ADD is critical to making sure local governments and utilities are involved with and supportive of regional infrastructure planning.

Thank you for your continued interest and support of this process. We look forward to working with you and KIA to continue the planning and development of infrastructure projects within our communities. We hope you find this data helpful, and welcome your comments, suggestions and questions now and in the future.

Sincerely,

Donna Diaz

Donna Diaz
Chairperson
Kentucky Area Development Districts

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# Introduction

Over fifteen years ago, the Water Resource Development Commission was tasked by Governor Paul Patton to prepare a strategic plan for water-resource development in the Commonwealth of Kentucky. The intent of Governor Patton's Executive Order was to provide water and wastewater service to every Kentuckian by the year 2020. The original strategic plan for water developed by the WRDC in 1999 not only was a great barometer for the status of water services in the Commonwealth, but also provided recommendations to be carried out over the next twenty years. Similar in format, the strategic plan for wastewater followed in early 2000. Both plans focused on expanding and improving water and wastewater services to all citizens of Kentucky. Of the original 17 recommendations, a number have already been implemented; none more important than the expansion of the Water Resource Information System (WRIS) Portal.

The WRIS Portal has been developed through the cooperative efforts of water and wastewater treatment systems and local, regional, and state agencies. The WRIS Portal provides much of the information needed for all aspects of water and wastewater planning and emergency management decision making. The WRIS portal is designed to bring together information from a multitude of sources and display that information in one easy to use web application. The Portal is linked to databases at the Kentucky Division of Water, Kentucky Department for Environmental Protection, the Kentucky Department for Local Government, the Kentucky Public Service Commission, the Kentucky Department of Education, the Kentucky Department of Parks, KyWARN, and the Kentucky Infrastructure Authority (KIA).

Not only does the WRIS Portal contain valuable system information, but it also serves as the statewide registry for water and wastewater projects in the Commonwealth of Kentucky. Multiple funding sources require applicants to have a completed Project Profile within the WRIS including the Clean Water and Drinking Water State Revolving Fund (SRF), Community Development Block Grants (CDBG), Appalachian Regional Commission (ARC), Delta Regional Authority, State and Federal Line Item Grants, and Coal Severance Grants. The WRIS Project Profile is the project database that populates the e-Clearinghouse portal for review by all state agencies.

WRIS Portal information originating from KIA is maintained by the Kentucky Area Development Districts through system visits performed annually to each drinking water system and wastewater treatment system in the Commonwealth. In addition, the Kentucky Area Development Districts facilitate the Area Water Management Councils, encompassing the Commonwealth. These Area Water Management Councils meet quarterly and by statute assume the role and function of long range planning efforts for the Public Water and Wastewater Systems represented on the Council.

As we approach the year 2020, it is important to recognize the growth of public water and wastewater systems in the Commonwealth over the past several years. Our hope is that after reading through this report, the reader will recognize that the collaborative efforts of the above mentioned local, regional, and state agencies and public water and wastewater systems have begun the framework for continued growth of sustainable infrastructure throughout the Commonwealth of Kentucky.

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# Water Management Plan Data Sources

The information contained in this report was acquired from several sources: U.S. Census Bureau's 2010 Census Data, the Division of Water's Safe Drinking Water Information System (SDWIS), the Environmental Protection Agency's Integrated Compliance Information System (ICIS), and the Kentucky Infrastructure Authority's Water Resource Information System (WRIS) Project Profile and System Data. Most importantly, all of the system data and project information originated with the public water and wastewater systems within this report. The information is either self reported by the public water and wastewater systems to the Area Development District Water Management Planners in a semiannual system visit, or a spatial analysis of reported information by the Kentucky Infrastructure Authority's WRIS Team.

As with any report that aggregates, interpolates, and/or extrapolates information, inconsistencies in the data will arise. However, every effort has been made to minimize the amount of inconsistent data. Please find below the explanations for several of the data sources cited in this report.

**Serviceability Index** – The Serviceable Population and Percent Serviceable information found in State and County Summary pages is derived from a spatial analysis of mapped service lines of public water and wastewater systems and the census blocks from the U.S. Census Bureau. The census blocks are buffered by 250 feet in order to capture a service line that may be able to serve a portion of the census block.

A census block smaller than 10 acres is considered to be fully served if a service line falls within the census block or its buffer zone of 250 feet. If a census block is considered to be fully serviced, then 100% of the census block's population and household count is allocated to the public water or wastewater system that owns the service lines within the given census block.

For a census block larger than 10 acres, an analysis is conducted comparing the ratio of service lines to road centerlines within a given census block. Once the ratio of distribution service line to road centerline is calculated, the ratio is used to allocate a portion of the census block's population and household count to the public water or wastewater system that owns the servcie lines within the given census block. If the ratio exceeds 75% of service line to road centerline, the census block is considered to be fully serviced. For any ratio smaller than 75%, the ratio is used to allocate only a portion of the census block's population and household count to the public water or wastewater system that owns the service lines located within the census block.

**Project Summary** –A summary of a public water and wastewater system's projects is provided at the bottom of their System Summary page. Only projects that have been approved by the Area Water Management Council and are in need of funding have been annotated in the summary. For more information on a project, please visit www.wris.ky.gov.

**Estimated Percentage Water Loss** – The estimated percentage water loss for each system is provided in the system's summary. This figure is an estimate calculated by dividing the amount of water provided to their customers by the system's production and/or purchase values. This information is reported to the Water Management Planners at the ADD on an annual basis. For specific system data, please visit www.wris.ky.gov.

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# Water

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# Kentucky

- 2010 census population of 4,339,367 (1,927,164 households) with 94% serviceable.
- Projected 2020 population of 4,672,754 (change of 333,387).
- 13,517 miles of existing water lines.
- 13 new water treatment plants proposed in the next 10 years.
- 3,306 miles of line extensions proposed in the next 10 years.
- 1,347 miles of line rehabilitation proposed in the next 10 years.
- 411 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $1,893,341,885.
- Estimated funding needs for projects from 6 to 10 years: $253,595,245.

Kentucky has a 2010 census population count of 4,339,367 (1,927,164 households) with a projected 2020 population count of 4,672,754 (1,909,211 households). Public water is currently available to approximately 94 percent of the state's households based on 2010 census counts. Over the next ten years approximately 147,416 serviceable households will be added through the construction of 3,306 miles of water line extensions and approximately 1,218,123 instances of improved service through the rehabilitation of 1,347 miles of existing water lines and other appurtenances. 13 new water treatment plants and 411 miles of transmission lines are also being proposed within the state over the next ten years.

**Area Development District Summary for Kentucky**

| Area Development District | 2010 Population | 2020 Population | Serviceable Population | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|
| Bluegrass Area Development District | 770,404 | 862,521 | 740,836 | 97% | $ 212,349,846 |
| Barren River Area Development District | 284,195 | 316,297 | 275,017 | 97% | $ 114,290,855 |
| Big Sandy Area Development District | 154,093 | 148,051 | 143,395 | 94% | $ 99,297,114 |
| Buffalo Trace Area Development District | 56,478 | 58,306 | 54,734 | 97% | $ 87,226,900 |
| Cumberland Valley Area Development District | 236,618 | 237,501 | 229,092 | 97% | $ 121,392,663 |
| Five County Area Development District | 137,884 | 139,098 | 131,402 | 95% | $ 36,300,804 |
| Green River Area Development District | 213,472 | 220,544 | 206,138 | 97% | $ 112,705,031 |
| Gateway Area Development District | 81,652 | 87,651 | 77,354 | 94% | $ 51,578,540 |
| Kentuckiana Regional Planning and Development Agency | 959,091 | 1,058,343 | 898,761 | 94% | $ 337,864,694 |
| Kentucky River Area Development District | 114,762 | 111,267 | 91,359 | 79% | $ 124,570,445 |
| Lake Cumberland Area Development District | 207,256 | 221,481 | 195,969 | 95% | $ 140,627,907 |
| Lincoln Trail Area Development District | 269,117 | 295,040 | 243,366 | 91% | $ 187,075,135 |
| Northern Kentucky Area Development District | 438,647 | 488,377 | 418,468 | 95% | $ 232,642,203 |
| Pennyrile Area Development District | 219,305 | 226,580 | 199,757 | 95% | $ 179,299,679 |
| Purchase Area Development District | 196,393 | 201,697 | 154,788 | 79% | $ 109,715,314 |
| **Totals** | **4,339,367** | **4,672,754** | **4,060,436** | **94%** | **$ 2,146,937,130** |

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# Percent of Households Serviceable by Public Water Systems in 2010

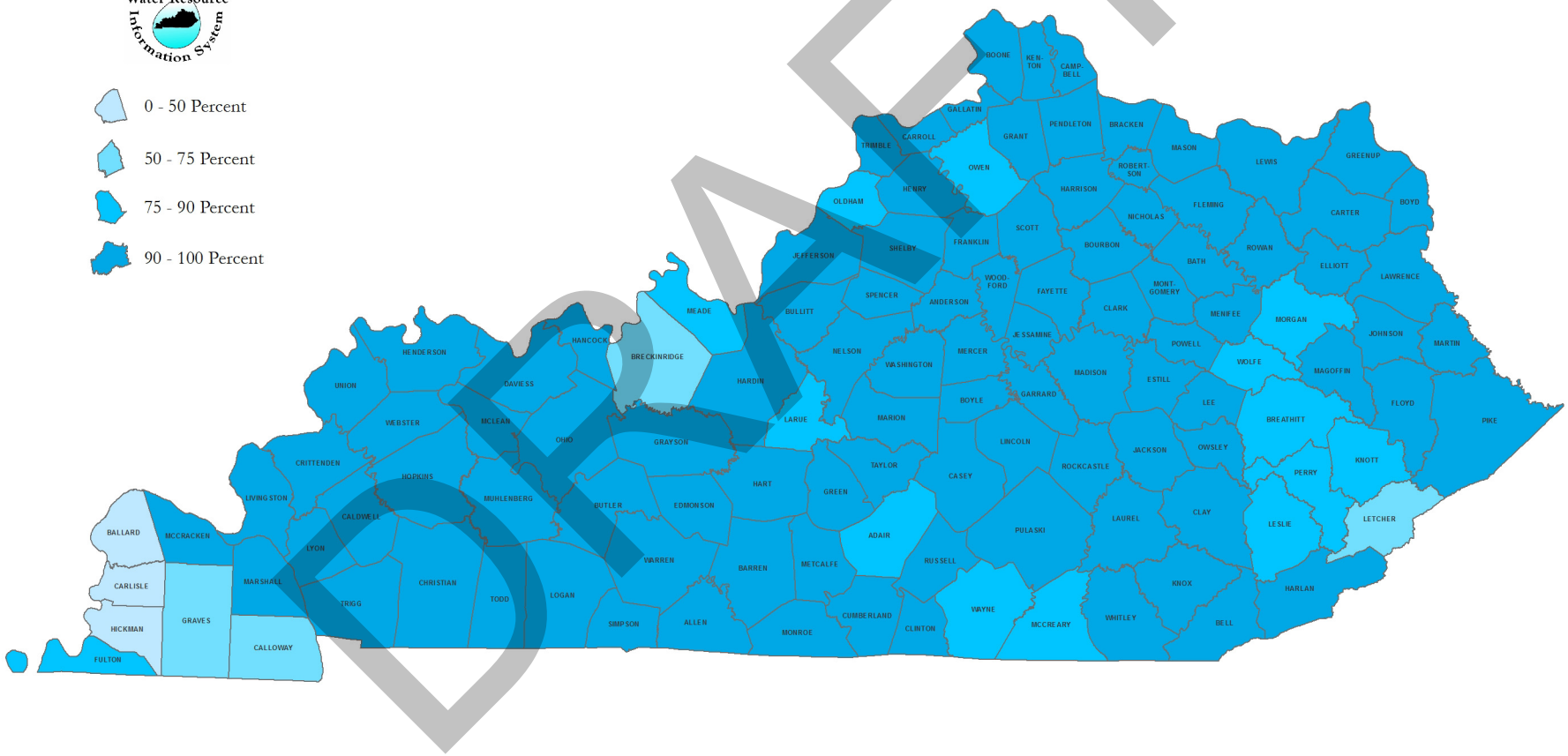
**Prepared By:**
**Kentucky Infrastructure Authority**

Kentucky Infrastructure Authority
1024 Capital Center Drive
Frankfort, KY 40601
(502) 573-0260
http://kia.ky.gov

January, 2013

Water Resource Information System

- 0 - 50 Percent
- 50 - 75 Percent
- 75 - 90 Percent
- 90 - 100 Percent

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# Percent Increase in Households Serviceable by Public Water Systems from 2000 to 2010

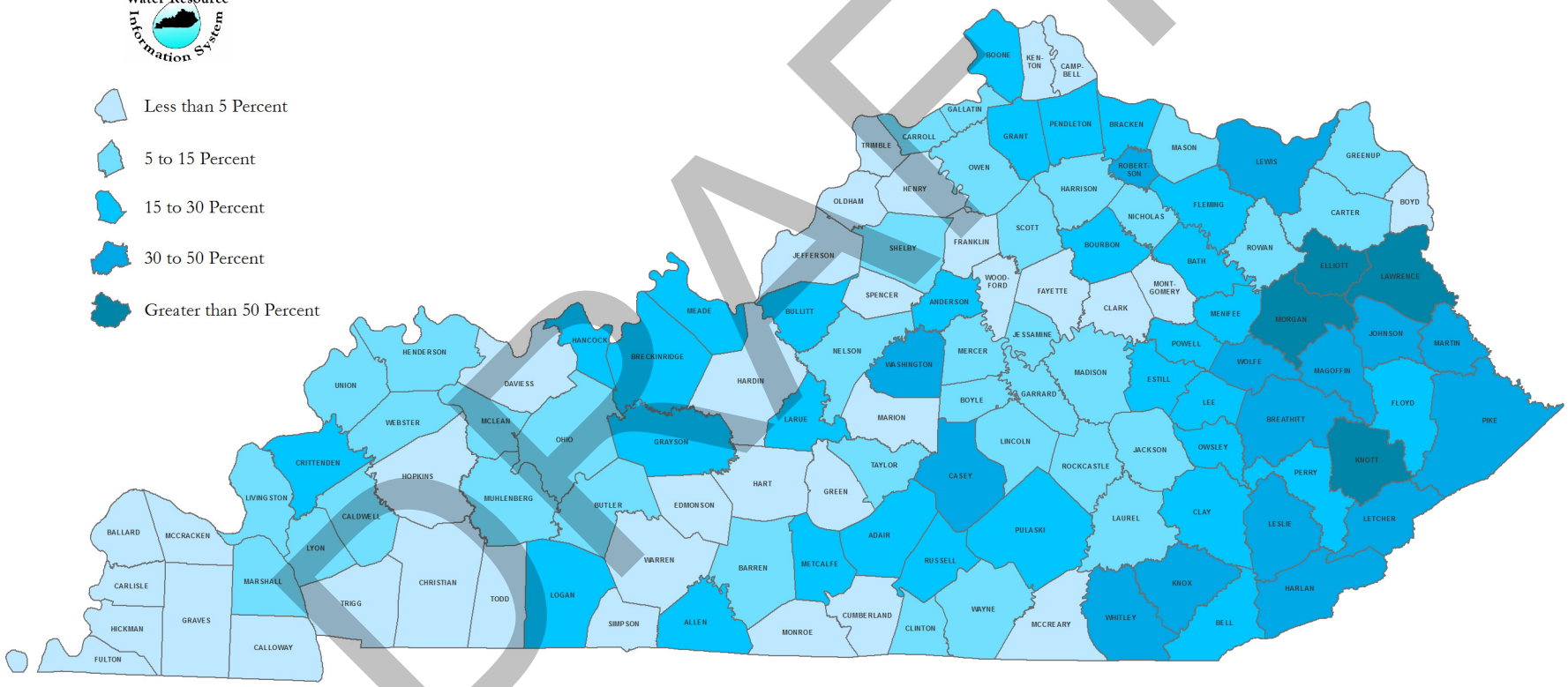
**Prepared By:**
**Kentucky Infrastructure Authority**

Kentucky Infrastructure Authority
1024 Capital Center Drive
Frankfort, KY 40601
(502) 573-0260
http://kia.ky.gov

January, 2013

Water Resource Information System

- Less than 5 Percent
- 5 to 15 Percent
- 15 to 30 Percent
- 30 to 50 Percent
- Greater than 50 Percent

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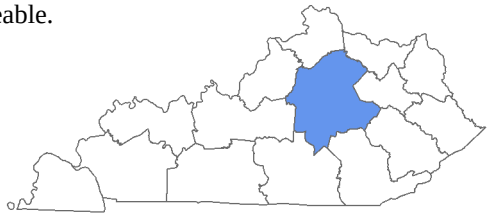
# Bluegrass Area Development District (BGADD)



- 2010 census population of 770,404 (340,939 households) with 97% serviceable.
- Projected 2020 population of 862,521 (change of 92,117).
- 3,180.85 miles of existing water lines.
- 88.00 miles of line extensions proposed in the next 10 years.
- 120.00 miles of line rehabilitation proposed in the next 10 years.
- 28.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $194,158,536.
- Estimated funding needs for projects from 6 to 10 years: $18,191,310.

Bluegrass Area Development District has a 2010 census population count of 770,404 (340,939 households) with a projected 2020 population count of 862,521 (355,488 households). Public water is currently available to approximately 97 percent of the district's households based on 2010 census counts. Over the next ten years approximately 240 serviceable households will be added through the construction of 88.00 miles of water line extensions and approximately 148,537 instances of improved service through the rehabilitation of 120.00 miles of existing water lines and other appurtenances. 28.00 miles of transmission lines are also proposed within this district.

**County Summary for Bluegrass Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Anderson | 21,421 | 9,127 | 23,555 | 9,582 | 9,103 | 100% | $ 2,083,204 |
| Bourbon | 19,985 | 8,927 | 20,530 | 8,478 | 8,782 | 98% | $ 4,075,000 |
| Boyle | 28,432 | 12,312 | 29,048 | 11,782 | 12,264 | 100% | $ 40,636,081 |
| Clark | 35,613 | 15,706 | 37,985 | 15,800 | 15,486 | 99% | $ 53,455,460 |
| Estill | 14,672 | 6,865 | 14,359 | 6,115 | 6,660 | 97% | $ 3,900,000 |
| Fayette | 295,803 | 135,160 | 334,733 | 141,152 | 126,151 | 93% | $ 5,003,960 |
| Franklin | 49,285 | 23,164 | 50,777 | 21,761 | 22,992 | 99% | $ 12,352,349 |
| Garrard | 16,912 | 7,463 | 19,122 | 7,917 | 7,343 | 98% | $ 570,010 |
| Harrison | 18,846 | 8,208 | 19,640 | 8,006 | 8,149 | 99% | $ 5,980,954 |
| Jessamine | 48,586 | 19,331 | 58,928 | 22,184 | 19,288 | 100% | $ 26,838,953 |
| Lincoln | 24,742 | 10,819 | 26,170 | 10,762 | 10,546 | 98% | $ 9,084,731 |
| Madison | 82,916 | 35,043 | 95,333 | 38,093 | 34,785 | 99% | $ 27,092,299 |
| Mercer | 21,331 | 9,941 | 21,810 | 9,299 | 9,836 | 99% | $ 3,280,525 |
| Nicholas | 7,135 | 3,261 | 7,411 | 3,012 | 3,155 | 97% | $ 8,722,150 |
| Powell | 12,613 | 5,598 | 12,319 | 4,860 | 5,460 | 98% | $ 2,994,275 |
| Scott | 47,173 | 19,303 | 63,984 | 25,538 | 18,805 | 97% | $ 360,000 |
| Woodford | 24,939 | 10,711 | 26,817 | 11,147 | 10,316 | 96% | $ 5,919,895 |
| **Totals** | **770,404** | **340,939** | **862,521** | **355,488** | **329,121** | **97%** | **$ 212,349,846** |

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## Community Drinking Water Systems in Bluegrass Area Development District County

Note: Serviceable counts include households outside the area development district.

| PWSID | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0030239 | Lawrenceburg Water & Sewer Department | Anderson | 14,777 | 6,336 |
| KY0030660 | South Anderson Water District | Anderson | 6,345 | 2,656 |
| KY0090287 | Millersburg Municipal Water Works | Bourbon | 929 | 475 |
| KY0090322 | North Middletown Water Department | Bourbon | 922 | 394 |
| KY0090343 | Paris Water Works | Bourbon | 12,257 | 5,544 |
| KY0110097 | Danville City Water Works | Boyle | 23,434 | 10,375 |
| KY0110345 | Parksville Water District | Boyle | 3,926 | 1,695 |
| KY0250981 | East Clark County Water District | Clark | 6,235 | 2,697 |
| KY0250473 | Winchester Municipal Utilities | Clark | 25,163 | 11,120 |
| KY0330123 | Estill County Water District #1 | Estill | 9,356 | 4,258 |
| KY0330205 | Irvine Municipal Utilities | Estill | 4,537 | 2,231 |
| KY0340250 | Kentucky-American Water Company | Fayette | 290,893 | 133,351 |
| KY0370137 | Elkhorn Water District | Franklin | 1,457 | 617 |
| KY0370128 | Farmdale Water District | Franklin | 6,158 | 2,428 |
| KY0370143 | Frankfort Plant Board | Franklin | 36,511 | 17,985 |
| KY0370346 | Peaks Mill Water District | Franklin | 2,893 | 1,258 |
| KY0400151 | Garrard County Water Association | Garrard | 13,042 | 5,644 |
| KY0400233 | Lancaster Water Works | Garrard | 3,935 | 1,839 |
| KY0490096 | Cynthiana Municipal Water Works | Harrison | 6,634 | 3,073 |
| KY0490179 | Harrison County Water Association | Harrison | 13,817 | 5,821 |
| KY0570214 | Jessamine County Water District #1 | Jessamine | 4,031 | 1,632 |
| KY0570249 | Jessamine- South Elkhorn Water District | Jessamine | 7,688 | 2,976 |
| KY0570315 | Nicholasville Utilities | Jessamine | 31,464 | 12,905 |
| KY0570010 | Wilmore Water Works | Jessamine | 6,403 | 2,211 |
| KY0690089 | Crab Orchard Water Works | Lincoln | 1,188 | 566 |
| KY0690203 | Hustonville Water Works | Lincoln | 4,251 | 1,865 |
| KY0690278 | McKinney Water District | Lincoln | 4,256 | 1,830 |
| KY0690417 | Stanford Water Commission | Lincoln | 7,837 | 3,350 |
| KY0760030 | Berea Municipal Utilities | Madison | 9,967 | 4,128 |
| KY0760672 | Kirksville Water Association | Madison | 4,370 | 1,819 |
| KY0760224 | Madison County Utilities District | Madison | 24,581 | 10,203 |
| KY0760370 | Richmond Water, Gas & Sewer | Madison | 31,840 | 13,811 |
| KY0760407 | Southern Madison Water District | Madison | 11,405 | 4,750 |
| KY0840048 | Burgin Water Department | Mercer | 1,054 | 475 |
| KY0840180 | Harrodsburg Municipal Water Department | Mercer | 8,364 | 4,000 |
| KY0840587 | Lake Village Water Association | Mercer | 3,925 | 2,082 |
| KY0840321 | North Mercer Water District | Mercer | 9,506 | 4,015 |
| KY0910065 | Carlisle Water Department | Nicholas | 2,063 | 1,066 |
| KY0910314 | Nicholas County Water District | Nicholas | 3,474 | 1,509 |
| KY0990074 | Clay City Water System | Powell | 1,650 | 753 |
| KY0990357 | Powells Valley Water District | Powell | 5,701 | 2,576 |
| KY0990418 | Stanton Water Commission | Powell | 5,351 | 2,297 |
| KY1050157 | Georgetown Municipal Water & Sewer Service | Scott | 32,987 | 13,651 |
| KY1200283 | Midway Municipal Water Works | Woodford | 1,734 | 757 |

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| Community Drinking Water Systems in Bluegrass Area Development District County<br>Note: Serviceable counts include households outside the area development district. | | | | |
|---|---|---|---|---|
| | | Primary | Serviceable Counts | |
| PWSID | System Name | County | Population | Households |
| KY1200310 | Northeast Woodford County Water District | Woodford | 2,275 | 983 |
| KY1200411 | South Woodford County Water District | Woodford | 3,746 | 1,631 |
| KY1200439 | Versailles Municipal Water | Woodford | 14,373 | 6,108 |
| | | **Totals:** | 728,705 | 323,746 |

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# Bluegrass Area Development District
# Regional Water Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Extend Services to Unserved Areas**

**Discussion of Area Development District Needs:**

The Bluegrass Area Development District (BGADD) estimates that approximately 946 persons do not have access to a community water supply out of a 2010 population of 770,404 people. This is consistent with a water-unserved population of about 0.13 percent and a water-served population of about 99.87 percent. Given the high percentage of success the BGADD has had with this intiative, the primary need is the repair and replacement of existing infrastructure. The BGADD region wants to make sure that all of the progress made remains in good condition.

The secondary need in this region is to continue to extend service to unserved areas. Our goal is to not only remain at the top of this initiative but to also be the first to have 100% access to public drinking water.

**Description and Determination of Planning Units:**

The seventeen counties within our district are split up into seven (7) groups of two (2) to three (3) counties. These counties are adjacent to each other and have the potential to work on regional projects together. The Planning Units are designated as follows:

Planning Unit 1 Meeting - Estill and Powell

Planning Unit 2 Meeting – Bourbon, Harrison and Nicholas

Planning Unit 3 Meeting – Boyle, Garrard and Lincoln

Planning Unit 4 Meeting – Anderson and Mercer

Planning Unit 5 Meeting – Franklin, Scott and Woodford

Planning Unit 6 Meeting – Fayette and Jessamine

Planning Unit 7 Meeting – Clark and Madison

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# Bluegrass Area Development District
# Project Ranking Methodology

The Bluegrass Area Water Management Council will examine the following criteria in the ranking of water and wastewater projects for 2012:

• the current and potential customer base that would benefit;
• adequacy of existing water/wastewater infrastructure;
• optimization of scarce resources, cost per customer, and ability to pay;
• the dependability of existing infrastructure to provide adequate service;
• avoidance of duplication of service;
• current user rates as compared to the median for the region;
• Median Household Income (MHI), and
• Project type such as construction, operation, and maintenance types of projects.

To that end, a scoring matrix will be developed with an available score between zero and 20 for the following seven categories:

1. Project Type: More credit is given for construction projects as opposed to projects that could be categorized as routine maintenance or operation efforts that could perhaps be financed from local revenues derived from user charges.
2. Readiness: The more committed to a project a project sponsor appears to be, the more credit the project would be received in this scoring category. If a project had final engineering plans and specifications complete and regulatory agency approval in hand, it would receive more credit. Projects with only rough conceptual ideas would receive fewer points.
3. Enforcement Actions: If a project is in response to a state or a federal regulatory agency's enforcement action, it would receive more points. If a project is developed in an attempt to prevent a regulatory agency's enforcement action, it could be highly scored also, but perhaps not so highly scored as a utility already under an enforcement action.
4. Cost Effectiveness: Factors to be considered under this category are income levels of project area residents, cost per customer, funding already in place (be it local or non-local), project viability, and existing rates being charged.
5. Regionalization: Projects in which inter-local cooperation could in some way be demonstrated would receive more consideration than projects that were simply local in nature. Regional projects in general, tend to promote efficiency and effectiveness in utility delivery service. The Council was looking to give a boost to projects which were, in small part or in large part, regional in nature. Projects exhibiting more regional thought were given an advantage as compared to projects exhibiting less regional thought.
6. Local Rankings: This measure plays heavily in the regional ranking process. A project that is first-ranked at its local ranking would receive 20 points in this scoring category; a second-ranked project, 18 points; a third-ranked project, 16 points, etc, and finally, a tenth-ranked project, 2 points. Projects locally ranked with an eleventh or twelfth ranking or higher would receive no points in the regional ranking and scoring process.
7. Best of Type: For both water projects and for wastewater projects, the first and second ranked locally ranked projects will be disaggregated from the others. As a maximum, this would have resulted in a pool of 34 (17 counties x 2 projects per county) water projects and a similar pool of 34 wastewater projects. The Executive Council will review the project descriptions and the likely financial scenarios and rank these projects top to bottom. The top 15 water projects will be determined. The highest scoring project will get the full 20 points; the next highest ranked project got 19 points, etc.; the 15th ranked water project will receive 6 points. For projects not in the top 15, no points are awarded in this Best of Type category. The same process is repeated for wastewater projects.

A given project, if top-ranked in every category, could score 140 points.

Executive Council recommendations to the full Bluegrass Water Management Council can be modified by the full Council.

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## Project Rankings For Bluegrass Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21021017 | City of Danville Water Treatment Plant and Raw Water Intake Improvement | 0-2 Years | Partially Funded | $28,608,171 | Boyle | 1 | 1 |
| WX21049015 | Water Treatment Plant - 6.0 MGD | 0-2 Years | Not Funded | $39,000,100 | Clark | 2 | 2 |
| WX21073012 | Frankfort Plant Board Reservoir Improvement Project | 3-5 Years | Not Funded | $6,427,000 | Franklin | 3 | 1 |
| WX21079015 | Lancaster - New Water Treatment Plant | 0-2 Years | Fully Funded | $12,240,455 | Garrard | 4 | 2 |
| WX21113041 | Nicholasville – Jessamine South Elkhorn Water District Interconn | 0-2 Years | Not Funded | $786,000 | Jessamine | 5 | 2 |
| WX21151040 | Berea Utilities - Upper Owsley Reservoir | 3-5 Years | Partially Funded | $7,000,000 | Madison | 6 | 3 |
| WX21197011 | Water Treatment Plant Floor Repair | 0-2 Years | Partially Funded | $1,186,500 | Powell | 7 | 1 |
| WX21017017 | Millersburg Water System Upgrades | 0-2 Years | Not Funded | $1,400,000 | Bourbon | 8 | 5 |
| WX21167026 | Harrodsburg - Water Distribution System Improvements | 0-2 Years | Not Funded | $888,950 | Mercer | 9 | 2 |
| WX21097024 | Harrison County Water Association Kelat Tank Replacement | 0-2 Years | Not Funded | $939,180 | Harrison | 10 | 4 |
| WX21113043 | JCWD#1 East Brannon 12" Loop | 0-2 Years | Not Funded | $145,000 | Jessamine | 11 | 1 |
| WX21239024 | Versailles Water System Improvements | 0-2 Years | Partially Funded | $1,698,400 | Woodford | 12 | 2 |
| WX21151051 | MCUD Improvements Phase 4 | 0-2 Years | Partially Funded | $856,778 | Madison | 13 | 4 |
| WX21151008 | Standby Power Upgrade for Side Storage and College Hill Plant | 0-2 Years | Not Funded | $2,546,700 | Madison | 14 | 1 |
| WX21113027 | Nicholasville Elevated Water Storage Project | 3-5 Years | Partially Funded | $3,103,960 | Jessamine | 15 | 4 |
| WX21065004 | ECWD Phase 10 Water Line Extension, Tank Improvements | 0-2 Years | Not Funded | $2,000,000 | Estill | 16 | 3 |
| WX21137043 | South Fishing Creek Water Line Extension | 0-2 Years | Not Funded | $100,000 | Lincoln | 17 | 3 |
| WX21113031 | Fort Bramlett/Camp Nelson Waterline Extension | 0-2 Years | Not Funded | $709,000 | Jessamine | 18 | 3 |
| WX21017019 | North Middletown Water Tank Rehabilitation & SCADA | 0-2 Years | Not Funded | $680,000 | Bourbon | 19 | 2 |
| WX21197016 | Happy Top and Ballards Branch PSs Variable Frequency Drives Project | 0-2 Years | Not Funded | $174,400 | Powell | 20 | 5 |
| WX21167022 | Harrodsburg - North Main Water Storage Tank Improvements | 0-2 Years | Not Funded | $800,000 | Mercer | 21 | 1 |
| WX21167017 | Lake Village Water Association - Contract 14 Water Main West Zone Upgrades | 0-2 Years | Not Funded | $1,100,000 | Mercer | 22 | 3 |
| WX21167021 | City of Burgin - Hwy 33 and Norfolk Southern Crossing | 0-2 Years | Not Funded | $39,000 | Mercer | 23 | 4 |
| WX21239015 | South Woodford Water District - Cummins Ferry Water Line Replace | 0-2 Years | Not Funded | $412,000 | Woodford | 24 | 4 |
| WX21079020 | Garrard County Water Association Extension 13 | 0-2 Years | Not Funded | $96,000 | Garrard | 25 | 4 |
| WX21097025 | City of Cynthiana West By-Pass Water Main Extension Project | 0-2 Years | Not Funded | $581,774 | Harrison | 26 | 6 |
| WX21167016 | Master Plan Improvements | 0-2 Years | Not Funded | $4,121,000 | Mercer | 27 | 5 |
| WX21239027 | Midway- Water Line Replacement- East and West Higgins Street. | 0-2 Years | Not Funded | $198,000 | Woodford | 28 | 5 |
| WX21197008 | Powells Valley Beechfork Pump Station Replacement Project | 0-2 Years | Not Funded | $213,200 | Powell | 29 | 2 |
| WX21239023 | Woodford County Germany, Shore Acres, Foraker, Watts Ferry & Hippe Agee Project | 3-5 Years | Not Funded | $1,254,000 | Woodford | 30 | 3 |
| WX21151017 | Southern Madison WD-Scaffold Cane Area Waterline Extension Project | 0-2 Years | Partially Funded | $313,000 | Madison | 31 | 5 |
| WX21113037 | Wilmore Elevated Storage Tank Rehabilitation | 0-2 Years | Not Funded | $370,000 | Jessamine | 32 | 5 |

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## Project Rankings For Bluegrass Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21197009 | Powells Valley - Stokely Branch Road Waterline Replacement Project | 0-2 Years | Not Funded | $90,000 | Powell | 33 | 4 |
| WX21017013 | City of Paris Filter Rehabilitation At Water Plant | 3-5 Years | Not Funded | $125,000 | Bourbon | 34 | 1 |
| WX21017012 | City of Paris Creek Crossing Pipe Replacement Under Houston and Stoner Creeks. | 3-5 Years | Not Funded | $60,000 | Bourbon | 35 | 7 |
| WX21017022 | Paris - Water Plant Disinfection System Replacement | 0-2 Years | Not Funded | $250,000 | Bourbon | 36 | 3 |
| | | | **Total Cost:** | **$120,513,568** | | | |

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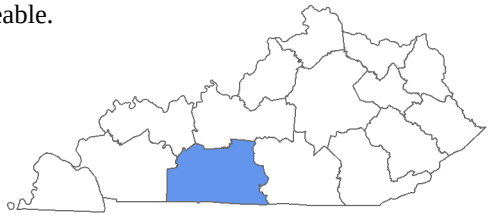
# Barren River Area Development District (BRADD)



- 2010 census population of 284,195 (126,280 households) with 97% serviceable.
- Projected 2020 population of 316,297 (change of 32,102).
- 985.85 miles of existing water lines.
- 114.00 miles of line extensions proposed in the next 10 years.
- 95.00 miles of line rehabilitation proposed in the next 10 years.
- 18.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $105,952,655.
- Estimated funding needs for projects from 6 to 10 years: $8,338,200.

Barren River Area Development District has a 2010 census population count of 284,195 (126,280 households) with a projected 2020 population count of 316,297 (128,239 households). Public water is currently available to approximately 97 percent of the district's households based on 2010 census counts. Over the next ten years approximately 384 serviceable households will be added through the construction of 114.00 miles of water line extensions and approximately 40,571 instances of improved service through the rehabilitation of 95.00 miles of existing water lines and other appurtenances. 18.00 miles of transmission lines are also proposed within this district.

**County Summary for Barren River Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Allen | 19,956 | 9,307 | 22,366 | 9,171 | 9,027 | 97% | $ 4,030,970 |
| Barren | 42,173 | 19,188 | 46,361 | 19,245 | 19,070 | 99% | $ 13,514,000 |
| Butler | 12,690 | 5,877 | 12,544 | 5,178 | 5,662 | 96% | $ 9,420,150 |
| Edmonson | 12,161 | 6,467 | 12,628 | 5,283 | 6,345 | 98% | $ 4,851,197 |
| Hart | 18,199 | 8,559 | 18,690 | 7,604 | 8,340 | 97% | $ 14,061,932 |
| Logan | 26,835 | 12,339 | 27,382 | 11,301 | 12,138 | 98% | $ 11,720,238 |
| Metcalfe | 10,099 | 4,681 | 10,329 | 4,306 | 4,531 | 97% | $ 2,591,000 |
| Monroe | 10,963 | 5,204 | 10,405 | 4,423 | 5,065 | 97% | $ 7,743,200 |
| Simpson | 17,327 | 7,435 | 18,342 | 7,429 | 7,303 | 98% | $ 9,225,975 |
| Warren | 113,792 | 47,223 | 137,250 | 54,299 | 44,678 | 95% | $ 37,132,193 |
| **Totals** | **284,195** | **126,280** | **316,297** | **128,239** | **122,159** | **97%** | **$ 114,290,855** |

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## Community Drinking Water Systems in Barren River Area Development District County

Note: Serviceable counts include households outside the area development district.

| PWSID | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0020956 | Allen County Water District | Allen | 13,545 | 6,120 |
| KY0020386 | Scottsville Water Department | Allen | 4,907 | 2,365 |
| KY0050490 | Cave City Water System | Barren | 2,696 | 1,303 |
| KY0050344 | Caveland Environmental Authority | Barren | 587 | 281 |
| KY0050929 | Glasgow Water Company | Barren | 36,747 | 16,714 |
| KY0160052 | Butler County Water System | Butler | 10,662 | 4,912 |
| KY0160294 | Morgantown Utilities | Butler | 2,220 | 1,023 |
| KY0310706 | Brownsville Municipal Water System | Edmonson | 586 | 297 |
| KY0310114 | Edmonson County Water District | Edmonson | 17,618 | 10,359 |
| KY0500032 | Bonnieville Water District | Hart | 311 | 170 |
| KY0500166 | Green River Valley Water District | Hart | 16,612 | 7,487 |
| KY0500476 | Horse Cave Water System | Hart | 1,902 | 923 |
| KY0500305 | Munfordville Water Works | Hart | 1,492 | 747 |
| KY0710001 | Adairville Water Works | Logan | 914 | 442 |
| KY0710012 | Auburn Water Department | Logan | 1,339 | 627 |
| KY0710951 | East Logan Water District | Logan | 7,881 | 3,238 |
| KY0710247 | Lewisburg Water Works | Logan | 2,513 | 1,213 |
| KY0710318 | North Logan Water District | Logan | 1,369 | 606 |
| KY0710378 | Russellville Municipal Water System | Logan | 7,149 | 3,436 |
| KY0710707 | South Logan Water Association | Logan | 4,120 | 1,814 |
| KY0850115 | Edmonton Water Works | Metcalfe | 7,213 | 3,326 |
| KY0860141 | Fountain Run Water District #1 | Monroe | 872 | 478 |
| KY0860150 | Monroe County Water District | Monroe | 7,904 | 3,670 |
| KY0860426 | Tompkinsville Water Works | Monroe | 2,278 | 1,139 |
| KY1070144 | Franklin Water Works | Simpson | 10,517 | 4,623 |
| KY1070398 | Simpson County Water District | Simpson | 6,949 | 2,876 |
| KY1140038 | Bowling Green Municipal Utilities | Warren | 46,747 | 19,699 |
| KY1140487 | Warren County Water District | Warren | 61,407 | 25,079 |
| | | **Totals:** | 279,057 | 124,967 |

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# Barren River Area Development District
# Regional Water Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Extend Services to Unserved Areas**

**Discussion of Area Development District Needs:**

The majority of planning units within the BRADD region have identified the repair and replacement of existing infrastructure as the primary need within their respective county. Evidence of this need is reflected by the types of projects currently on record as well as the overall regional priority rankings submitted by each planning unit. Many planning units within the region have identified aging and/or failing existing infrastructure as a major obstacle to improving water service quality and have developed projects to combat this issue. Planning units also indicated that addressing the primary need of repair and replacement will also aid in the pursuit of extending services to unserved areas, which represents the secondary need identified most frequently within the BRADD region. Although to a lesser extent, improving security risks and increasing storage capacity were also identified as secondary needs by multiple planning units.

**Description and Determination of Planning Units:**

Planning units within the BRADD region are determined by county and are comprised of all water systems located within county boundaries. In addition, water systems that operate on a regional level within multiple counties are included in each planning unit in which they operate. Water planning units within the BRADD region: Allen, Barren, Butler, Edmonson, Hart, Logan, Metcalfe, Monroe, Simpson, and Warren.

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# Barren River Area Development District
# Project Ranking Methodology

The Barren River Water Management Council utilizes the following criteria for the prioritization of water and wastewater projects on a regional scale. The criteria has been adapted from previous versions used by the BRADD combined with examples from other ADDs resulting in a 5 tiered ranking criteria to determine a numerical point value for each project. This process provides for increased collaboration on a local level to increase awareness on the impacts (locally and regionally) of proposed projects.

County Planning Unit Councils meet at least once locally to discuss and rank potential projects. These meetings are hosted by the County Judge/Executive with each local utility, mayor and other officials invited to attend. All proposed projects are reviewed by the council and given a numerical score based on a five tiered ranking criteria including: (1. Project Type 2.Complicance with Enforcement Action 3. Funding Status 4. Project Status and 5. County Ranking). Due to the diverse composition of each planning unit, a wide variety of interests are represented and therefore collaboration and compromise are key factors throughout the ranking process. This also provides for an increased level of understanding regarding the needs of planning unit as a whole and ensures that projects providing the most benefit (both locally and regionally) receive priority.

After all Planning Unit Council meetings have been completed, a summary tabulation of project scores is created and the Area Water Management Council meets to vote and finalize the regional ranking priorities. The top five scoring projects for each county are selected for ranking, resulting in a total of 50 ranked projects each for both water and wastewater. In addition, the top 10 overall projects are comprised of those projects identified as the #1 overall priority for each county (as indicated by each planning unit during regional ranking meetings). In this way each county is assured to have one project appear in the top 10 regional ranking, thus ensuring equal opportunity throughout the region. After the top 10 the projects are ranked based on overall score. The following criteria are used to score projects:

Drinking Water Ranking Criteria

**I. Project Type**

A. Elimination of a Public Water System (PWS) through a merger = 25 points
B. Elimination of water treatment plant through an interconnection = 23 points
C. Rehabilitation and or replacement of aging infrastructure = 20 points
D. Construction of a supplemental potable/raw water supply = 17 points
E. Construction of a new water treatment plant or expansion = 15 points
F. Construction of a new water storage tank = 10 point

G. Economic Development
- 100+ jobs created or maintained - 20 points
- 75-99 jobs created or maintained - 19 points
- 50-74 jobs created or maintained - 18 points
- 20-49 jobs created or maintained - 15 points
- 10-19 jobs created or maintained - 10 points
- less than 10 jobs created or maintained - 5 points

H. Extension of Service to Unserved Households
- 9+ households per mile - 20 points
- 7-8 households per mile - 19 points
- 5-6 households per mile - 18 points
- 3-4 households per mile - 15 points
- 1-2 households per mile - 10 points

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I. Underserved Customers

80-100+ households per mile - 20 points
60-80 households per mile - 19 points
40-60 households per mile - 18 points
20-40 households per mile - 15 points
0-20 households per mile - 10 points

**II. Compliance with Enforcement Action (Receive points in either A or B)**

A. Does the project address correction of a documented health threat? = 10 Points
B. Is the project necessary to achieve full or partial compliance with a court order, agreed order, or a judicial or administrative consent decree? = 5 Points

**III. Funding Status (Receive points in either A, B, or C)**

A. Funds committed for 50-99% of total project cost = 10 points
B. Funds committed for 1-49% of total project cost = 5 points
C. No funds committed for project = 0 points

**IV. Project Status (Can receive points in multiple categories)**

A. All necessary approvals obtained to start construction (including rights-of-way) = 20 points
B. Engineering plans & specs submitted to DOW = 15 points
C. Preliminary engineering report complete = 10 points
D. Estimated engineer's budget complete = 5 points

**V. County Ranking (Receive points in either A, B, C, or D)**

A. Number one ranked project = 24 points
B. Number two ranked project =18 points
C. Number three ranked project = 14 points
D. Number four ranked project = 10 points
E. Number five ranked project = 8 Points

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## Project Rankings For Barren River Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21171027 | Monroe County Water District - Treatment Plant Upgrade | 3-5 Years | Partially Funded | $16,600,000 | Monroe | 1 | 1 |
| WX21169032 | Edmonton - Water Storage Tank Renovations/SCADA System - Phase II | 3-5 Years | Not Funded | $800,000 | Metcalfe | 2 | 1 |
| WX21099034 | GRVWD - Water Treatment Plant River Intake Modifications | 0-2 Years | Not Funded | $739,200 | Hart | 3 | 1 |
| WX21031048 | City of Morgantown - Rochester Dam Repair | 3-5 Years | Not Funded | $60,000 | Butler | 4 | 1 |
| WX21141037 | South Logan Water Association - System Upgrades and Extensions | 3-5 Years | Not Funded | $1,660,000 | Logan | 5 | 1 |
| WX21213034 | SCWD- Macedonia Road Fire Protection | 3-5 Years | Not Funded | $120,000 | Simpson | 6 | 1 |
| WX21003015 | City of Scottsville - Old Hartsville Road Water Pump Replacement | 3-5 Years | Not Funded | $500,000 | Allen | 7 | 1 |
| WX21061006 | Edmonson County Water District: 2012 Emergency Needs Project | 0-2 Years | Not Funded | $895,000 | Edmonson | 8 | 1 |
| WX21227078 | Three Springs/Highway 242 Transmission Line | 3-5 Years | Not Funded | $850,000 | Warren | 9 | 1 |
| WX21009032 | Glasgow Water Improvement - 20 Inch Transmission Line to Haywood | 3-5 Years | Not Funded | $1,600,000 | Barren | 10 | 1 |
| WX21169025 | Edmonton - Joe Fields, Chess Jessie, Lone Star Line Replacement | 3-5 Years | Not Funded | $150,000 | Metcalfe | 11 | 2 |
| WX21213029 | City of Franklin - Morgantown Rd Water Line | 3-5 Years | Not Funded | $336,000 | Simpson | 12 | 2 |
| WX21061027 | Edmonson County Water District - Edmonson and Hart Extensions #1 | 3-5 Years | Not Funded | $977,075 | Edmonson | 13 | 2 |
| WX21099035 | Edmonson County Water District - Edmonson and Hart Extensions #1 | 3-5 Years | Not Funded | $977,075 | Hart | 14 | 2 |
| WX21031044 | BCWS - Rochester Dam Repair | 0-2 Years | Not Funded | $280,000 | Butler | 15 | 2 |
| WX21141004 | Adairville - Water System Improvements / Upgrades | 0-2 Years | Not Funded | $321,214 | Logan | 16 | 2 |
| WX21171020 | Tompkinsville - Beldon Water Tank Painting | 3-5 Years | Not Funded | $100,000 | Monroe | 17 | 2 |
| WX21003012 | City of Scottsville - WTP Emergency Generator Project | 3-5 Years | Not Funded | $500,000 | Allen | 18 | 2 |
| WX21227077 | BGMU - Reservoir Hill Piping Renovation | 3-5 Years | Not Funded | $1,240,000 | Warren | 19 | 2 |
| WX21009033 | Glasgow Water Improvement - 20 Inch Transmission Line Haywood to Grandview Ave | 3-5 Years | Not Funded | $1,750,000 | Barren | 20 | 2 |
| WX21141025 | Russellville Water Project 2 | 0-2 Years | Not Funded | $933,830 | Logan | 21 | 3 |
| WX21031042 | Morgantown - Water Plant Improvements | 3-5 Years | Not Funded | $500,000 | Butler | 22 | 3 |
| WX21061026 | City of Brownsville - Brownsville Water Tank Rehabilitation | 3-5 Years | Not Funded | $240,000 | Edmonson | 23 | 3 |
| WX21213042 | SCWD - Rural Fire Protection Project A | 3-5 Years | Not Funded | $749,000 | Simpson | 24 | 3 |
| WX21003016 | ACWD - Emergency Generators | 3-5 Years | Not Funded | $300,000 | Allen | 25 | 3 |
| WX21099033 | Bonnieville - Asbestos Line Replacement | 3-5 Years | Not Funded | $1,000,000 | Hart | 26 | 3 |
| WX21171037 | Fountain Run Water District #1 - Repaint/Rehab Existing Tank | 3-5 Years | Not Funded | $123,000 | Monroe | 27 | 3 |
| WX21227053 | WCWD - Morgantown Road Area Improvements | 3-5 Years | Not Funded | $917,000 | Warren | 28 | 3 |
| WX21009030 | Caveland Environmental - Blair Road | 3-5 Years | Not Funded | $198,000 | Barren | 29 | 3 |
| WX21169022 | Edmonton - A. Smith Rd Extension | 3-5 Years | Not Funded | $32,000 | Metcalfe | 30 | 3 |
| WX21061020 | Edmonson County Water District - Edmonson and Hart Extensions #2 | 3-5 Years | Not Funded | $1,237,579 | Edmonson | 31 | 4 |
| WX21099029 | GRVWD - New 500,000 Gallon Concrete Clearwell With Pumps at WTP | 3-5 Years | Not Funded | $1,545,000 | Hart | 32 | 4 |
| WX21213028 | City of Franklin - West Cedar St. Water Line | 0-2 Years | Not Funded | $495,975 | Simpson | 33 | 4 |

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## Project Rankings For Barren River Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21031018 | BCWS - WTP Capacity Upgrades - Phase 2 | 3-5 Years | Not Funded | $583,000 | Butler | 34 | 4 |
| WX21009035 | Caveland Environmental - Cave City Water Line Replacement | 3-5 Years | Not Funded | $600,000 | Barren | 35 | 4 |
| WX21141020 | City of Lewisburg - Radio Read Meter Purchase | 0-2 Years | Not Funded | $220,000 | Logan | 36 | 4 |
| WX21169031 | Metcalfe County Water Main Extension | 3-5 Years | Partially Funded | $100,000 | Metcalfe | 37 | 4 |
| WX21227044 | BGMU - New Southcentral 2.0 Million Gallon Tank (Highland Tank) | 3-5 Years | Not Funded | $12,000,000 | Warren | 38 | 4 |
| WX21003013 | City of Scottsville - WTP Improvements | 3-5 Years | Not Funded | $50,000 | Allen | 39 | 4 |
| WX21171039 | Monroe County Water District Improvements - Water Storage Tanks | 0-2 Years | Not Funded | $200,000 | Monroe | 40 | 4 |
| WX21213043 | SCWD - Rural Fire Protection Project B | 0-2 Years | Not Funded | $826,000 | Simpson | 41 | 5 |
| WX21003014 | City of Scottsville - Maysville Rd Tank Painting and Old Tank De | 3-5 Years | Not Funded | $350,000 | Allen | 42 | 5 |
| WX21009037 | Caveland Environmental - Park City Water Lines #2 | 3-5 Years | Not Funded | $500,000 | Barren | 43 | 5 |
| WX21061005 | Edmonson County Water Improvement - Nolin State Park | 3-5 Years | Not Funded | $176,000 | Edmonson | 44 | 5 |
| WX21099024 | Horse Cave - Water Line Improvements | 3-5 Years | Not Funded | $950,000 | Hart | 45 | 5 |
| WX21227054 | WCWD - Glen Lily Area Improvements | 0-2 Years | Not Funded | $1,266,000 | Warren | 46 | 5 |
| WX21031039 | Morgantown - Water Tank | 0-2 Years | Not Funded | $200,000 | Butler | 47 | 5 |
| WX21169029 | City of Edmonton - Water Service to New Bypass | 6-10 Years | Not Funded | $2,000,000 | Metcalfe | 48 | 5 |
| WX21171013 | Tompkinsville Downtown Water Line Replacement | 0-2 Years | Not Funded | $500,000 | Monroe | 49 | 5 |
| | | | **Total Cost:** | **$59,247,948** | | | |

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# Big Sandy Area Development District (BSADD)

- 2010 census population of 154,093 (70,217 households) with 94% serviceable.
- Projected 2020 population of 148,051 (change of -6,042).
- 350.80 miles of existing water lines.
- 187.00 miles of line extensions proposed in the next 10 years.
- 49.00 miles of line rehabilitation proposed in the next 10 years.
- 4.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $99,297,114.
- There are no projects planned from 6 to 10 years.

Big Sandy Area Development District has a 2010 census population count of 154,093 (70,217 households) with a projected 2020 population count of 148,051 (61,704 households). Public water is currently available to approximately 94 percent of the district's households based on 2010 census counts. Over the next ten years approximately 208 serviceable households will be added through the construction of 187.00 miles of water line extensions and approximately 1,391 instances of improved service through the rehabilitation of 49.00 miles of existing water lines and other appurtenances. 4.00 miles of transmission lines are also proposed within this district.

**County Summary for Big Sandy Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Floyd | 39,451 | 18,175 | 37,153 | 15,594 | 17,472 | 96% | $ 21,434,195 |
| Johnson | 23,356 | 10,624 | 23,265 | 9,647 | 9,861 | 93% | $ 36,491,912 |
| Magoffin | 13,333 | 5,950 | 13,587 | 5,696 | 5,768 | 97% | $ 15,017,589 |
| Martin | 12,929 | 5,164 | 12,055 | 4,410 | 5,085 | 99% | $ 9,385,204 |
| Pike | 65,024 | 30,304 | 61,991 | 26,357 | 27,499 | 91% | $ 16,968,214 |
| **Totals** | **154,093** | **70,217** | **148,051** | **61,704** | **65,685** | **94%** | **$ 99,297,114** |

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| Community Drinking Water Systems in Big Sandy Area Development District County<br>Note: Serviceable counts include households outside the area development district. | | | | |
|---|---|---|---|---|
| | | Primary | Serviceable Counts | |
| PWSID | System Name | County | Population | Households |
| KY0360272 | Martin Water Works | Floyd | 645 | 372 |
| KY0360358 | Prestonsburg City's Utilities Commission | Floyd | 18,015 | 8,188 |
| KY0360026 | Southern Water & Sewer District | Floyd | 19,544 | 8,995 |
| KY0360463 | Wheelwright Utilities Commission | Floyd | 1,526 | 664 |
| KY0580340 | Paintsville Utility Commission | Johnson | 21,193 | 9,667 |
| KY0770525 | Magoffin County Water District | Magoffin | 10,853 | 4,842 |
| KY0770566 | Salyersville Water Works | Magoffin | 2,235 | 997 |
| KY0800273 | Martin County Water District | Martin | 11,812 | 5,106 |
| KY0980120 | Elkhorn City Water Department | Pike | 1,246 | 623 |
| KY0980575 | Mountain Water District | Pike | 48,200 | 22,494 |
| KY0980350 | Pikeville Water Department | Pike | 9,095 | 4,158 |
| | | **Totals:** | 144,364 | 66,106 |

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# Big Sandy Area Development District
# Regional Water Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Increase Storage Capacity**

**Discussion of Area Development District Needs:**

In the Big Sandy Area 94% of the population is served by public water. The unserved population lives in very rural areas and waterline extension and maintenance is very expensive. The capital cost of designing and constructing public water system extensions is perhaps the chief impediment to the extension of public service into rural areas of the Big Sandy. The average age of water infrastructure in the region is approximately 50 years old. The primary need for the Big Sandy Area is to repair and replace existing infrastructure. The aging water infrastructure need to be upgraded or replaced. The area's secondary need for sufficient water supply to deal with drought or heavy water usage implementation of inter connectivity among systems would alleviate the problem and some connections have been made.

**Description and Determination of Planning Units:**

Big Sandy has five Water Planning Areas: Floyd, Johnson, Magoffin, Martin, and Pike Counties. The planning group is made up of Judge Executives, Mayors, and Utilities within the planning area. The planning area follows the county boundary of the respective planning unit.

The water suppliers in the planning groups are as follows:

- Floyd County - Prestonsburg City's, Martin Water Works, Wheelwright Utilities, Southern Water and Sewer District
- Johnson County - Paintsville Utilities
- Magoffin County- Magoffin County Water District, Salyersville Water Works
- Martin County- Martin County Water District,
- Pike County-Mountain Water District, Pikeville Water Department, and Elkhorn City Water Department.

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# Big Sandy Area Development District
# Project Ranking Methodology

The Big Sandy Area staff works in conjunction with the Kentucky Infrastructure Authority (KIA) in services of planning, grants administration, and identifying potential funding sources relating to water and wastewater infrastructure. Projects seeking various federal and State funding, are identified through the Water Management Council.

Yearly, the WMC reviews area projects and originates a priority list based on need for the Big Sandy Area. The Big Sandy Area currently has water needs for more efficient service to the existing customer base and distribution to the un-served. The population in the Big Sandy Area is mainly un-served by sanitary wastewater system. The lack of sewer in our area proposes a health hazard to several communities. There is a great need for wastewater projects in the Big Sandy Area. The drinking water and sanitary sewer needs of our area bring about these projects and lead to the process of ranking. The methodology BSADD Water Management Council uses to rank infrastructure projects is a combination of planning area ranking and priority score.

Big Sandy Area WMC Coordinator meets with the Area Utilities individually and discusses projects and identifies a project list for that utility. Once every utility in the region has been visit and each system has a project priority list, the WMC Coordinator then meets with all utilities in a planning area. Big Sandy has five Water and Wastewater planning areas, Floyd, Johnson, Magoffin, Martin, and Pike Counties. The Water Management Coordinator provides a list of projects provided by each utility to the planning group. The planning group is made up of Judge Executives, Mayors, and Utilities within the planning area. The group places a number of projects in rank order based on their perceived or measured importance to the planning area.

Regionally projects are scored. There are a total of 80 points possible for each project. The scoring criteria includes, project type, delivery area, project status, and funding status. Once the projects are scored we look back at the planning area ranking. The number 1 project for each planning area is ranked subsequently in order of the score they received on the sheets, and then move on to the number 2 project for each county and so on until each project submitted is ranked. In the event of a tie, the cost per connection is considered in the ranking.

Projects are placed in a fiscal year ranking order and presented to area council. The WMC approves the ranking. The rankings are submitted to KIA and provided to local and state officials for review.

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## Project Rankings For Big Sandy Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21071007 | Southern Water - Water Treatment Plant Improvements | 0-2 Years | Not Funded | $757,659 | Floyd | 1 | 1 |
| WX21153023 | Magoffin County Water District - Radio Telemetry System | 0-2 Years | Not Funded | $600,000 | Magoffin | 2 | 1 |
| WX21195638 | MWD - Ridgeline Road Water Supply Project Section 2 Jonican | 0-2 Years | Fully Funded | $808,846 | Pike | 3 | 1 |
| WX21115029 | Paintsville Utilities - Glade Branch, Moccasin Branch, Riceville Road, Swamp Branch, and Mill Branch Road | 0-2 Years | Not Funded | $500,000 | Johnson | 4 | 1 |
| WX21153018 | Aging Water Main Phase III Broadway, College and Patrick Street | 0-2 Years | Unknown | $0 | Magoffin | 5 | 2 |
| WX21071731 | Southern Water & Sewer District – Water Meter Change Out Program | 3-5 Years | Not Funded | $1,200,000 | Floyd | 6 | 2 |
| WX21115016 | Pump Station Upgrades | 0-2 Years | Unknown | $0 | Johnson | 7 | 2 |
| WX21195024 | By-pass Waterline Extension | 0-2 Years | Not Funded | $225,000 | Pike | 8 | 2 |
| WX21153032 | Magoffin County Waterline Extension to Sand Bottom | 0-2 Years | Not Funded | $89,700 | Magoffin | 9 | 3 |
| WX21195611 | MWD-Lower Johns Creek Phase IV | 0-2 Years | Not Funded | $740,000 | Pike | 10 | 3 |
| WX21195019 | Elkhorn City Waterline Improvements | 0-2 Years | Not Funded | $256,500 | Pike | 11 | 4 |
| WX21071002 | Wheelwright Rehabilitation of Water Tanks | 0-2 Years | Not Funded | $200,000 | Floyd | 12 | 3 |
| WX21071003 | Water Tank Security Project | 0-2 Years | Not Funded | $125,000 | Floyd | 13 | 4 |
| | | | **Total Cost:** | **$5,502,705** | | | |

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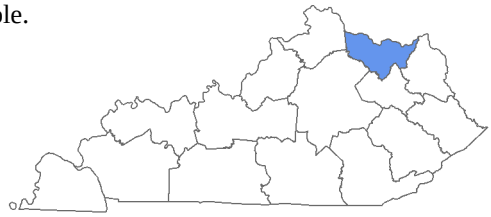
# Buffalo Trace Area Development District (BTADD)



- 2010 census population of 56,478 (26,144 households) with 97% serviceable.
- Projected 2020 population of 58,306 (change of 1,828).
- 211.21 miles of existing water lines.
- 58.00 miles of line extensions proposed in the next 10 years.
- 95.00 miles of line rehabilitation proposed in the next 10 years.
- 25.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $31,412,900.
- Estimated funding needs for projects from 6 to 10 years: $55,814,000.

Buffalo Trace Area Development District has a 2010 census population count of 56,478 (26,144 households) with a projected 2020 population count of 58,306 (24,059 households). Public water is currently available to approximately 97 percent of the district's households based on 2010 census counts. Over the next ten years approximately 107 serviceable households will be added through the construction of 58.00 miles of water line extensions and approximately 34,691 instances of improved service through the rehabilitation of 95.00 miles of existing water lines and other appurtenances. 25.00 miles of transmission lines are also proposed within this district.

**County Summary for Buffalo Trace Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Bracken | 8,488 | 3,840 | 8,744 | 3,538 | 3,792 | 99% | $ 5,976,500 |
| Fleming | 14,348 | 6,623 | 14,880 | 6,231 | 6,491 | 98% | $ 31,589,400 |
| Lewis | 13,870 | 6,481 | 13,899 | 5,717 | 6,107 | 94% | $ 24,988,000 |
| Mason | 17,490 | 8,105 | 18,419 | 7,608 | 7,803 | 96% | $ 14,449,000 |
| Robertson | 2,282 | 1,095 | 2,364 | 965 | 1,080 | 99% | $ 10,224,000 |
| **Totals** | **56,478** | **26,144** | **58,306** | **24,059** | **25,273** | **97%** | **$ 87,226,900** |

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| Community Drinking Water Systems in Buffalo Trace Area Development District County<br>Note: Serviceable counts include households outside the area development district. | | | | |
|---|---|---|---|---|
| | | Primary | Serviceable Counts | |
| PWSID | System Name | County | Population | Households |
| KY0120013 | Augusta Regional WTP | Bracken | 1,157 | 567 |
| KY0120039 | Bracken County Water District | Bracken | 6,065 | 2,701 |
| KY0120044 | Brooksville Water | Bracken | 656 | 298 |
| KY0350133 | Fleming County Water Association | Fleming | 9,584 | 4,232 |
| KY0350134 | Flemingsburg Water | Fleming | 2,911 | 1,493 |
| KY0910675 | Western Fleming Water District | Fleming | 2,791 | 1,253 |
| KY0680153 | Garrison Water | Lewis | 2,801 | 1,243 |
| KY0680438 | Vanceburg Water | Lewis | 6,235 | 2,952 |
| KY0810046 | Buffalo Trail Water Association | Mason | 3,397 | 1,590 |
| KY0810275 | Maysville Water | Mason | 11,269 | 5,406 |
| KY0810366 | Western Lewis-Rectorville Water & Gas District | Mason | 4,878 | 2,200 |
| KY0810460 | Western Mason Water District | Mason | 2,192 | 954 |
| KY1010297 | Mount Olivet Water | Robertson | 447 | 215 |
| | | **Totals:** | 54,383 | 25,104 |

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# Buffalo Trace Area Development District
# Regional Water Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Increase Storage Capacity**

**Discussion of Area Development District Needs:**

Buffalo Trace Area Development District (BTADD) is comprised of Bracken, Fleming, Lewis, Mason and Robertson Counties. Thirteen (13) water systems provide potable water to the residents of the area. In addition, one water commission provides water on a wholesale basis to other utilities. During a Regional Water Management Council meeting, the systems were given the opportunity to meet with the other systems in their respective county to discuss the needs for their system and determine the needs that were most prevalent in the county. The needs identified were used in the determination of the primary and secondary of the Buffalo Trace Area Development District.

The primary need identified in the Buffalo Trace Region is Repair and Replace Existing Infrastructure. This is the primary need for four of the five planning units and was identified as the secondary need for the other county. Many of the utilities have identified this as their primary need due to aging infrastructure and undersized lines. Approximately 250 miles of water line in the region was constructed prior to 1970, with more than 200 miles being constructed of AC line. In addition, wells need to be replaced and tanks need to be cleaned.

The secondary need identified is Increase Storage Capacity. This was identified as the primary need in one planning unit and secondary in two planning units. Several areas do not have adequate storage to meet regular demands within the area.

Additional secondary needs identified by the planning units include: Economic Stimulation and Meet Regulatory Requirements

**Description and Determination of Planning Units:**

The Buffalo Trace Area Development covers five planning units, each encompassing a political county boundary. The five planning units are: Bracken County, Fleming County, Lewis County, Mason County and Robertson County.

There are five water utilities in Bracken County: Augusta Regional WTP, Bracken County Water District, Brooksville Utility, Buffalo Trail Water Association and Western Mason Water District.

Four utilities serve residences in Fleming County. They include: Fleming County Water Association, Flemingsburg Utility, Western Fleming Water District and Rowan Water, Inc. In addition, Greater Fleming Regional Water Commission is a wholesale provider to Fleming County Water Association, Flemingsburg Utility and Western Fleming Water District.

Lewis County residents are served by three systems: Garrison Quincy Heights Water District, Vanceburg Electric Plant Board and Western Lewis Rectorville Water District.

Mason County is served by six utilities: Maysville Utility System, Western Mason Water District, Western Lewis Rectorville Water District, Buffalo Trail Water Association, Bracken County Water District and Fleming County Water Association.

Robertson County has service provided by Mt. Olivet Water and Buffalo Trail Water Association.

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# Buffalo Trace Area Development District
# Project Ranking Methodology

Buffalo Trace completes county meetings. Every person who is on the mailing list for the Water Management Council (systems, Judge Executives, Mayors, engineers, Health Departments, DOW, etc.) is notified of the meetings. Each project is discussed and then the individuals present at the meeting rank the projects by what they determine to be most important and beneficial for the county. The rankings are reached by consensus.

After the county meetings, the Water Management Council ranks the projects on a regional basis. Each project that received a #1 ranking at the county meeting is presented. The Council then ranks those projects as to what is determined to be the most important and beneficial for the region. After those five projects are ranked and consensus reached, the projects are ranked on an alternating basis. The county that received the number 1 rank then receives the number 10 rank. The county that received the 2 rank receives the 9 rank. The county that received the 3 rank receives the 8 rank. The county that received the 4 rank receives the 7 rank. The county that received the 5 rank receives the 6 rank.

The rankings continue in an alternating fashion.
Basically;
County A receives regional rankings of 1, 10, 11, 20, etc.
County B receives regional rankings of 2, 9, 12, 19, etc.
County C receives regional rankings of 3, 8, 13, 18, etc.
County D receives regional rankings of 4, 7, 14, 17, etc.
County E receives regional rankings of 5, 6, 15, 16, etc.

This process is completed for both water and sewer projects. The order of regional rankings for water and sewer projects are completed independently of each other.

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## Project Rankings For Buffalo Trace Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21135015 | GQWD- Phase I AC Water Line Replacement- Bentleyville to Quincy | 3-5 Years | Not Funded | $430,000 | Lewis | 1 | 1 |
| WX21069036 | City of Flemingsburg Crestview Water Line Replacement | 0-2 Years | Not Funded | $242,400 | Fleming | 2 | 1 |
| WX21201016 | BTWA-KY1029 From Ogden Ridge to KY 165 | 3-5 Years | Not Funded | $400,000 | Robertson | 3 | 1 |
| WX21023039 | Augusta Lagoon Cleaning | 0-2 Years | Not Funded | $80,000 | Bracken | 4 | 1 |
| WX21161040 | WLRWD Well 3 Rehab | 0-2 Years | Not Funded | $30,000 | Mason | 5 | 1 |
| WX21161024 | Mayslick Tank | 3-5 Years | Not Funded | $750,000 | Mason | 6 | 2 |
| WX21023036 | Augusta-New Water Tank | 3-5 Years | Not Funded | $806,000 | Bracken | 7 | 2 |
| WX21201013 | BTWA-Scattered Lines | 3-5 Years | Not Funded | $365,000 | Robertson | 8 | 2 |
| WX21069022 | FCWA 12" Bypass Water Line | 3-5 Years | Not Funded | $501,000 | Fleming | 9 | 2 |
| WX21135018 | GQWD- Phase II, AC Water Line Replacement- Old County Ln (In Qui | 3-5 Years | Not Funded | $451,000 | Lewis | 10 | 2 |
| WX21135019 | GQWD- Phase III, New Water Line to Connect to the South Shore Wa | 3-5 Years | Not Funded | $279,000 | Lewis | 11 | 3 |
| WX21069030 | WFWD-Nepton Rd & Connector Rd | 3-5 Years | Not Funded | $40,000 | Fleming | 12 | 3 |
| WX21201014 | Mt. Olivet Water Upgrade-Waterworks Rd/KY 617/KY 165 S | 3-5 Years | Not Funded | $370,000 | Robertson | 13 | 3 |
| WX21023042 | BCWD-County Roads Without Water | 3-5 Years | Not Funded | $279,000 | Bracken | 14 | 3 |
| WX21161037 | WMWD-Augusta Dover Road Water Line Upgrade | 3-5 Years | Not Funded | $385,000 | Mason | 15 | 3 |
| WX21161035 | Maysville Plant Upgrade | 3-5 Years | Not Funded | $30,000 | Mason | 16 | 4 |
| WX21023033 | BCWD - Shofstall to Locust Creek & Old 19 | 3-5 Years | Not Funded | $750,000 | Bracken | 17 | 4 |
| WX21201009 | BTWA - Start At 539 @ US 62 Nursing Home to Louderback Ln | 3-5 Years | Not Funded | $500,000 | Robertson | 18 | 4 |
| WX21069034 | Flemingsburg Water - East Water Street Water Line Replacement | 3-5 Years | Not Funded | $215,000 | Fleming | 19 | 4 |
| WX21161023 | WLRWD - Lewis County Extension Project | 3-5 Years | Not Funded | $1,500,000 | Lewis | 20 | 4 |
| WX21135007 | Garrison Quincy Water District-Phase 4 | 3-5 Years | Not Funded | $1,709,000 | Lewis | 21 | 5 |
| WX21069033 | Flemingsburg Telemetry | 3-5 Years | Not Funded | $260,000 | Fleming | 22 | 5 |
| WX21201010 | BTWA - KY 1029 & Gayles Gorge | 3-5 Years | Not Funded | $550,000 | Robertson | 23 | 5 |
| WX21023032 | Brooksville Improvements | 6-10 Years | Not Funded | $500,000 | Bracken | 24 | 5 |
| WX21161013 | Maysville Utility Telemetry/Security Improvements | 3-5 Years | Not Funded | $150,000 | Mason | 25 | 5 |
| WX21161022 | WLRWD - Orangeburg Tank | 3-5 Years | Not Funded | $2,000,000 | Mason | 26 | 6 |
| WX21023034 | BCWD-Phase V-Roads Without Water & Upgrades | 3-5 Years | Not Funded | $549,500 | Bracken | 27 | 6 |
| WX21069035 | WFWD-Office Upgrade | 3-5 Years | Not Funded | $50,000 | Fleming | 28 | 6 |
| WX21069032 | Western Fleming AC Replacement | 3-5 Years | Not Funded | $5,049,000 | Fleming | 29 | 7 |
| WX21023025 | Bracken Co Water District - Asbsetos Cement Water Line Replacement | 3-5 Years | Not Funded | $977,000 | Bracken | 30 | 7 |
| WX21161014 | Hydraulic Analysis of Maysville Utility Commission & Southern Mason | 3-5 Years | Not Funded | $200,000 | Mason | 31 | 7 |
| WX21161039 | WLR Water System Improvements Project | 3-5 Years | Not Funded | $700,000 | Mason | 32 | 8 |
| WX21023031 | Bracken County Water District AMR and GIS | 3-5 Years | Not Funded | $280,000 | Bracken | 33 | 8 |
| WX21069018 | Flemingsburg Automatic Read Meters | 6-10 Years | Not Funded | $350,000 | Fleming | 34 | 8 |

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## Project Rankings For Buffalo Trace Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21069010 | Western Fleming Water District Automatic Read Meters | 3-5 Years | Not Funded | $170,150 | Fleming | 35 | 9 |
| WX21023037 | Brooksville & Augusta AMR & GIS | 6-10 Years | Not Funded | $250,000 | Bracken | 36 | 9 |
| WX21161034 | BTWA-Sardis Upgrade | 3-5 Years | Not Funded | $150,000 | Mason | 37 | 9 |
| WX21161033 | BTWA-Happy Ridge Upgrade | 3-5 Years | Not Funded | $205,000 | Mason | 38 | 10 |
| WX21023035 | Augusta Water Tank Repair & Painting | 0-2 Years | Not Funded | $20,000 | Bracken | 39 | 10 |
| WX21069019 | GFCRWC Lime Softening Upgrade | 6-10 Years | Not Funded | $4,800,000 | Fleming | 40 | 10 |
| WX21069008 | Greater Fleming County Regional Water Commission -Phase 2 Extension | 6-10 Years | Not Funded | $7,944,000 | Fleming | 41 | 11 |
| WX21023020 | AA Highway | 6-10 Years | Not Funded | $1,100,000 | Bracken | 42 | 11 |
| WX21161029 | Washington Pressure Zone Upgrade | 3-5 Years | Not Funded | $75,000 | Mason | 43 | 11 |
| WX21161038 | BTWA - Old Sardis Pike | 3-5 Years | Not Funded | $200,000 | Mason | 44 | 12 |
| WX21069013 | GFCRWC- Phase III | 6-10 Years | Not Funded | $16,338,000 | Fleming | 45 | 12 |
| WX21161002 | Phase V - Service Extension Project | 3-5 Years | Not Funded | $1,900,000 | Mason | 46 | 13 |
| WX21161036 | WMWD-Walton Pike Water Line Upgrade | 3-5 Years | Not Funded | $209,000 | Mason | 47 | 14 |
| | | | **Total Cost:** | **$55,089,050** | | | |

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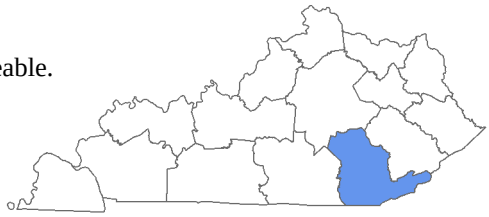
# Cumberland Valley Area Development District (CVADD)



- 2010 census population of 236,618 (104,865 households) with 97% serviceable.
- Projected 2020 population of 237,501 (change of 883).
- 685.14 miles of existing water lines.
- 370.00 miles of line extensions proposed in the next 10 years.
- 54.00 miles of line rehabilitation proposed in the next 10 years.
- 58.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $97,434,933.
- Estimated funding needs for projects from 6 to 10 years: $23,957,730.

Cumberland Valley Area Development District has a 2010 census population count of 236,618 (104,865 households) with a projected 2020 population count of 237,501 (97,085 households). Public water is currently available to approximately 97 percent of the district's households based on 2010 census counts. Over the next ten years approximately 22,955 serviceable households will be added through the construction of 370.00 miles of water line extensions and approximately 165,438 instances of improved service through the rehabilitation of 54.00 miles of existing water lines and other appurtenances. 58.00 miles of transmission lines are also proposed within this district.

**County Summary for Cumberland Valley Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Bell | 28,691 | 13,154 | 27,648 | 11,714 | 12,852 | 98% | $ 11,364,948 |
| Clay | 21,730 | 8,875 | 20,289 | 7,421 | 8,356 | 94% | $ 12,667,500 |
| Harlan | 29,278 | 13,513 | 26,099 | 10,856 | 12,701 | 94% | $ 6,331,859 |
| Jackson | 13,494 | 6,523 | 13,771 | 5,961 | 6,101 | 94% | $ 12,501,797 |
| Knox | 31,883 | 14,485 | 32,132 | 13,362 | 14,144 | 98% | $ 16,723,900 |
| Laurel | 58,849 | 25,446 | 64,713 | 26,415 | 25,259 | 99% | $ 32,625,426 |
| Rockcastle | 17,056 | 7,703 | 17,593 | 7,308 | 7,390 | 96% | $ 18,194,606 |
| Whitley | 35,637 | 15,166 | 35,256 | 14,048 | 14,621 | 96% | $ 10,982,627 |
| **Totals** | **236,618** | **104,865** | **237,501** | **97,085** | **101,424** | **97%** | **$ 121,392,663** |

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## Community Drinking Water Systems in Cumberland Valley Area Development District County

Note: Serviceable counts include households outside the area development district.

| PWSID | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0073691 | Fonde Water System | Bell | 68 | 30 |
| KY0070353 | Pineville Utility Commission | Bell | 15,536 | 7,029 |
| KY0070282 | Water Service Corporation of Kentucky | Bell | 12,022 | 5,726 |
| KY0260737 | Manchester Water Works | Clay | 13,187 | 5,701 |
| KY0260266 | North Manchester Water Association Inc | Clay | 6,662 | 2,284 |
| KY0480028 | Benham Water Plant | Harlan | 748 | 392 |
| KY0480265 | Black Mountain Utility - Coxton | Harlan | 577 | 258 |
| KY0480277 | Black Mountain Utility - Dayhoit | Harlan | 1,934 | 884 |
| KY0480603 | Black Mountain Utility - Kenvir | Harlan | 1,200 | 521 |
| KY0480498 | Black Mountain Utility - Louellen | Harlan | 738 | 358 |
| KY0480650 | Black Mountain Utility - Rosspoint | Harlan | 1,640 | 763 |
| KY0480461 | Black Mountain Utility - Sukey Ridge | Harlan | 747 | 349 |
| KY0480572 | Black Mountain Utility - Wallins | Harlan | 1,644 | 771 |
| KY0480565 | Cawood Water District | Harlan | 4,516 | 1,974 |
| KY0483727 | Cawood Water District - Pathfork | Harlan | 486 | 231 |
| KY0480262 | City of Lynch | Harlan | 835 | 496 |
| KY0483458 | Coap, Inc. | Harlan | 73 | 31 |
| KY0480092 | Cumberland Municipal Water Works | Harlan | 3,254 | 1,586 |
| KY0480125 | Evarts Municipal Water Plant | Harlan | 3,409 | 1,396 |
| KY0480341 | Green Hills Water District | Harlan | 1,400 | 632 |
| KY0480178 | Harlan Municipal Water Works | Harlan | 4,290 | 2,052 |
| KY0550784 | City of McKee | Jackson | 845 | 446 |
| KY0550209 | Jackson County Water Association Inc | Jackson | 11,651 | 5,538 |
| KY0610016 | Barbourville Utility Commission | Knox | 15,846 | 7,072 |
| KY0610110 | Knox County Utility Commission | Knox | 7,850 | 3,768 |
| KY0630797 | East Laurel Water District | Laurel | 12,977 | 5,484 |
| KY0630238 | Laurel Water District #2 | Laurel | 14,678 | 6,150 |
| KY0630255 | London Utility Commission | Laurel | 9,161 | 4,159 |
| KY0630451 | West Laurel Water Association | Laurel | 12,273 | 5,278 |
| KY0630477 | Wood Creek Water District | Laurel | 11,746 | 5,130 |
| KY1020889 | City of Brodhead | Rockcastle | 1,510 | 679 |
| KY1020299 | City of Mount Vernon | Rockcastle | 4,272 | 1,963 |
| KY1020288 | Eastern Rockcastle County Water Association | Rockcastle | 1,573 | 775 |
| KY1020253 | Livingston Municpal Water Works | Rockcastle | 376 | 194 |
| KY1020891 | Western Rockcastle Water Association | Rockcastle | 10,731 | 4,732 |
| KY1180085 | Corbin Utilities Commission | Whitley | 14,912 | 6,852 |
| KY1180093 | Cumberland Falls Highway Water District | Whitley | 8,894 | 3,689 |
| KY1183728 | Whitley County Water District | Whitley | 424 | 184 |
| KY1180468 | Whitley County Water District #1 | Whitley | 3,398 | 1,443 |
| KY1180962 | Whitley County Water District #2 | Whitley | 4,539 | 2,006 |
| KY1180999 | Whitley County Water District #3 | Whitley | 3,143 | 1,327 |
| KY1180471 | Williamsburg Municipal WTP | Whitley | 5,125 | 1,923 |
| | | **Totals:** | 230,890 | 102,256 |

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# Cumberland Valley Area Development District
# Regional Water Needs Assessment

Primary Need: **Extend Services to Unserved Areas**
Secondary Need: **Improve Security Risks**

**Discussion of Area Development District Needs:**

The Cumberland Valley Area Water Management Planning Council held meetings at the county level to assess current and future water needs in the region. Most of those water needs are described in project profiles, but information on potential growth areas (subdivisions) is not available. During the review it was noted that repair and replacing aging infrastructure is common need in the entire region while extending lines to unserved areas is not a need in Laurel and a few other counties. All customers in those counties have access to public water if needed. Counties with unserved customers include: Bell County 400, Jackson County 619, Harlan County 35, and Knox Count 150 customers and Rockcastle county 13 customes. Other needs in the region are water storage, regionalization, source protection, improved security , economic stimulation and meeting regulatory requirement.

Repair or replace aging infrastructure, remain a major need in the Cumberland Valley ADD region. That need is reflected by the number of proposed projects in the database. Extending lines to unserved customers is the primary need in the region because of the Council's goal to extend lines to unserved households by 2020. Many miles of older lines have been replaced since 2001 when the planning process began, but some line connections installed before 1930 are still in use. Cumberland Fall Stake Park in Whitley County has more older lines than any other utility. The Park is owned by the State of Kentucky and cannot propose and submit project through the Water Management Planning Council like other utilities. As such no line replacement has taken place. The water management planning council is working hard to ensure that all aging infrastructure is replaced and unserved households have access to public water by the year 2020.

**Description and Determination of Planning Units:**

This section describes the geographic area of the plan and how the planning council members reached agreement on the composition of the management areas within the planning unit. The Cumberland Valley Area Development District Planning Unit encompasses eight counties comprised of Bell, Clay, Harlan, Knox, Laurel, Jackson, Rockcastle, Whitley and other surrounding counties as follows.

The Eight Water Management Planning Areas are as follows:

- Water Management Area 01 is all that area of land served or proposed to be served by all the water entities of Rockcastle, Lincoln, Pulaski, and Garrard Counties.
- Water Management Area 02 is all that area of land served or proposed to be served by all the water entities of Jackson, Estill and Owsley Counties.
- Water Management Area 03 is all that area of land served or proposed to be served by all the water entities of Laurel County.
- Water Management Area 04 is all that area of land served or proposed to be served by all the water entities of Clay County.
- Water Management Area 05 is all that area of land served or proposed to be served by all the water entities of Whitley and McCreary Counties.
- Water Management Area 06 is all that area of land served or proposed to be served by all the water entities of Knox County.
- Water Management Area 07 is all that area of land served or proposed to be served by all the water entities of Bell County.
- Water Management Area 08 is all that area of land served or proposed to be served by all the water entities of Harlan and Leslie Counties.

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# Cumberland Valley Area Development District
# Project Ranking Methodology

A multicriterion decision - making concept is applied to meet utility, county and state diverse criterion of prioritizing water projects for funding purposes. The aim is to arrive at a methodology that will objective and meet state requirements as well as generate more effective discussions between conflicting groups.

The Cumberland Valley ADD project ranking system describes the ranking methodology for a wide municipal and non- municipal water and projects that are eligible for financial assistance through various state and federal programs. Since any governmental agency, as defined in KRS 224A.001, or investor owned water system, as provided for in KRS 96.540, 224A.308, and 224A.310, is eligible to apply to receive financial assistance for construction of infrastructure projects, the Cumberland Valley ADD will rank all eligible projects unless there is a reason not to do so.

**Water Ranking at the Utility Level**

Prior to ranking wastewater project at the County level, each utility prioritizes all its projects as high (0-2 years), medium (3-5 years) or low (6-10 years) depending on several factors ranging from need for the project to potential funding sources. Project readiness and construction work load are all factored in the decision making process. Once projects are prioritized at the utility level, they are submitted to the ADD planner's office to be entered into the database. Thereafter, the project is approved or deferred by the Area Water management planning Council at one of the quarterly meetings. At another meeting, all County proposed projects are evaluated and ranked from 1 to 10 or whatever number is agreed upon by those in attendance. All 0-2 project are usually ranked, but some of the lower priority projects may not be ranked.

**Water Ranking at the County Level**

CVADD ranking system gives highest priority to projects that propose to extend water lines to unserved areas within the Cumberland Valley ADD planning unit. Projects that enhance the health, safety and welfare in local communities, total cost of the project, availability of other funding for the project, number of unserved and underserved households, regional impact of the project and consistency with the Area Water Management Plan.

**Water Ranking at the Regional Level**

The method used to rank projects at the regional level was determined when the council was first created and afforded the responsibility to rank water projects for funding purposes. At that initial meeting, counties were designated numbers 1-8. The county designated number 1, had their county number one project ranked first at the regional level. The county ranked number one the first time would have their number one project ranked 8 in the next ranking cycle. Rotation continues from one year to the next. This ranking methodology is easy for the Council and the planner and gives every county project the opportunity to ranked number one at some point. Secondly, this methodology allows for objectivity and eliminates biases. The only disadvantage with this ranking method is that some of the project ranked 1-8 may not be competitive enough at the state level. During the September, 2012 meeting, the Council had a discussion to review and possibly change the methodology, but no decision was arrived at. Instead, the motion to change the current methodology was deferred to the next water council meeting.

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## Project Rankings For Cumberland Valley Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21203523 | Mount Vernon - Phase #2 - Potable Water Storage Tanks and Lines | 0-2 Years | Not Funded | $2,600,000 | Rockcastle | 1 | 1 |
| WX21125003 | West 5th Street/College Street Waterline Replacement - Phase 1 | 0-2 Years | Not Funded | $127,658 | Laurel | 2 | 1 |
| WX21121532 | Knox County - Water Projects | 0-2 Years | Partially Funded | $2,777,500 | Knox | 3 | 1 |
| WX21235403 | CFHWD Water - New Line Extension Project | 0-2 Years | Partially Funded | $933,000 | Whitley | 4 | 1 |
| WX21095003 | Cumberland Water System Improvements | 0-2 Years | Not Funded | $1,664,000 | Harlan | 5 | 1 |
| WX21051060 | Unserved Areas of Clay County | 0-2 Years | Not Funded | $1,650,000 | Clay | 6 | 1 |
| WX21109722 | Jackson County Water Association – Transmission Main From McKee | 0-2 Years | Partially Funded | $3,612,436 | Jackson | 7 | 1 |
| WX21013920 | Pineville: Browns Creek Cubbage Hill | 0-2 Years | Fully Funded | $1,650,000 | Bell | 8 | 1 |
| WX21203538 | City of Livingston - Wood Creek Water Connection | 3-5 Years | Not Funded | $1,096,000 | Rockcastle | 9 | 2 |
| WX21125002 | East 9th Street Waterline Replacement | 0-2 Years | Not Funded | $281,158 | Laurel | 10 | 2 |
| WX21121550 | Rehab of The Water Treatment Plant | 3-5 Years | Not Funded | $250,000 | Knox | 11 | 2 |
| WX21121540 | Knox County Utility Commission - Whitley County Line Extension | 0-2 Years | Not Funded | $350,000 | Whitley | 12 | 2 |
| WX21095642 | Raw Water Suppily Line for Evarts Water Plant | 0-2 Years | Partially Funded | $275,000 | Harlan | 13 | 2 |
| WX21051007 | Big Creek Booster Pump Station Replacement | 0-2 Years | Not Funded | $285,000 | Clay | 14 | 2 |
| WX21109721 | Jackson County Water Association – 2010 Waterline Extension | 0-2 Years | Not Funded | $1,534,000 | Jackson | 15 | 2 |
| WX21013918 | Pineville: WTP Expansion Project | 0-2 Years | Not Funded | $975,000 | Bell | 16 | 2 |
| WX21203556 | Eastern Rockcastle - Water Line Extension and Connection | 3-5 Years | Not Funded | $836,000 | Rockcastle | 17 | 3 |
| WX21125004 | North Mill Street Waterline Replacement | 3-5 Years | Not Funded | $102,524 | Laurel | 18 | 3 |
| WX21121551 | New Water Treatment Plant | 3-5 Years | Not Funded | $6,000,000 | Knox | 19 | 3 |
| WX21235002 | CFHWYWD - Line Replacement and Reinforcement | 0-2 Years | Not Funded | $1,120,000 | Whitley | 20 | 3 |
| WX21109720 | Jackson County: Phase 5 Waterline Project. | 6-10 Years | Not Funded | $7,108,350 | Jackson | 22 | 3 |
| WX21210139 | Pmria- Waterline Ext. to Proposed Industrial Park | 0-2 Years | Partially Funded | $6,500,000 | Bell | 23 | 3 |
| WX21203559 | Western Rockcastle Water Association - Sinking Valley Springs Rd Water Line | 3-5 Years | Not Funded | $89,900 | Rockcastle | 24 | 4 |
| WX21125005 | Parker Road to West KY 80 Waterline Extension | 3-5 Years | Not Funded | $334,960 | Laurel | 25 | 4 |
| WX21235434 | Whitley County: Water System Improvements | 3-5 Years | Partially Funded | $2,374,500 | Whitley | 26 | 4 |
| WX21051002 | Horse Creek Asbestos Water Line Replacement | 0-2 Years | Not Funded | $412,000 | Clay | 27 | 4 |
| WX21013919 | Pineville SCADA Expansion | 0-2 Years | Not Funded | $225,000 | Bell | 28 | 4 |
| WX21203534 | Livingston Ky - Water System Debt Reduction | 0-2 Years | Not Funded | $52,500 | Rockcastle | 29 | 5 |
| WX21235803 | Williamsburg - Phase III Water System Improvements | 0-2 Years | Not Funded | $3,250,000 | Whitley | 31 | 5 |
| WX21051003 | Downtown Water Line Replacement | 0-2 Years | Not Funded | $1,264,500 | Clay | 32 | 5 |
| WX21013912 | City of Pineville - A/C Waterline Replacement | 3-5 Years | Not Funded | $1,854,948 | Bell | 33 | 5 |
| WX21203519 | Eastern Rockcastle Water Association - Water System Improvements | 0-2 Years | Partially Funded | $604,000 | Rockcastle | 34 | 6 |
| WX21125007 | Bakersfield Subdivision Water Line Upgrade Project | 0-2 Years | Not Funded | $179,693 | Laurel | 35 | 6 |

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## Project Rankings For Cumberland Valley Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21121537 | Knox: Water Line Extension In Whitley County | 0-2 Years | Partially Funded | $318,000 | Whitley | 36 | 6 |
| WX21051006 | Water Meter Replacement | 0-2 Years | Not Funded | $1,000,000 | Clay | 37 | 6 |
| WX21013926 | Radio Read Meter Metering System | 0-2 Years | Not Funded | $1,380,000 | Bell | 38 | 6 |
| WX21203003 | W. Rockastle Water Association - Us Highway 150 & 461 Water Line | 0-2 Years | Not Funded | $858,000 | Rockcastle | 39 | 7 |
| WX21125008 | Hidden Acres Road Water Line Extension Project | 3-5 Years | Not Funded | $64,195 | Laurel | 40 | 7 |
| WX21235003 | Cumberland Falls HWY way Water District - US 25E Transmission Main | 0-2 Years | Not Funded | $1,200,000 | Whitley | 41 | 7 |
| WX21051005 | Water Tank Project | 0-2 Years | Not Funded | $3,700,000 | Clay | 42 | 7 |
| WX21125009 | Meadowlane Subdivision Water Line Extension Project | 3-5 Years | Not Funded | $198,662 | Laurel | 43 | 8 |
| WX21051004 | High Service Line Replacement | 0-2 Years | Not Funded | $1,510,000 | Clay | 45 | 8 |
| WX21125011 | Laurel County Water District #2 Automatic Meter Read System | 3-5 Years | Not Funded | $917,262 | Laurel | 46 | 9 |
| WX21051202 | North Manchester Water Association Line Extension & Line Upgrade | 0-2 Years | Not Funded | $394,000 | Clay | 47 | 9 |
| WX21125013 | Hammock-Foly-SR1223 Loop Lines Project | 3-5 Years | Not Funded | $195,164 | Laurel | 48 | 10 |
| WX21125015 | HWY 1006 Water Line Extension Project | 3-5 Years | Not Funded | $271,763 | Laurel | 50 | 12 |
| WX21125452 | East Laurel System Improvement to Clay County | 0-2 Years | Not Funded | $2,200,000 | Laurel | 51 | 13 |
| WX21125453 | East Laurel: Hwy 229, Hwy 830 & Hwy 1189 Reinforcements | 0-2 Years | Not Funded | $1,069,200 | Laurel | 52 | 14 |
| WX21125010 | East Laurel Water District - KY 80 / Apple Orchard Rd Transmission Main and Pump | 0-2 Years | Not Funded | $3,475,000 | Laurel | 53 | 15 |
| WX21125460 | East Laurel Water District - 1,000,000 Gallon Storage Tank #3 | 6-10 Years | Not Funded | $71,000 | Laurel | 54 | 16 |
| WX21125477 | Wood Creek Water District - Watershed Protection Project #7 | 3-5 Years | Not Funded | $310,000 | Laurel | 55 | 17 |
| WX21125478 | Wood Creek Water District - Watershed Protection Project #8 | 3-5 Years | Not Funded | $130,000 | Laurel | 56 | 18 |
| WX21125514 | West Laurel Road Without Waterlines (Previosly WX21125513) | 3-5 Years | Not Funded | $70,608 | Laurel | 57 | 19 |
| | | | **Total Cost:** | **$71,702,481** | | | |

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# Five County Area Development District (FIVCO)

- 2010 census population of 137,884 (61,101 households) with 95% serviceable.
- Projected 2020 population of 139,098 (change of 1,214).
- 579.75 miles of existing water lines.
- 117.00 miles of line extensions proposed in the next 10 years.
- 9.00 miles of line rehabilitation proposed in the next 10 years.
- 15.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $36,229,404.
- Estimated funding needs for projects from 6 to 10 years: $71,400.

Five County Area Development District has a 2010 census population count of 137,884 (61,101 households) with a projected 2020 population count of 139,098 (56,252 households). Public water is currently available to approximately 95 percent of the district's households based on 2010 census counts. Over the next ten years approximately 443 serviceable households will be added through the construction of 117.00 miles of water line extensions and approximately 44,903 instances of improved service through the rehabilitation of 9.00 miles of existing water lines and other appurtenances. 15.00 miles of transmission lines are also proposed within this district.

**County Summary for Five County Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Boyd | 49,542 | 21,803 | 49,446 | 20,040 | 21,737 | 100% | $ 4,915,000 |
| Carter | 27,720 | 12,311 | 28,459 | 11,508 | 11,571 | 94% | $ 8,327,000 |
| Elliott | 7,852 | 3,371 | 8,078 | 3,011 | 3,068 | 91% | $ 3,777,694 |
| Greenup | 36,910 | 16,330 | 36,923 | 15,046 | 15,106 | 93% | $ 14,470,910 |
| Lawrence | 15,860 | 7,286 | 16,192 | 6,647 | 6,604 | 91% | $ 4,810,200 |
| **Totals** | **137,884** | **61,101** | **139,098** | **56,252** | **58,086** | **95%** | **$ 36,300,804** |

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**Community Drinking Water Systems in Five County Area Development District County**

Note: Serviceable counts include households outside the area development district.

| PWSID | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0100011 | Ashland Water Department | Boyd | 35,815 | 16,137 |
| KY0100944 | Big Sandy Water District | Boyd | 13,738 | 5,941 |
| KY0100064 | Cannonsburg Water District | Boyd | 8,937 | 3,710 |
| KY0100004 | Overland Development | Boyd | 269 | 104 |
| KY0220164 | Grayson Water Department | Carter | 10,818 | 4,589 |
| KY0220335 | Olive Hill Water Department | Carter | 5,021 | 2,366 |
| KY0220555 | Rattlesnake Ridge Water District | Carter | 11,420 | 5,202 |
| KY0320383 | Sandy Hook Water District | Elliott | 3,735 | 1,518 |
| KY0450132 | Flatwoods Water Department | Greenup | 8,030 | 3,551 |
| KY0450169 | Greenup Water Department | Greenup | 10,299 | 4,477 |
| KY0450365 | Raceland Water Department | Greenup | 3,168 | 1,440 |
| KY0450376 | Russell Water Department | Greenup | 4,893 | 2,140 |
| KY0450410 | South Shore Water Works Inc. | Greenup | 4,599 | 2,175 |
| KY0450478 | Worthington Water Department | Greenup | 1,615 | 685 |
| KY0450479 | Wurtland Water Department | Greenup | 1,473 | 631 |
| KY0640257 | Louisa Water Department | Lawrence | 5,476 | 2,475 |
| | | **Totals:** | 129,306 | 57,141 |

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# Five County Area Development District
# Regional Water Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Meet Regulartory Requirements**

**Discussion of Area Development District Needs:**

Just the mention of aging infrastructure effectively blocks out all other discussion of area needs for the water utilities, but, in truth, most of the specifics all relate back to that general problem. Tanks in need of inspection, cleaning or painting is a function of age. Waterlines breaking are often the result of age or inferior materials or both. The City of Olive Hill, for example, has a 50 year old water treatment plant and a distribution system to match. In many cases there are projects to address these needs but not always. The utilities itemize there needs in the form of projects according to what needs to be done first or what might actually be feasible. Some comment that listing every need is the same as listing none; the task is crippling and stops all progress.

**Description and Determination of Planning Units:**

The FIVCO Planning Units consist of the FIVCO Counties. With few exceptions, the water systems do not have large customer bases in multiple counties. The exceptions to this are Rattlesnake Ridge Water District covering Carter, Elliott and Lawrence Counties, and the Big Sandy Water District in Boyd and Lawrence Counties. The other 14 water systems are bounded by their county lines. It is good to note that every system in the ADD is in some way interconnected with every other for emergency purposes or as a means of addressing pressure problems in more rural areas. In 2005, Hal Rogers secured funds for a study to connect 40 counties in Eastern Kentucky for the purposes of uninterrupted water supply. The ADDs involved in this study were FIVCO, Gateway, Big Sandy, Kentucky River, Cumberland Valley and Lake Cumberland. At least in the FIVCO area all the systems used the same chlorination process which eased the problems of interconnection somewhat. Though connectivity in the ADD is high, each county has its own plans for economic growth which makes division of the Planning Units by county understandable.

Boyd County is served by the City of Ashland (a large producer) and the Big Sandy Water District (a large distributor) and Cannonsburg Water District. Coverage is nearly 100% though BSWD is only recently working on an interconnect with Ashland. Previously, the Water District purchased the bulk of its supply from the City of Kenova in West Virginia and the City of Louisa in Lawrence County Kentucky.

Carter County is served by the Cities of Grayson and Olive Hill as well as the Rattlesnake Ridge Water District. The Water District has its corporate office in Carter County and its treatment plant in Elliott County.

Elliott County is served by Sandy Hook Water District and Rattlesnake Ridge Water District. Most of the County is served with only small "spurs" remaining to complete coverage.

Lawrence County is served by the Louisa Water and Sewer Commission and the Big Sandy Water District. In the past year, Paintsville Water has been invited to extend service into the southern region of the County around the City of Blaine. The Fiscal Court has paid for this extension.

Greenup County is served by seven of the sixteen water systems with corporate offices in the County as well as service from Ashland Water Department and the Cannonsburg Water District, both from Boyd County. Most of these systems are localized municipalities but the City of Greenup has expanded to provide service to most of the unserved areas of the County. Cannonsburg Water District provides service along the southern part of the Industrial Parkway and provides an interconnect with Greenup Water to help with pressure problems in the more remote reaches on their system.

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# Five County Area Development District
# Project Ranking Methodology

The annual ranking in the FIVCO ADD area begins with a series of county-wide meetings comprised of all the water and sewer utilities in the county where the meeting is taking place. Each utility present decides which of their projects is to be ranked (typically two or three from their list) and determines the importance of those for themselves.

A point system is not used as the members of the Council feel that the importance of a project exists independent of a score based on its position in the development process. To provide some structure to the ranking, however, priority was given to projects dealing with:

• Immanent public health issues
• Critical system failures (current or threatening) that might bring down a utility lacking a backup plan
• Input from DOW such as a Notice of Violation (NOV) or an Agreed Order
• Regionalization

Projects are considered based on the aforementioned criteria and a ranking is produced following amicable discussion by all those present.

**********
If a Ranking cannot be agreed upon, FIVCO ADD has a backup plan using the following point system. Note, this system has never been used.

Points / Problem Addressed by Project

7 Immanent public health issues or critical system failures that might bring down a utility
6 Agreed Order from DOW
5 Notice of Violation from DOW
4 Regionalization of services
3 Maintenance projects on existing infrastructure
2 Upgrades to the treatment plants, pumps, or the distribution/collection system
1 Extension of new service lines

Add five (5) points if plans have been engineered and submitted to DOW for approval.

Discussion within the group can override the points attached to each problem addressed by the project.

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## Project Rankings For Five County Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21063008 | Well Rehabilitation | 0-2 Years | Not Funded | $258,000 | Elliott | 1 | 1 |
| WX21089061 | Raceland: Relocate RR Water Main to Corkey Lane | 0-2 Years | Not Funded | $236,100 | Greenup | 2 | 1 |
| WX21043033 | Olive Hill: Water Treatment Plant Study | 0-2 Years | Not Funded | $95,000 | Carter | 3 | 1 |
| WX21019039 | Cannonsburg WD: Refurbish The Tarpin Ridge and Princess Water T | 3-5 Years | Not Funded | $500,000 | Boyd | 4 | 1 |
| WX21127005 | Louisa: WTP Water Intake Improvements Phase 1 | 0-2 Years | Not Funded | $265,200 | Lawrence | 5 | 1 |
| WX21089059 | Wurtland: Industrial Parkway Water Project | 0-2 Years | Not Funded | $50,000 | Greenup | 6 | 2 |
| WX21043038 | Grayson: WTP Emergency Power Generators | 0-2 Years | Not Funded | $320,000 | Carter | 7 | 2 |
| WX21063002 | SHWD: Water System Mapping/GPS | 0-2 Years | Not Funded | $30,000 | Elliott | 8 | 2 |
| WX21127003 | Louisa: Water Distribution Rehab | 3-5 Years | Not Funded | $1,250,000 | Lawrence | 9 | 2 |
| WX21089053 | Raceland: System Loop along US 23 from Caroline Rd to Buckenham | 0-2 Years | Not Funded | $395,500 | Greenup | 10 | 3 |
| WX21063010 | Sandy Hook Water District System Improvements | 0-2 Years | Not Funded | $989,694 | Elliott | 11 | 3 |
| WX21043034 | Olive Hill: Bailey Creek Waterline Extension | 0-2 Years | Not Funded | $75,000 | Carter | 12 | 3 |
| WX21127006 | Louisa WTP Water Intake Improvements Phase 2 | 3-5 Years | Not Funded | $1,385,000 | Lawrence | 13 | 3 |
| WX21043040 | Grayson: Keyhoe Water Line Extension Phase 2 | 0-2 Years | Not Funded | $150,000 | Carter | 14 | 4 |
| WX21089062 | Wurtland: Radio Read Meters | 3-5 Years | Not Funded | $150,000 | Greenup | 15 | 4 |
| WX21043037 | Grayson: WTP Flocculation & Clarification System | 0-2 Years | Not Funded | $2,638,000 | Carter | 16 | 5 |
| WX21089024 | Wurtland: Adena Water Tank Security | 0-2 Years | Not Funded | $15,000 | Greenup | 17 | 5 |
| WX21043011 | Grayson: In-Line Chlorinator Booster Stations | 0-2 Years | Not Funded | $90,000 | Carter | 18 | 6 |
| WX21043010 | Grayson: Fire Hydrant Upgrade | 0-2 Years | Not Funded | $75,000 | Carter | 19 | 7 |
| WX21043012 | Grayson: Radio Telemetry for Booster Stations | 0-2 Years | Not Funded | $50,000 | Carter | 20 | 8 |
| WX21043031 | Grayson: Stewart Branch Waterline Extension | 0-2 Years | Not Funded | $100,000 | Carter | 21 | 9 |
| | | | **Total Cost:** | **$9,117,494** | | | |

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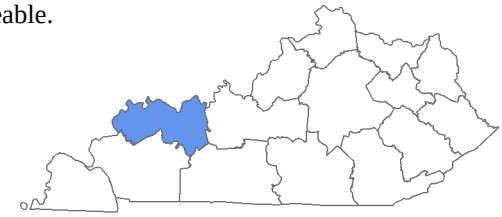
# Green River Area Development District (GRADD)



- 2010 census population of 213,472 (92,066 households) with 97% serviceable.
- Projected 2020 population of 220,544 (change of 7,072).
- 1,001.98 miles of existing water lines.
- 130.00 miles of line extensions proposed in the next 10 years.
- 94.00 miles of line rehabilitation proposed in the next 10 years.
- 47.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $98,026,422.
- Estimated funding needs for projects from 6 to 10 years: $14,678,609.

Green River Area Development District has a 2010 census population count of 213,472 (92,066 households) with a projected 2020 population count of 220,544 (89,593 households). Public water is currently available to approximately 97 percent of the district's households based on 2010 census counts. Over the next ten years approximately 885 serviceable households will be added through the construction of 130.00 miles of water line extensions and approximately 129,760 instances of improved service through the rehabilitation of 94.00 miles of existing water lines and other appurtenances. 47.00 miles of transmission lines are also proposed within this district.

**County Summary for Green River Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Daviess | 96,656 | 41,452 | 102,214 | 41,878 | 39,692 | 96% | $ 4,033,334 |
| Hancock | 8,565 | 3,734 | 8,843 | 3,502 | 3,675 | 98% | $ 4,855,900 |
| Henderson | 46,250 | 20,320 | 47,600 | 19,851 | 20,051 | 99% | $ 50,952,709 |
| McLean | 9,531 | 4,264 | 9,271 | 3,821 | 4,079 | 96% | $ 25,049,362 |
| Ohio | 23,842 | 10,219 | 24,781 | 9,786 | 9,897 | 97% | $ 3,103,659 |
| Union | 15,007 | 6,141 | 14,436 | 5,463 | 5,883 | 96% | $ 8,990,727 |
| Webster | 13,621 | 5,936 | 13,399 | 5,292 | 5,731 | 97% | $ 15,719,340 |
| **Totals** | **213,472** | **92,066** | **220,544** | **89,593** | **89,008** | **97%** | **$ 112,705,031** |

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## Community Drinking Water Systems in Green River Area Development District County

Note: Serviceable counts include households outside the area development district.

| PWSID | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0300109 | East Daviess County Water Association | Daviess | 11,154 | 4,530 |
| KY0300336 | Owensboro Municipal Utilities | Daviess | 58,405 | 26,471 |
| KY0300387 | Southeast Daviess County Water District | Daviess | 11,583 | 4,524 |
| KY0300450 | West Daviess County Water District | Daviess | 10,710 | 4,251 |
| KY0300467 | Whitesville Water Works | Daviess | 3,462 | 1,314 |
| KY0460182 | Hawesville Water Works | Hancock | 2,723 | 1,176 |
| KY0460248 | Lewisport Municipal Water Works | Hancock | 2,596 | 1,166 |
| KY0510189 | Henderson County Water District | Henderson | 15,990 | 6,454 |
| KY0510188 | Henderson Water Utility - North | Henderson | 30,088 | 13,758 |
| KY0750529 | Beech Grove Water Association | McLean | 1,129 | 493 |
| KY0750055 | Calhoun Water Works | McLean | 952 | 482 |
| KY0750207 | Island Water Department | McLean | 1,056 | 471 |
| KY0750252 | Livermore Water Works | McLean | 1,421 | 676 |
| KY0300320 | North McLean County Water District | McLean | 2,947 | 1,224 |
| KY0750907 | Sacramento Water Works | McLean | 1,824 | 824 |
| KY0920025 | Beaver Dam Municipal Water & Sewer System | Ohio | 3,616 | 1,531 |
| KY0920070 | Centertown Water System | Ohio | 1,141 | 482 |
| KY0920136 | Fordsville Water Works | Ohio | 914 | 422 |
| KY0920181 | Hartford Municipal Water Works | Ohio | 2,689 | 1,159 |
| KY0920332 | Ohio County Water District | Ohio | 14,795 | 6,316 |
| KY1130293 | Morganfield Water Works | Union | 5,535 | 1,897 |
| KY1130422 | Sturgis Water Works | Union | 2,453 | 1,192 |
| KY1130433 | Union County Water District | Union | 5,264 | 2,263 |
| KY1130434 | Uniontown Water & Sewer Department | Union | 1,141 | 524 |
| KY1170073 | Clay Water Works | Webster | 1,295 | 560 |
| KY1170104 | Dixon Water Department | Webster | 647 | 231 |
| KY1170361 | Providence Water Works | Webster | 3,598 | 1,779 |
| KY1170388 | Sebree Water Department | Webster | 1,593 | 600 |
| KY1170400 | Slaughters Water Works | Webster | 583 | 248 |
| KY1170995 | Webster County Water District | Webster | 5,311 | 2,235 |
| | | **Totals:** | 206,615 | 89,253 |

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# Green River Area Development District
# Regional Water Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Source Protection**

**Discussion of Area Development District Needs:**

The GRADD region covers seven counties and their individual needs vary widely. The counties all know the importance and value of rationalization and regional projects and strive to build them. However, these individual systems do have other needs that need to be addressed on a daily basis, while regional projects can take years to plan and complete.

In the GRADD region, the primary and most important need is the repair and replacement of existing infrastructure. All seven counties of the GRADD region have repair and replacement of existing infrastructure as either their primary or secondary need. Under this need, the most important aspect is repair/replacement of aging water lines to eliminate water loss, improve pressure, and improve water quality. In addition, this need extends to repairing/replacing equipment in the water distribution system such as water pumps and water tanks.

The secondary need of the area is source protection. The need for this varies, but each of the systems in the GRADD region have projects that they have looked at that will protect their source of water. These source protection projects vary from emergency interconnects, work needed at water plants and repair work needed to raw water and transmission lines. However, the three counties of Hancock, Ohio and Union all have direct projects that are looking at protect their water sources.

**Description and Determination of Planning Units:**

The GRADD Water Management Council adopted the GRADD geographical boundary as its services area. Additional areas were also incorporated into the planning area based on the service areas of the water providers located in the GRADD district. For example, Barren River ADD incorporated a small portion of Ohio County into their planning area based on the service area of one of the water providers in their district.

The following systems serve communities in the Green River Area Development District, and their service areas are included in the Water Management Planning Area:

*Daviess County
1. East Daviess County Water Association
2. Owensboro Municipal Utilities
3. Southeast Daviess County Water District
4. West Daviess County Water District
5. Whitesville Water Works

*Hancock County
1. Hawesville Water Works
2. Lewisport Municipal Water Works

*Henderson County
1. Henderson County Water District
2. Henderson Water Utility--North
3. Henderson Water Utility--South

*McLean County
1. Beech Grove Water Board
2. Calhoun Water Works
3. Island Water Department
4. North McLean County Water District
5. Livermore Water Works
6. Sacramento Water Works

*Ohio County
1. Beaver Dam Municipal Water
2. Fordsville Water Works
3. Hartford Municipal Water Works
4. Ohio County Water District

*Union County
1. Morganfield Water Works
2. Sturgis Water Works
3. Union County Water District
4. Uniontown Water Department

*Webster County
1. Clay Water Works
2. Dixon Water Department
3. Providence Water Works
4. Sebree Water Department
5. Slaughters Water Works
6. Webster County Water District

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# Green River Area Development District
# Project Ranking Methodology

The current needs in the Green River ADD region vary widely between Planning Areas and between water and wastewater systems. Operators of both water and wastewater systems value and strive to complete regional projects; however, they recognize the importance of their systems individual needs. The primary need of the water systems is repair and replacement of existing infrastructure and the secondary need is a variety of source protection projects. For wastewater, the primary need is repair and replace existing infrastructure and the secondary need is new collector sewer and appurtenances. While primary and secondary needs have been chosen for each planning area that does not mean that systems cannot have projects outside of those scopes.

The Green River Area Development District Water Management Council uses a point based ranking system to rank the needs of the area. All of the current partially and unfunded projects were submitted to each of the Planning Units for ranking. Projects were scored on a series of criteria including Type of Project, Delivery Area, Project Status, Funding Status, and Environmental Factors. In the event of a tie, the project's Cost per Connection was used as the deciding factor.

The following point criteria was submitted and endorsed by the Green River Area Development District Water Management Council on September 20, 2012:

**Basic Information**

- Project County
- Project Owner
- WRIS Project Number
- Project Description
- Estimated Project Cost

**Type of Project**

Unserved

| | |
|---|---|
| • 9 or more per mile | 20 pts |
| • 7-8 per mile | 19 pts |
| • 5-6 per mile | 18 pts |
| • 3-4 per mile | 15 pts |
| • 1-2 per mile | 10 pts |
| • <1 per mile | 5 pts |

Underserved

| | |
|---|---|
| • 80-100% total customer base impacted | 20 pts |
| • 60-79% total customer base impacted | 19 pts |
| • 40-59% total customer base impacted | 18 pts |
| • 20-39% total customer base impacted | 15 pts |
| • 10-19% total customer base impacted | 10 pts |
| • less than 10% customer base impacted | 5 pts |

Economic Development

| | |
|---|---|
| • 100 or more jobs created or retained | 20 pts |
| • 75-99 jobs created or retained | 19 pts |
| • 50-74 jobs created or retained | 18 pts |
| • 20-49 jobs created or retained | 15 pts |
| • 10-19 jobs created or retained | 10 pts |
| • less than 10 jobs created or retained | 5 pts |

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Other (a project that does not meet above criteria, i.e. a building for chemicals)

- 3 pts

Combination

- If a project is a combination of the above, whichever category the project scored higher in (unserved, underserved, or economic development) the project will get those points, plus 3 additional pts

Maximum of 20 points for this section

**Delivery Area**

| | |
|---|---|
| • Regional – Consolidation into single system | 30 pts |
| • Regionalization of a WTP or WWTP | 20 pts |
| • Project benefits multiple systems/communities | 15 pts |
| • Project benefits two systems/communities | 10 pts |
| • Non-regional | 5 pts |
| • Non-regional project that eliminates a lift station/ package treatment plant/pump station | 10 pts |

**Project Status**

| | |
|---|---|
| • Engineering plans and specs submitted to DOW | 20 pts |
| • PER | 15 pts |
| • Engineering procurement completed | 10 pts |
| • Cost estimate by PE | 10 pts |
| • Preliminary planning by system | 5 pts |

**Funding Status**

A project costing greater than $100,000

| | |
|---|---|
| 1. Funding committed for 50% or more | 20 pts |
| 2. Funding committed for 25-49% | 10 pts |
| 3. Funding committed for 1-24% | 5 pts |
| 4. Pending applications | 3 pts |

A project costing less than $100,000

1. 10 pts as long as the project is in one of the above four processes

**Environmental Factors**

Any project can receive as many (or none) of the points below

| | |
|---|---|
| • Water loss reduction/I&I reduction | 5 pts |
| • Replacing inefficient pumps/motors with high efficiency ones | 5 pts |
| • Use of some other Green Technology not listed above | 5 pts |

Tie breaker is cost per connection

**County Ranking**

The highest scoring project in a county will be the number one ranking project for that county. The number two and subsequently ranked projects will follow in order of next highest scoring. The top five ranked projects in the county will be sent to be ranked regionally; however, all county ranked projects will still be submitted to KIA.

**Regional Ranking**

The highest scoring projects in the region will be determined from the highest ranked projects in the counties.

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## Project Rankings For Green River Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21225021 | Morganfield Raw Water Main Replacement Continuation Project | 3-5 Years | Partially Funded | $3,200,000 | Union | 1 | 1 |
| WX21149042 | McLean County DAWN Water Treatment Plant | 0-2 Years | Not Funded | $8,276,000 | McLean | 2 | 1 |
| WX21101106 | US 60 East Main Replacement | 3-5 Years | Not Funded | $1,700,000 | Henderson | 3 | 1 |
| WX21101009 | HWU - South Water Treatment Plant Expansion | 3-5 Years | Not Funded | $11,600,000 | Henderson | 4 | 2 |
| WX21183032 | Rochester Dam Repair | 3-5 Years | Not Funded | $750,000 | Ohio | 5 | 1 |
| WX21149031 | Calhoun Raw Water Pump Replacement | 3-5 Years | Not Funded | $40,000 | McLean | 6 | 2 |
| WX21149037 | Garrett Street Water Line Improvements Project | 0-2 Years | Not Funded | $53,880 | McLean | 7 | 3 |
| WX21225038 | Morganfield Filter Control Project | 3-5 Years | Not Funded | $150,000 | Union | 8 | 2 |
| WX21225039 | East Side Water Line Extension | 3-5 Years | Not Funded | $500,000 | Union | 9 | 3 |
| WX21233108 | Sebree Scattered Waterline Rehabilitation Project | 0-2 Years | Partially Funded | $1,900,000 | Webster | 10 | 1 |
| WX21233007 | Webster County Water District Water Plant Instrument Improvement | 3-5 Years | Not Funded | $40,000 | Webster | 11 | 2 |
| WX21149056 | McLean County Fire Hydrant Installation | 3-5 Years | Not Funded | $139,100 | McLean | 12 | 4 |
| WX21091056 | Hawesville/Lewisport Emergency Interconnection | 3-5 Years | Not Funded | $76,500 | Hancock | 13 | 1 |
| WX21233105 | Clay Stand Pipe Mixing Valve | 3-5 Years | Not Funded | $30,000 | Webster | 14 | 3 |
| WX21233090 | Hwy 132 - Hwy 109 S. Water Line Replacement and West Elm Replace | 3-5 Years | Not Funded | $84,000 | Webster | 15 | 4 |
| WX21233009 | Webster County Water District Water Tank Maintenance/ Mixing System | 3-5 Years | Not Funded | $500,000 | Webster | 16 | 5 |
| WX21101004 | Green River Supplemental Supply | 3-5 Years | Not Funded | $16,650,000 | Henderson | 17 | 3 |
| WX21091087 | Antoinette Estates Water Line Extension | 3-5 Years | Not Funded | $500,000 | Hancock | 18 | 2 |
| WX21183033 | Fordsville Water Loss Project | 0-2 Years | Not Funded | $246,550 | Ohio | 19 | 2 |
| WX21149022 | 431 Tank Project | 0-2 Years | Partially Funded | $1,488,000 | McLean | 20 | 5 |
| WX21059065 | Melba Lane Extension | 3-5 Years | Not Funded | $87,840 | Daviess | 21 | 1 |
| WX21183023 | Ohio Co. Water Distrct/Butler Co. Water District Interconnection | 0-2 Years | Not Funded | $400,000 | Ohio | 22 | 3 |
| WX21091063 | Kelly Heights Tank Demolition | 0-2 Years | Not Funded | $50,000 | Hancock | 23 | 3 |
| WX21101001 | North System Improvements | 3-5 Years | Not Funded | $2,100,000 | Henderson | 24 | 4 |
| WX21091074 | EDCWA Meter Replacement Project (Hancock) | 3-5 Years | Not Funded | $251,200 | Hancock | 25 | 4 |
| WX21183027 | EDCWA Meter Replacement | 3-5 Years | Not Funded | $120,000 | Ohio | 26 | 4 |
| WX21101110 | Hwy 351 Main Replacement | 3-5 Years | Not Funded | $1,550,219 | Henderson | 27 | 5 |
| WX21059046 | East Daviess County Water Association Generator Project | 3-5 Years | Not Funded | $60,000 | Daviess | 28 | 2 |
| WX21183034 | Ohio County Water Dist./Grayson County Water Dist. Interconnect | 3-5 Years | Not Funded | $350,000 | Ohio | 29 | 5 |
| WX21059027 | EDCWA Scattered Water Line Extension #2 | 3-5 Years | Not Funded | $325,400 | Daviess | 30 | 3 |
| WX21059028 | Oklahoma Lafoon Road Water Line Extension | 6-10 Years | Not Funded | $58,200 | Daviess | 31 | 4 |
| WX21091083 | Fred Hodges Road Water Tank Rehabilitation | 0-2 Years | Not Funded | $70,000 | Hancock | 32 | 5 |
| WX21059004 | Hall School Road Project | 3-5 Years | Not Funded | $37,000 | Daviess | 33 | 5 |
| WX21225041 | UCWD Radio Read Meter Project | 3-5 Years | Not Funded | $450,000 | Union | 34 | 4 |

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## Project Rankings For Green River Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21225040 | Morganfield Radio Read Meter Project | 3-5 Years | Not Funded | $425,000 | Union | 35 | 5 |
| | | | **Total Cost:** | **$54,258,889** | | | |

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# Gateway Area Development District (GWADD)

- 2010 census population of 81,652 (36,780 households) with 94% serviceable.
- Projected 2020 population of 87,651 (change of 5,999).
- 327.29 miles of existing water lines.
- 45.00 miles of line extensions proposed in the next 10 years.
- 28.00 miles of line rehabilitation proposed in the next 10 years.
- 19.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $18,902,540.
- Estimated funding needs for projects from 6 to 10 years: $32,676,000.

Gateway Area Development District has a 2010 census population count of 81,652 (36,780 households) with a projected 2020 population count of 87,651 (34,583 households). Public water is currently available to approximately 94 percent of the district's households based on 2010 census counts. Over the next ten years approximately 262 serviceable households will be added through the construction of 45.00 miles of water line extensions and approximately 220,657 instances of improved service through the rehabilitation of 28.00 miles of existing water lines and other appurtenances. 19.00 miles of transmission lines are also proposed within this district.

**County Summary for Gateway Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Bath | 11,591 | 5,405 | 12,132 | 5,006 | 5,152 | 95% | $ 19,784,820 |
| Menifee | 6,306 | 3,744 | 6,038 | 2,422 | 3,487 | 93% | $ 1,802,250 |
| Montgomery | 26,499 | 11,699 | 30,750 | 12,483 | 11,641 | 100% | $ 24,430,070 |
| Morgan | 13,923 | 5,830 | 14,023 | 5,126 | 4,705 | 81% | $ 2,205,000 |
| Rowan | 23,333 | 10,102 | 24,708 | 9,546 | 9,684 | 96% | $ 3,356,400 |
| **Totals** | **81,652** | **36,780** | **87,651** | **34,583** | **34,669** | **94%** | **$ 51,578,540** |

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## Community Drinking Water Systems in Gateway Area Development District County

Note: Serviceable counts include households outside the area development district.

| PWSID | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0060022 | Bath County Water District | Bath | 8,853 | 4,003 |
| KY0060338 | Owingsville Water and Sewer | Bath | 1,900 | 949 |
| KY0060392 | Sharpsburg Water District | Bath | 3,144 | 1,422 |
| KY0830148 | Frenchburg Water & Sewer | Menifee | 5,212 | 3,234 |
| KY0870212 | Jeffersonville Water System | Montgomery | 4,592 | 2,001 |
| KY0870147 | Judy Water Association | Montgomery | 4,709 | 1,981 |
| KY0870246 | Levee Road Water Association, Inc | Montgomery | 2,172 | 916 |
| KY0870290 | Montgomery County Water District #1 | Montgomery | 1,796 | 748 |
| KY0870298 | Mount Sterling Water & Sewer System | Montgomery | 12,045 | 5,538 |
| KY0870367 | Reid Village Water District | Montgomery | 2,550 | 1,082 |
| KY0880594 | Morgan County Water District | Morgan | 7,508 | 3,459 |
| KY0880452 | West Liberty Water Works | Morgan | 3,436 | 899 |
| KY1030480 | Morehead State University | Rowan | 1,723 | 186 |
| KY1030292 | Morehead Utility Plant Board | Rowan | 7,882 | 3,531 |
| KY1030375 | Rowan Water, Inc | Rowan | 15,397 | 7,170 |
| | | **Totals:** | 82,919 | 37,119 |

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# Gateway Area Development District
# Regional Water Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Meet Regulartory Requirements**

**Discussion of Area Development District Needs:**

There are a total of 16 water systems serving the Gateway Area Development District. Each water utility in the Gateway ADD was provided with the opportunity to identify the needs for the system. The needs of every system were considered in the determination of the Gateway Area Development District's primary and secondary Drinking Water needs.

The District's primary Drinking Water need is Repair/Replace Existing Infrastructure. This is the primary need for four of the five planning units, excluding Rowan County. Many of the utilities have identified this as their primary need due to aging waterline infrastructure in which line breaks are becoming more prevalent. Numerous other valve replacements, tank cleanings, and pump station projects are in need of attention due to age and increases in population served.

The secondary Drinking Water need is Meet Regulatory Requirements in the Gateway District. With more stringent rules and regulations being enforced, utilities need additional resources to keep up with changes. Rehabilitation work to treatment plant filters and flushing valves throughout the distribution systems will help keep chemical levels, in the water, within specified requirements.

Additional needs for the District, as identified by utilities, are Increase Storage Capacity to better serve existing customers and, to add additional customers on existing lines. Improve Security Risks by adding cameras and alarm systems to treatment plants and system appurtenances and Extend Services to Un-Served Areas.

**Description and Determination of Planning Units:**

The Gateway Area Development District covers five planning units, each following a political county boundary. The five planning units are: Bath County, Menifee County, Montgomery County, Morgan County, and Rowan County.

There are three water utilities in Bath County. Two water districts, Bath County Water District and Sharpsburg Water District, and one municipality, City of Owingsville Water and Sewer.

Two utilities are included in the Menifee County Planning Unit, City of Frenchburg Water and Sewer, a municipality, and Cave Run Water Commission. Cave Run Water Commission is a wholesale water producer and does not have residential customers. Cave Run supplies water to the City of Frenchburg Water and Sewer, Jeffersonville Water, and Morgan County Water District.

The Montgomery County Planning unit includes six water utilities. Two utilities are municipalities; Mount Sterling Water and Sewer and Jeffersonville Water, two associations; Judy Water and Levee Road Water, and two water districts; Montgomery County Water District #1 and Reid Village.

One municipality, West Liberty Water Works, and one water district, Morgan County Water District, make up the two water utilities in the Morgan County Planning Unit.

Three water systems are located in the Rowan County Planning Unit. There is one municipality, Morehead Utility Plant Board, one association, Rowan Water, Inc., and one higher education institution, Morehead State University. Morehead State University only serves the population on campus.

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# Gateway Area Development District
# Project Ranking Methodology

The Gateway Area Water Management Council prioritizes projects based on points. Points are given under the following categories: Type of Project, Project Delivery, Project Status, and Funding Status.

**Type of Project**

Under this category, points are awarded based on un-served households, underserved households, and economic development. Un-served households are homes that currently do not have public water/wastewater service available to them. Underserved households are homes that have public water/wastewater service, but the completion of the proposed project will improve service and/or quality to said areas in the utility's system. Points are allocated to the economic development group based on the number of jobs the completed project will create. The more households and jobs that a project affects/creates, the more points the project is given. A combination of points can be added together among the aforementioned subgroups for a maximum amount of 20 points possible.

**Project Delivery**

Project Delivery is allotted 20 points for a regional project and 5 points for a non-regional project. A regional project affects more than one utility.

**Project Status**

Projects are given 5 points for preliminary planning, 10 points for attaining a cost estimate from a project engineer, 10 points for procuring an engineer for the project, 15 points if a preliminary engineering report is completed, or 20 points if engineering plans and specs have been completed and submitted to Division of Water under the Project Status heading.

**Funding Status**

For projects with a cost estimate less than $100,000, 10 points are awarded within the funding status header. For projects with a cost estimate over $100,000, 3 points are given for a pending application status, 5 points if 1-24% of the funding has been committed, 10 points if 25-49% of funding has been committed, and 20 points if 50% or more of funding has been committed. Funding can be committed by the utility, or another funding source.

The category totals are added together for a maximum of 80 points possible. The higher the cumulative total, the higher the project is ranked. For projects with the same overall point total, a cost per connection tie breaker is utilized. The cost per connection tie breaker is calculated using the estimated project cost divided by the total number of households the project will affect. The lower the cost per connection, the higher ranking the project receives.

All profiled projects that are submitted to the Water Management Council are prioritized and receive both a county and regional ranking. The prioritization of the projects is based on the points allocated during the ranking process.

Moving forward, the Gateway region is facing many of the same issues that other regions and utilities are being confronted with. Since the majority of the Gateway region counties are served by public water, water utilities will be switching their primary focus to maintenance, upkeep and rehab projects within their respective systems. Added costs for new testing and compliance issues cut into both water and wastewater utilities' revenues. Escalated electrical and fuel costs pose a huge hurdle for utilities. If cost effective measures are not taken to lower electrical and fuel consumption, utilities will have no other alternative but to increase rates to their customers. Wastewater systems are challenged with the cost of providing sewer service to customers outside of city limits and to repair and manage inflow and infiltration issues to existing infrastructure.

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## Project Rankings For Gateway Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21173032 | Judy Water Association Interconnect Project | 3-5 Years | Not Funded | $100,000 | Montgomery | 1 | 1 |
| WX21173134 | Mount Sterling Water and Sewer Bottom of Filter Chlorine Analyzers | 3-5 Years | Not Funded | $25,000 | Montgomery | 2 | 2 |
| WX21173043 | Mt. Sterling Water & Sewer WTP Backwash Valve Replacement | 3-5 Years | Not Funded | $75,000 | Montgomery | 3 | 3 |
| WX21165020 | Cave Run Water Commission Lagoon Cleanout Project | 3-5 Years | Not Funded | $100,000 | Menifee | 4 | 1 |
| WX21173055 | Mount Sterling Water and Sewer Greenbrier Reservoir Dam Repair | 3-5 Years | Not Funded | $350,000 | Montgomery | 5 | 4 |
| WX21205039 | Morehead Utility Plant Board 500,000 Gallon Water Tank Project | 3-5 Years | Not Funded | $800,000 | Rowan | 6 | 1 |
| WX21173042 | Mt. Sterling Water & Sewer WTP Filter Rehab | 3-5 Years | Not Funded | $175,000 | Montgomery | 7 | 5 |
| WX21205041 | Morehead Utility Plant Board Water Treatment Plant Improvement Project | 3-5 Years | Not Funded | $160,000 | Rowan | 8 | 2 |
| WX21011018 | Bath County Water District Mapping & GPS Data Collection Project | 3-5 Years | Not Funded | $106,000 | Bath | 9 | 1 |
| WX21011029 | Sharpsburg Water District Telemetry & SCADA System Upgrade Project | 3-5 Years | Not Funded | $100,000 | Bath | 10 | 2 |
| WX21173094 | Mt. Sterling Water & Sewer System Automatic Flush Valve Project | 3-5 Years | Not Funded | $35,000 | Montgomery | 11 | 6 |
| WX21173090 | Levee Road Water Association Gate Valve Project | 3-5 Years | Not Funded | $15,000 | Montgomery | 12 | 7 |
| WX21173102 | Montgomery County Water District No. 1 Automatic Flush Valve Project | 3-5 Years | Not Funded | $15,000 | Montgomery | 13 | 8 |
| WX21173052 | Reid Village Water District Automatic Flush Valve Project | 3-5 Years | Not Funded | $25,000 | Montgomery | 14 | 9 |
| WX21173121 | Judy Water Association Water Tank Inspection Project | 3-5 Years | Not Funded | $50,000 | Montgomery | 15 | 10 |
| WX21173108 | Levee Road Water Association New Computer System & Training Project | 3-5 Years | Not Funded | $60,000 | Montgomery | 16 | 11 |
| WX21173133 | Montgomery County Water District #1 US 460 Vault Valve Replacement | 3-5 Years | Not Funded | $60,000 | Montgomery | 17 | 12 |
| WX21173107 | Levee Road Water Association Phase III Meter Replacement Project | 3-5 Years | Not Funded | $100,000 | Montgomery | 18 | 13 |
| WX21011030 | City of Owingsville Atkinson Road Waterline Extension Project | 3-5 Years | Not Funded | $100,000 | Bath | 19 | 3 |
| WX21011016 | Bath County Water District Standby Power Generator Project | 3-5 Years | Not Funded | $200,000 | Bath | 20 | 4 |
| WX21205045 | Morehead Utility Plant Board MMRC Water Tank Painting Project | 3-5 Years | Not Funded | $192,000 | Rowan | 21 | 3 |
| WX21205046 | Morehead Utility Plant Board Water Meter Riser Project | 3-5 Years | Not Funded | $62,400 | Rowan | 22 | 4 |
| WX21175013 | Morgan County District Water Tank Rehab Project | 3-5 Years | Not Funded | $200,000 | Morgan | 23 | 1 |
| WX21173126 | City of Jeffersonville Lower Spruce Tie In Project | 3-5 Years | Not Funded | $40,000 | Montgomery | 24 | 14 |
| WX21173112 | City of Jeffersonville Radio Read Meter Project | 3-5 Years | Not Funded | $225,000 | Montgomery | 25 | 15 |
| WX21011021 | Sharpsburg Water District Water Tank Rehab Project | 3-5 Years | Not Funded | $350,000 | Bath | 26 | 5 |
| WX21173110 | Montgomery County Water District #1 Fire Hydrant Improvement Project | 3-5 Years | Not Funded | $70,000 | Montgomery | 27 | 16 |
| WX21173044 | Montgomery County Water District #1 Whitaker Lane Vault Valve Replacement | 3-5 Years | Not Funded | $60,000 | Montgomery | 28 | 17 |
| WX21173050 | City of Jeffersonville New Cut Rd Line Replacement Project | 3-5 Years | Not Funded | $50,000 | Montgomery | 29 | 18 |
| WX21173125 | City of Jeffersonville Welch Road Project - Phase II | 3-5 Years | Not Funded | $350,000 | Montgomery | 30 | 19 |
| WX21173047 | Levee Road Water Association Countryside Drive Waterline Extension | 3-5 Years | Not Funded | $246,045 | Montgomery | 31 | 20 |

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## Project Rankings For Gateway Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21011009 | Sharpsburg Water District Rich Lan Road Waterline Extension Project | 3-5 Years | Not Funded | $100,000 | Bath | 32 | 6 |
| WX21205027 | Morehead Utility Plant Board Paint US 60 Water Tank Project | 3-5 Years | Not Funded | $130,000 | Rowan | 33 | 5 |
| WX21011019 | Sharpsburg Water District Meter Replacement Project | 3-5 Years | Not Funded | $200,000 | Bath | 34 | 7 |
| WX21173048 | City of Jeffersonville Highway 1050 Line Replacement Project | 3-5 Years | Not Funded | $300,000 | Montgomery | 35 | 21 |
| WX21175035 | Morgan County Water District Phase 14 Waterline Extension Project | 0-2 Years | Not Funded | $1,680,000 | Morgan | 36 | 2 |
| WX21173066 | Mt. Sterling Water & Sewer System Fire Hydrant Project | 3-5 Years | Not Funded | $168,000 | Montgomery | 37 | 22 |
| WX21173095 | Mt. Sterling Water & Sewer System Valve Replacement Project | 3-5 Years | Not Funded | $150,000 | Montgomery | 38 | 23 |
| WX21205043 | Rowan Water Inc. Water Tank Rehab Project | 3-5 Years | Not Funded | $600,000 | Rowan | 39 | 6 |
| WX21205035 | Morehead Utility Plant Board 801 South Waterline Rehab Project | 3-5 Years | Not Funded | $712,000 | Rowan | 40 | 7 |
| WX21173101 | Montgomery County Water District No. 1 System Improvement Project | 3-5 Years | Not Funded | $300,000 | Montgomery | 41 | 24 |
| WX21173008 | Mt. Sterling Water & Sewer Spencer Road Water Main Extension | 3-5 Years | Not Funded | $250,000 | Montgomery | 42 | 25 |
| WX21205044 | Rowan Water Inc. New Pump Station and Tank Project | 3-5 Years | Not Funded | $600,000 | Rowan | 43 | 8 |
| WX21173041 | Mt. Sterling Water & Sewer Main Street Water Main Replacement | 3-5 Years | Not Funded | $800,000 | Montgomery | 44 | 26 |
| WX21173113 | City of Jeffersonville Spruce Valley Waterline Tie In Project | 3-5 Years | Not Funded | $50,000 | Montgomery | 45 | 27 |
| WX21173136 | Levee Road Water Association Radio Read Meter Replacement Project | 3-5 Years | Not Funded | $2,400 | Montgomery | 46 | 28 |
| WX21173116 | City of Jeffersonville Fay Street Tie In Project | 3-5 Years | Not Funded | $15,000 | Montgomery | 47 | 29 |
| WX21173106 | Judy Water Association Meter Changeout Project | 3-5 Years | Not Funded | $200,000 | Montgomery | 48 | 30 |
| WX21173114 | City of Jeffersonville Harpers Ridge Waterline Tie-In Project | 3-5 Years | Not Funded | $100,000 | Montgomery | 49 | 31 |
| WX21205034 | Morehead Utility Plant Board Waterline Rehab Project | 3-5 Years | Not Funded | $100,000 | Rowan | 50 | 9 |
| WX21011020 | Sharpsburg Water District AC Line Replacement Project | 3-5 Years | Not Funded | $300,000 | Bath | 51 | 8 |
| WX21173051 | City of Jeffersonville Corey Lane Improvement Project | 3-5 Years | Not Funded | $18,000 | Montgomery | 52 | 32 |
| WX21173109 | Montgomery County Water District #1 Concrete Abestos Pipe Replacement | 3-5 Years | Not Funded | $400,000 | Montgomery | 53 | 33 |
| WX21175009 | City of West Liberty McClain Way Increase Pressure Project | 3-5 Years | Not Funded | $75,000 | Morgan | 54 | 3 |
| WX21173049 | City of Jeffersonville Highway 213 Line Replacement Project | 3-5 Years | Not Funded | $275,000 | Montgomery | 55 | 34 |
| WX21011035 | Bath County Water District Dickerson Hill Pump Station Project | 3-5 Years | Not Funded | $50,000 | Bath | 56 | 9 |
| WX21165017 | City of Frenchburg Running Ridge Road & Mountain Ridge Road Waterline Extension | 3-5 Years | Not Funded | $300,000 | Menifee | 57 | 2 |
| WX21165022 | City of Frenchburg Leatherwood Area Waterline Extension Project | 3-5 Years | Not Funded | $1,377,250 | Menifee | 58 | 3 |
| WX21173137 | Levee Road Water Association Line Checking Meter Project | 3-5 Years | Not Funded | $2,125 | Montgomery | 59 | 35 |
| WX21165010 | Cave Run Water Commission Storage Building Project | 3-5 Years | Not Funded | $25,000 | Menifee | 60 | 4 |
| WX21173091 | Levee Road Water Association Line Detector Equipment Project | 3-5 Years | Not Funded | $3,500 | Montgomery | 61 | 36 |
| WX21173117 | City of Jeffersonville Equipment Project | 3-5 Years | Not Funded | $10,000 | Montgomery | 62 | 37 |

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## Project Rankings For Gateway Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21173138 | Levee Road Water Association Fence Replacement Project | 3-5 Years | Not Funded | $10,000 | Montgomery | 63 | 38 |
| WX21173123 | Montgomery County Water District No. 1 Equipment Project | 3-5 Years | Not Funded | $15,000 | Montgomery | 64 | 39 |
| WX21173132 | Montgomery County Water District #1 Building Project Phase II | 3-5 Years | Not Funded | $15,000 | Montgomery | 65 | 40 |
| WX21173115 | City of Jeffersonville Utility Truck Project | 3-5 Years | Not Funded | $50,000 | Montgomery | 66 | 41 |
| WX21173140 | Reid Village Water District Backhoe Purchase Project | 3-5 Years | Not Funded | $37,000 | Montgomery | 67 | 42 |
| WX21173046 | City of Jeffersonville Single Axle Dump Truck Project | 3-5 Years | Not Funded | $70,000 | Montgomery | 68 | 43 |
| WX21175025 | Morgan County Water District System Improvement Project | 3-5 Years | Not Funded | $100,000 | Morgan | 69 | 4 |
| WX21173120 | Reid Village Water District Maintenance Building Project | 3-5 Years | Not Funded | $50,000 | Montgomery | 70 | 44 |
| WX21173045 | City of Jeffersonville Garage/Maintenance Building Project | 3-5 Years | Not Funded | $100,000 | Montgomery | 71 | 45 |
| WX21173040 | Mt. Sterling Water & Sewer Maysville Road Waterline Replacement | 3-5 Years | Not Funded | $375,000 | Montgomery | 72 | 46 |
| WX21173088 | Judy Water Association Bourbon County Line Upgrade Project | 3-5 Years | Not Funded | $200,000 | Montgomery | 73 | 47 |
| WX21175030 | City of West Liberty Broadway Line Replacement Project | 3-5 Years | Not Funded | $150,000 | Morgan | 74 | 5 |
| WX21011034 | Bath County Water District Route 36 Line Replacement Project | 3-5 Years | Not Funded | $398,070 | Bath | 75 | 10 |
| WX21011027 | Bath County Water District Scattered Site System Improvement Project | 3-5 Years | Not Funded | $165,500 | Bath | 76 | 11 |
| WX21173065 | Mt. Sterling Water & Sewer System South Queen Project | 3-5 Years | Not Funded | $300,000 | Montgomery | 77 | 48 |
| WX21173111 | Mount Sterling Water and Sewer Waterline Rehab Projects - Various Sites | 3-5 Years | Not Funded | $600,000 | Montgomery | 78 | 49 |
| WX21173054 | Mount Sterling Water and Sewer Storage Building Project | 3-5 Years | Not Funded | $120,000 | Montgomery | 79 | 50 |
| WX21173135 | Mount Sterling Water and Sewer Storage Tank Demolition and Maintenance | 3-5 Years | Not Funded | $150,000 | Montgomery | 80 | 51 |
| WX21173128 | Mt. Sterling Water & Sewer System Equipment Project | 3-5 Years | Not Funded | $175,000 | Montgomery | 81 | 52 |
| WX21173096 | Mt Sterling Water & Sewer System GIS Project | 3-5 Years | Not Funded | $225,000 | Montgomery | 82 | 53 |
| WX21173122 | Judy Water Association Equipment Project | 3-5 Years | Not Funded | $150,000 | Montgomery | 83 | 54 |
| WX21173124 | Montgomery County Water District No. 1 Backhoe & Dump Truck Project | 3-5 Years | Not Funded | $105,000 | Montgomery | 84 | 55 |
| WX21173139 | Reid Village Water District Office Building Purchase Project | 3-5 Years | Not Funded | $275,000 | Montgomery | 85 | 56 |
| | | | **Total Cost:** | **$17,625,290** | | | |

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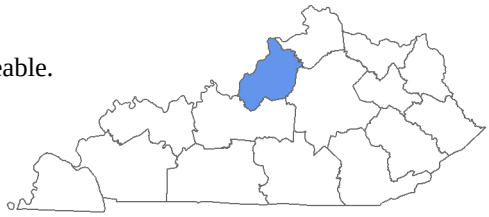
# Kentuckiana Regional Planning and Development Agency (KIPDA)



- 2010 census population of 959,091 (421,502 households) with 94% serviceable.
- Projected 2020 population of 1,058,343 (change of 99,252).
- 552.09 miles of existing water lines.
- 272.00 miles of line extensions proposed in the next 10 years.
- 44.00 miles of line rehabilitation proposed in the next 10 years.
- 77.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $335,160,694.
- Estimated funding needs for projects from 6 to 10 years: $2,704,000.

Kentuckiana Regional Planning and Development Agency has a 2010 census population count of 959,091 (421,502 households) with a projected 2020 population count of 1,058,343 (437,016 households). Public water is currently available to approximately 94 percent of the district's households based on 2010 census counts. Over the next ten years approximately 103,918 serviceable households will be added through the construction of 272.00 miles of water line extensions and approximately 117,165 instances of improved service through the rehabilitation of 44.00 miles of existing water lines and other appurtenances. 77.00 miles of transmission lines are also proposed within this district.

**County Summary for Kentuckiana Regional Planning and Development Agency**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Bullitt | 74,319 | 29,318 | 88,508 | 34,970 | 27,894 | 95% | $ 53,135,447 |
| Henry | 15,416 | 6,640 | 15,915 | 6,405 | 6,310 | 95% | $ 15,581,825 |
| Jefferson | 741,096 | 337,616 | 793,817 | 336,744 | 319,601 | 95% | $ 142,693,222 |
| Oldham | 60,316 | 20,688 | 74,990 | 26,354 | 17,879 | 86% | $ 42,380,750 |
| Shelby | 42,074 | 16,606 | 51,944 | 19,663 | 16,022 | 97% | $ 59,627,440 |
| Spencer | 17,061 | 6,704 | 23,655 | 9,025 | 6,265 | 94% | $ 7,123,640 |
| Trimble | 8,809 | 3,930 | 9,514 | 3,855 | 3,551 | 90% | $ 17,322,370 |
| **Totals** | **959,091** | **421,502** | **1,058,343** | **437,016** | **397,522** | **94%** | **$ 337,864,694** |

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**Community Drinking Water Systems in Kentuckiana Regional Planning and Development Agency County**

Note: Serviceable counts include households outside the area development district.

| PWSID | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0150242 | Lebanon Junction Water Works | Bullitt | 2,146 | 916 |
| KY0150300 | Mount Washington Water & Sewer Company | Bullitt | 19,208 | 7,641 |
| KY0520122 | Eminence Water Works | Henry | 2,525 | 1,091 |
| KY0520192 | Henry County Water District #2 | Henry | 14,451 | 6,069 |
| KY0520520 | New Castle Water Works | Henry | 927 | 430 |
| KY0560258 | Louisville Water Company | Jefferson | 767,843 | 346,722 |
| KY0930481 | Lagrange Utilities Commission | Oldham | 6,807 | 2,696 |
| KY0930333 | Oldham County Water District | Oldham | 19,738 | 5,789 |
| KY1060324 | North Shelby Water District | Shelby | 10,659 | 4,256 |
| KY1060394 | Shelbyville Municipal Water & Sewer Commission | Shelby | 22,258 | 9,009 |
| KY1060436 | US 60 Water District | Shelby | 4,806 | 2,015 |
| KY1060457 | West Shelby Water District | Shelby | 4,467 | 1,724 |
| KY1080425 | Taylorsville Water Works | Spencer | 18,706 | 7,313 |
| KY1120289 | Milton Water & Sewer Department | Trimble | 2,226 | 1,064 |
| KY1120431 | Trimble County Water District #1 | Trimble | 3,528 | 1,524 |
| | | **Totals:** | 900,295 | 398,259 |

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# Kentuckiana Regional Planning and Development Agency
# Regional Water Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Extend Services to Unserved Areas**

**Discussion of Area Development District Needs:**

The KIPDA Regional Water Council through discussion recognizes that planning needs in the region are constantly changing. What may be viewed as the primary need in the near future could differ from what is viewed as the primary need in the present. All of the listed options are viewed as necessities throughout the region and many are viewed to be intertwined with none being mutually exclusive. With these thoughts in consideration, the KIPDA Regional Water Management Council identified the Repair and Replacement of Existing Infrastructure as its primary planning need which may require Increased Storage Capacity and Regionalization leading to Economic Stimulation.

Much of the current infrastructure in the KIPDA region is aging with many lines approaching 100 years. This causes problems for systems throughout the region in the form of breaks and leaks which lead to substantial water loss. Many of these lines are undersized and not capable of providing fire protection or adequate flow and pressure. Providing redundancy to the existing system is also placed in high priority which can be achieved by adding pipes and Increased Storage Capacity. The Council has placed a high priority on projects that set out to achieve these goals. Additionally, Regionalization is a driving force to provide an alternative water source in times of emergency and to meet future demands. The top priority project in the KIPDA Region is the I-64 Transmission Main which would provide an alternative water source for utilities in Shelby County through a pipeline to Jefferson County and Louisville Water Company. This project would additionally provide for Increased Storage Capacity within the county.

Realizing that capabilities must be in place to drive commercial, industrial, and residential development, the Repair and Replacement of Existing Infrastructure would additionally provide for Economic Stimulation. With a few exceptions, utilities upgrade existing infrastructure when it is replaced. The increased capabilities from these upgrades enables systems to meet demands and provide improved services to areas that may be currently underserved. Through increasing line sizes, water treatment capacity, and storage; cities and counties are much more attractive for future development. The Council realizes that for there to be Economic Stimulation, the infrastructure must be in place.

When the KIPDA Regional Water Management Council was originally formed, providing service to unserved areas was the goal with the initiative of all unserved areas having access to potable drinking water by 2020. Much effort has been provided to accomplish this goal, and systems in the region estimate that better than 97% of residents in the region are either being served or have access to public water. The Council recognizes that the provision of water service is still of high priority due to it's impact on public health, for this reason Extending Service to Unserved areas was consider the Secondary Need of the region. Elected officials and water providers throughout the KIPDA Region continue to work with residents of their communities to identify areas in need of potable water and work in conjunction to develop projects in order to provide this service. Projects that provide water to currently unserved areas take precedence over similarly scored projects during the annual priority ranking process.

**Description and Determination of Planning Units:**

After reviewing water systems and their respected service areas, the KIPDA Regional Water Management Council designated the KIPDA boundary to be used as the regional management area. Further, the Council designated the seven (7) water management areas in the KIPDA region to be defined by county boundaries.

1. Bullitt County Water Management Planning Area
   - Lebanon Junction, City of
   - Mount Washington Water and Sewer Company

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2. Henry County Water Management Planning Area
- Eminence , City of
- Henry County Water District #2
- New Castle, City of

3. Jefferson County Water Management Planning Area
- Louisville Water Company

4. Oldham County Water Management Planning Area
- Oldham County Water District
- LaGrange Utilities Commission

5. Shelby County Water Management Planning Area
- North Shelby Water Company
- Shelbyville Municipal Water and Sewer Commission
- U.S. 60 Water District
- West Shelby Water District

6. Spencer County Water Management Planning Area
- Taylorsville, City of

7. Trimble County Water Management Planning Area
- Milton, City of
- Trimble County Water District #1

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# Kentuckiana Regional Planning and Development Agency Project Ranking Methodology

he KIPDA Regional Water Management Council prioritizes projects using local input and an established priority ranking scoresheet.

Before projects are brought before the KIPDA Regional Water Management Council to be prioritized, they are ranked at the County level. The County Water Management Councils consist of utility representatives and local elected officials. Projects are ranked based on perceived importance within the county.

To bring continuity and fairness throughout the region, the KIPDA Regional Water Management Council requires all projects that are to be considered for Regional Prioritization to complete a Priority Ranking Scoresheet. The methodology for the scoresheet was established in 2007 by a group of Area Development Water Management Coordinators along with KIA staff. This is no longer required for all water and wastewater projects requesting State funding, but the KIPDA Council choice to continue using this method due to past success.

The scoresheet provides for a maximum of 100 points to be assigned to each project depending on how it scores according to the following criteria:

**Type of Project (20 point Maximum)**

For unserved and underserved projects, households served are the basis for the priority scoring while jobs created are the consideration for economic development projects. Feasibility studies and other projects that don't involve unserved, underserved, commercial, or industrial development are assigned a specified score.

**Project Delivery (20 point Maximum)**

Projects are scored on whether they are Regional or Non-Regional. For this purpose, regional is defined as projects involving two or more systems that, through shared or consolidated resources, improve services to consumers and achieve economy of scale.

**Project Status (20 point Maximum)**

Projects are scored based on their status relative to the planning process, the status of the development of engineering plans and specifications, and the detail of the data used to develop the estimated cost of the project. Projects that are further along in the process will receive a higher priority score.

**Funding Status (20 point Maximum)**

The projects are categorized based on their status relative its size and the funding needed to execute. Projects that are further along in the funding process will receive a higher priority as indicated below.

**Local Importance (20 point Maximum)**

The projects are assigned priority points based on their importance to the county as determined by consensus during the County Water Management Councils.

With the intention of each county having equal representation on the priority ranking list, the top projects from each county are ranked against each other according to their priority ranking score. This method is continued for the second, third, fourth, etc projects until all submitted projects receive a ranking.

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## Project Rankings For Kentuckiana Regional Planning and Development Agency

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21211068 | I-64 Transmission Pipeline - Phase II | 0-2 Years | Partially Funded | $6,000,000 | Shelby | 1 | 1 |
| WX21103039 | Morton Ridge Main Upgrade | 0-2 Years | Not Funded | $3,340,000 | Henry | 2 | 1 |
| WX21111164 | Hardin County/FT Knox Transmission | 0-2 Years | Partially Funded | $19,492,000 | Jefferson | 3 | 1 |
| WX21185013 | Halls Hill Road Extension | 3-5 Years | Not Funded | $300,000 | Oldham | 4 | 1 |
| WX21029241 | Ramblin Road Water Main Extension | 3-5 Years | Not Funded | $86,000 | Bullitt | 5 | 1 |
| WX21215003 | Kings Church Road/Dales Lane SR 1319 | 0-2 Years | Not Funded | $525,000 | Spencer | 6 | 1 |
| WX21223021 | Trimble Area Optimization Plan | 0-2 Years | Not Funded | $2,000,000 | Trimble | 7 | 1 |
| WX21185046 | System Wide Improvements – Phase 2 | 0-2 Years | Not Funded | $8,000,000 | Oldham | 8 | 2 |
| WX21103037 | US 42 Tank | 0-2 Years | Not Funded | $3,140,000 | Henry | 9 | 2 |
| WX21111168 | North Shelby Regional Storage | 0-2 Years | Not Funded | $2,500,000 | Jefferson | 10 | 2 |
| WX21223004 | Tilley Lane Ext. | 0-2 Years | Not Funded | $95,000 | Trimble | 11 | 2 |
| WX21211072 | Peytona Tank | 0-2 Years | Not Funded | $2,000,000 | Shelby | 12 | 2 |
| WX21029208 | Derby - Walnut - Bank Street Upgrades | 3-5 Years | Not Funded | $79,200 | Bullitt | 13 | 2 |
| WX21215002 | Mill Road Upgrade SR 1795 | 0-2 Years | Not Funded | $330,000 | Spencer | 14 | 2 |
| WX21211071 | Shelbyville Downtown Water Tank | 0-2 Years | Partially Funded | $1,947,000 | Shelby | 15 | 3 |
| WX21185017 | South Highway 1694 Extension | 3-5 Years | Not Funded | $390,000 | Oldham | 16 | 3 |
| WX21111163 | Water Main Rehabilitation | 0-2 Years | Partially Funded | $7,455,000 | Jefferson | 17 | 3 |
| WX21029280 | Halls Lane Water Main Extension | 0-2 Years | Not Funded | $262,000 | Bullitt | 18 | 3 |
| WX21215005 | Bloomfield Road – South SR 55 Upgrade | 0-2 Years | Not Funded | $220,000 | Spencer | 19 | 3 |
| WX21223027 | Stream Crossing #1, Little Ky River | 3-5 Years | Not Funded | $100,000 | Trimble | 20 | 3 |
| WX21103052 | City of New Castle - East College St. Water Line Replacement | 0-2 Years | Not Funded | $89,000 | Henry | 21 | 3 |
| WX21111161 | Crittenden Drive, 5018 to 7800 Block | 0-2 Years | Not Funded | $700,000 | Jefferson | 22 | 4 |
| WX21103054 | Elm Street Water Main Extension | 0-2 Years | Not Funded | $159,826 | Henry | 23 | 4 |
| WX21223010 | S. Spillman Lane Ext. | 0-2 Years | Not Funded | $70,000 | Trimble | 24 | 4 |
| WX21029282 | Water Main - Kings Hollow Road | 0-2 Years | Not Funded | $288,000 | Bullitt | 25 | 4 |
| WX21215006 | Bloomfield Road North SR 55 - Upgrade | 3-5 Years | Not Funded | $85,000 | Spencer | 26 | 4 |
| WX21211057 | Shelbyville Bypass Loop | 0-2 Years | Not Funded | $224,928 | Shelby | 27 | 4 |
| WX21029166 | Roe Hill Road | 0-2 Years | Not Funded | $192,500 | Bullitt | 28 | 5 |
| WX21223023 | Lehue Road Waterline Extension | 3-5 Years | Not Funded | $100,000 | Trimble | 29 | 5 |
| WX21215007 | Normandy Road – Upgrade | 3-5 Years | Not Funded | $225,000 | Spencer | 30 | 5 |
| WX21111169 | English Station Storage | 0-2 Years | Not Funded | $10,700,000 | Jefferson | 31 | 5 |
| WX21103048 | City of New Castle - College St Water Line Replacement | 3-5 Years | Not Funded | $104,000 | Henry | 32 | 5 |
| WX21215014 | Goose Creek Loop Line | 3-5 Years | Not Funded | $90,000 | Spencer | 33 | 6 |
| WX21111172 | Vernetta Way Water Main Extension | 0-2 Years | Partially Funded | $210,000 | Jefferson | 34 | 6 |

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## Project Rankings For Kentuckiana Regional Planning and Development Agency

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21029288 | Preston Hwy from Collings Hill Rd to Rolling Fork Transmission M | 0-2 Years | Not Funded | $6,781,000 | Bullitt | 35 | 6 |
| WX21223028 | Watson Lane Waterline Extension | 0-2 Years | Not Funded | $100,000 | Trimble | 36 | 6 |
| WX21103057 | Turkey Run Waterline | 3-5 Years | Not Funded | $190,229 | Henry | 37 | 6 |
| WX21223029 | Lower Middle Creek Waterline Extension | 0-2 Years | Not Funded | $300,000 | Trimble | 38 | 7 |
| WX21111173 | Buttermilk Ridge Rd Main Extension | 0-2 Years | Partially Funded | $165,000 | Jefferson | 39 | 7 |
| WX21029289 | Salt River Booster Pump Station | 0-2 Years | Not Funded | $1,300,000 | Bullitt | 40 | 7 |
| WX21215008 | Town Hill Road – Upgrade | 3-5 Years | Not Funded | $80,000 | Spencer | 41 | 7 |
| WX21111186 | Harrod's Old Trace Main Extension | 0-2 Years | Partially Funded | $362,000 | Jefferson | 42 | 8 |
| WX21029287 | Preston Hwy from Chapeze Rd to Beech Grove Rd Transmission Main | 0-2 Years | Not Funded | $1,062,000 | Bullitt | 43 | 8 |
| WX21215009 | Southville Pike – SR 44 Upgrade | 3-5 Years | Not Funded | $375,000 | Spencer | 44 | 8 |
| WX21111167 | Belknap Campus Research Park | 3-5 Years | Not Funded | $917,000 | Jefferson | 45 | 9 |
| WX21029286 | Preston Hwy from Belmont Rd to Timber Ridge Ct Transmission Main | 0-2 Years | Not Funded | $926,000 | Bullitt | 46 | 9 |
| WX21215011 | Plum Ridge Road Upgrade | 0-2 Years | Not Funded | $170,000 | Spencer | 47 | 9 |
| WX21029283 | Beech Grove Booster Pump Station | 0-2 Years | Not Funded | $800,000 | Bullitt | 48 | 10 |
| WX21215012 | Mt. Washington Road, SR 44 12” Water Main Extension | 0-2 Years | Not Funded | $425,000 | Spencer | 49 | 10 |
| WX21029285 | Cedar Grove Transmission Main | 0-2 Years | Not Funded | $228,000 | Bullitt | 50 | 11 |
| WX21215004 | Elk Creek/Wilsonville Road Upgrade | 0-2 Years | Not Funded | $145,000 | Spencer | 51 | 11 |
| WX21029284 | Cedar Grove Booster Pump Station Improvements | 0-2 Years | Not Funded | $200,000 | Bullitt | 52 | 12 |
| | | | **Total Cost:** | **$86,025,683** | | | |

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# Kentucky River Area Development District (KRADD)

- 2010 census population of 114,762 (52,786 households) with 79% serviceable.
- Projected 2020 population of 111,267 (change of -3,495).
- 254.30 miles of existing water lines.
- 381.00 miles of line extensions proposed in the next 10 years.
- 26.00 miles of line rehabilitation proposed in the next 10 years.
- 8.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $108,040,681.
- Estimated funding needs for projects from 6 to 10 years: $16,529,764.

Kentucky River Area Development District has a 2010 census population count of 114,762 (52,786 households) with a projected 2020 population count of 111,267 (45,823 households). Public water is currently available to approximately 79 percent of the district's households based on 2010 census counts. Over the next ten years approximately 8,797 serviceable households will be added through the construction of 381.00 miles of water line extensions and approximately 34,850 instances of improved service through the rehabilitation of 26.00 miles of existing water lines and other appurtenances. 8.00 miles of transmission lines are also proposed within this district.

**County Summary for Kentucky River Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Breathitt | 13,878 | 6,231 | 12,495 | 5,046 | 4,825 | 77% | $ 20,325,000 |
| Knott | 16,346 | 7,461 | 15,635 | 6,332 | 5,755 | 77% | $ 26,022,871 |
| Lee | 7,887 | 3,436 | 7,820 | 3,014 | 3,132 | 91% | $ 8,913,250 |
| Leslie | 11,310 | 5,278 | 10,603 | 4,377 | 4,199 | 80% | $ 4,287,900 |
| Letcher | 24,519 | 11,601 | 24,237 | 10,161 | 7,588 | 65% | $ 30,383,186 |
| Owsley | 4,755 | 2,328 | 4,704 | 1,971 | 2,208 | 95% | $ 9,798,960 |
| Perry | 28,712 | 12,791 | 28,137 | 11,637 | 11,269 | 88% | $ 21,007,245 |
| Wolfe | 7,355 | 3,660 | 7,636 | 3,285 | 2,898 | 79% | $ 3,832,033 |
| **Totals** | **114,762** | **52,786** | **111,267** | **45,823** | **41,874** | **79%** | **$ 124,570,445** |

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## Community Drinking Water Systems in Kentucky River Area Development District County

Note: Serviceable counts include households outside the area development district.

| PWSID | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0131012 | Breathitt County Water District | Breathitt | 5,558 | 2,467 |
| KY0130208 | Jackson Municipal Water Works | Breathitt | 4,829 | 2,224 |
| KY0600198 | Hindman Water Department | Knott | 3,270 | 1,568 |
| KY0600062 | Knott Co Water & Sewer District | Knott | 7,743 | 3,415 |
| KY0600129 | Phoenix Place Water System | Knott | 298 | 136 |
| KY0650024 | Beattyville Water Works | Lee | 6,495 | 2,748 |
| KY0650412 | Southside Water Association | Lee | 839 | 406 |
| KY0660204 | Hyden Leslie Co Water District | Leslie | 9,057 | 4,204 |
| KY0670279 | Fleming-Neon Water Company | Letcher | 3,199 | 1,588 |
| KY0670213 | Jenkins Water System | Letcher | 2,785 | 1,334 |
| KY0670462 | Letcher County Water and Sewer District | Letcher | 6,949 | 3,274 |
| KY0670466 | Whitesburg Water System | Letcher | 3,159 | 1,461 |
| KY0950036 | Booneville Water and Sewer | Owsley | 4,737 | 2,322 |
| KY0970184 | Hazard Water Department | Perry | 22,049 | 9,820 |
| KY0970484 | Vicco Water Supply | Perry | 2,896 | 1,260 |
| KY0971007 | Village of Buckhorn | Perry | 944 | 402 |
| KY1190061 | Campton Water System | Wolfe | 5,737 | 2,875 |
| | | **Totals:** | 90,544 | 41,504 |

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# Kentucky River Area Development District
# Regional Water Needs Assessment

Primary Need: **Extend Services to Unserved Areas**
Secondary Need: **Repair and Replace Existing Infrastructure**

**Discussion of Area Development District Needs:**

The Kentucky River region's main concerns for water projects are those that address establishing new water service to areas that currently rely on failing or contaminated wells and areas that must haul water. The region is also faced with major rehab as most systems have lines that have been in place for 40+ years as well as rehabilitation of existing plants and in cases where rehab is to expensive then the construction of new plants.

**Description and Determination of Planning Units:**

The Kentucky River Area Water Management Council reviewed the water systems and their service areas located within the Kentucky River Area Development District. The Council designated the Kentucky River Area Development District boundary as the regional management area. Within the Kentucky River Region, the following water systems and their respective water management planning areas were designated by the Council:

Kentucky River Area Water Management Planning Areas:

1. Breathitt County Water Management Planning Area
   a) Breathitt County Water District
   b) Jackson Municipal Water Works
   c) Mount Carmel High Boarding School

2. Knott County Water Management Planning Area
   a) Hindman Water Department
   b) Knott Co. Water and Sewer District
   c) Phoenix Place Water System

3. Lee County Water Management Planning Area
   a) Beattyville Water Works
   b) Southside Water Association

4. Leslie County Water Management Planning Area
   a) Hyden/Leslie Co Water District

5. Letcher County Water Management Planning Area
   a) Fleming-Neon Water Company
   b) Jenkins Water System
   c) Letcher County Water and Sewer District
   d) Whitesburg Water System

6. Owsley County Water Management Planning Area
   a) Booneville Water and Sewer

7. Perry County Water Management Planning Area
   a) Hazard Water Department
   b) Vicco Water Supply
   c) Village of Buckhorn

8. Wolfe County Water Management Planning Area
   a) Campton Water System

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# Kentucky River Area Development District
# Project Ranking Methodology

The KRADD Water Management Council meets once a year to prioritize projects in our area. Our area's utility managers and chief executives begin the ranking by first reviewing the previous year's prioritization and then pair off by county to discuss their current projects. Each county is given a list of the profiles they have in the WRIS and then they rank their basic needs during this portion of the meeting.

Once the counties rank their projects the Council then begins the process of prioritizing the projects that are of the most concern for the region. The council first discusses everyone's top ranked county project. This discussion is based on service population, violations the entity has received, current funding, whether the project is for new or existing customers and the overall community need. Following this discussion the council then begins the process of selecting the top regional projects based on the information presented. The county with the most critical overall need is the first ranked and then the other counties follow suit.

The Kentucky River region's main concerns for water projects are those that address establishing new water service to areas that currently rely on failing or contaminated wells and areas that must haul water. The region is also faced with major rehab as most systems have lines that have been in place for 40+ years as well as rehabilitation of existing plants and in cases where rehab is to expensive then the construction of new plants.

Wastewater concerns are focused on rehabilitation of lift stations and plants and when rehabilitation of the plants is not feasible construction of new ones. The majority of the area is now beginning to turn to wastewater service extensions as the past has mostly been focused on providing reliable and safe potable water to the residents. The majority of our counties are now reaching 80% served and some have even achieved 95-98% served. Our entities are now looking to improve the water quality and the environment by providing a reliable means of wastewater removal which will improve the streams that empty into the rivers most utilize for their water source.

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## Project Rankings For Kentucky River Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21119009 | Carr Creek Water Treatment Plant Expansion | 3-5 Years | Not Funded | $2,428,400 | Knott | 1 | 1 |
| WX21133043 | Jenkins Waterline Improvement Phase IV | 3-5 Years | Not Funded | $2,400,000 | Letcher | 2 | 1 |
| WX21025511 | Jackson Wal-Mart Shopping Center Water Improvement Project | 3-5 Years | Not Funded | $490,000 | Breathitt | 3 | 1 |
| WX21189003 | Booneville Water Treatment Plant | 3-5 Years | Not Funded | $6,379,900 | Owsley | 4 | 1 |
| WX21193005 | KY 1110/KY 28 Water Line Interconnection | 0-2 Years | Fully Funded | $1,040,792 | Breathitt | 5 | 2 |
| WX21131111 | Hyden/Leslie Water System Improvements Phase II | 0-2 Years | Partially Funded | $2,000,000 | Leslie | 6 | 1 |
| WX21133012 | Letcher - Kings Creek/Oscaloosa | 6-10 Years | Not Funded | $2,600,000 | Letcher | 7 | 2 |
| WX21025101 | Jackson - Hospital Water Tank Project | 3-5 Years | Not Funded | $1,210,000 | Breathitt | 8 | 3 |
| WX21237007 | Campton - Radio Read Meter Replacements | 0-2 Years | Partially Funded | $100,000 | Wolfe | 9 | 1 |
| WX21237746 | Campton South Valeria Water Extension Project | 3-5 Years | Not Funded | $1,142,400 | Wolfe | 10 | 2 |
| WX21129004 | Beattyville - Bear Track Waterline Replacement | 3-5 Years | Not Funded | $612,000 | Lee | 11 | 1 |
| WX21193196 | Hazard - Master Meter Program And System Updates Project | 3-5 Years | Partially Funded | $4,543,000 | Perry | 12 | 1 |
| WX21133050 | Jenkins - Water Plant Improvements | 3-5 Years | Not Funded | $3,000,000 | Letcher | 13 | 5 |
| WX21189005 | Booneville Water Line Extensions - 2010 | 3-5 Years | Not Funded | $252,000 | Owsley | 14 | 2 |
| WX21133024 | Hazard-Letcher County Water Interconnection Project | 0-2 Years | Partially Funded | $625,000 | Letcher | 15 | 4 |
| | | | **Total Cost:** | **$28,823,492** | | | |

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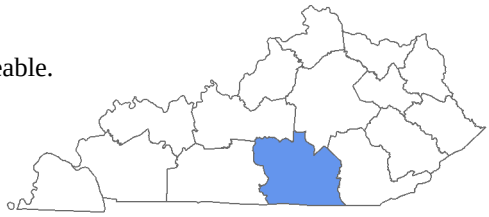
# Lake Cumberland Area Development District (LCADD)



- 2010 census population of 207,256 (101,129 households) with 95% serviceable.
- Projected 2020 population of 221,481 (change of 14,225).
- 528.53 miles of existing water lines.
- 309.00 miles of line extensions proposed in the next 10 years.
- 84.00 miles of line rehabilitation proposed in the next 10 years.
- 46.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $119,277,819.
- Estimated funding needs for projects from 6 to 10 years: $21,350,088.

Lake Cumberland Area Development District has a 2010 census population count of 207,256 (101,129 households) with a projected 2020 population count of 221,481 (92,378 households). Public water is currently available to approximately 95 percent of the district's households based on 2010 census counts. Over the next ten years approximately 739 serviceable households will be added through the construction of 309.00 miles of water line extensions and approximately 22,953 instances of improved service through the rehabilitation of 84.00 miles of existing water lines and other appurtenances. 46.00 miles of transmission lines are also proposed within this district.

**County Summary for Lake Cumberland Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Adair | 18,656 | 8,568 | 20,052 | 8,151 | 7,695 | 90% | $ 17,932,215 |
| Casey | 15,955 | 7,487 | 16,433 | 6,791 | 7,305 | 98% | $ 10,249,000 |
| Clinton | 10,272 | 5,311 | 10,896 | 4,755 | 5,166 | 97% | $ 4,363,700 |
| Cumberland | 6,856 | 3,690 | 6,649 | 2,840 | 3,484 | 94% | $ 3,014,000 |
| Green | 11,258 | 5,324 | 11,112 | 4,660 | 5,189 | 98% | $ 13,805,900 |
| McCreary | 18,306 | 7,507 | 18,314 | 6,819 | 6,268 | 84% | $ 20,517,227 |
| Pulaski | 63,063 | 31,443 | 71,036 | 29,901 | 30,542 | 97% | $ 31,041,365 |
| Russell | 17,565 | 9,993 | 18,782 | 8,112 | 9,729 | 97% | $ 2,985,885 |
| Taylor | 24,512 | 10,864 | 26,079 | 10,663 | 10,583 | 97% | $ 21,445,115 |
| Wayne | 20,813 | 10,942 | 22,128 | 9,686 | 9,740 | 89% | $ 15,273,500 |
| **Totals** | **207,256** | **101,129** | **221,481** | **92,378** | **95,701** | **95%** | **$ 140,627,907** |

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## Community Drinking Water Systems in Lake Cumberland Area Development District County

Note: Serviceable counts include households outside the area development district.

| PWSID | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0010702 | Columbia/Adair Utilities District | Adair | 16,761 | 7,620 |
| KY0230556 | East Casey County Water District | Casey | 12,000 | 5,719 |
| KY0230987 | Liberty Water & Gas | Casey | 2,298 | 1,002 |
| KY0270003 | Albany Municipal Water & Sewer | Clinton | 9,911 | 5,112 |
| KY0290049 | Burkesville Municipal Water Works | Cumberland | 1,906 | 948 |
| KY0290271 | Cumberland County Water District | Cumberland | 4,578 | 2,494 |
| KY0440167 | Green-Taylor Water District | Green | 11,263 | 5,151 |
| KY0440168 | Greensburg Water Department | Green | 2,283 | 1,139 |
| KY0740276 | McCreary County Water District | McCreary | 14,871 | 6,266 |
| KY1000043 | Bronston Water Association | Pulaski | 3,113 | 1,947 |
| KY1000050 | Burnside Municipal Water Works | Pulaski | 1,160 | 676 |
| KY1000124 | Eubank Water System | Pulaski | 10,142 | 4,469 |
| KY1000362 | Science Hill Water Works | Pulaski | 4,754 | 2,054 |
| KY1000403 | Somerset Utilities | Pulaski | 17,093 | 8,269 |
| KY1000311 | Southeastern Water Association | Pulaski | 15,028 | 8,045 |
| KY1000363 | Western Pulaski County Water District | Pulaski | 16,910 | 8,919 |
| KY1000973 | Woodson Bend Property Owners Association | Pulaski | 142 | 362 |
| KY1040210 | Jamestown Utilities | Russell | 7,381 | 4,204 |
| KY1040377 | Russell Springs Sewer & Water Works | Russell | 9,270 | 4,806 |
| KY1090060 | Campbellsville Municipal Water & Sewer System | Taylor | 21,050 | 9,371 |
| KY1160291 | Monticello Utility Commission | Wayne | 17,476 | 8,625 |
| | | **Totals:** | 199,390 | 97,198 |

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# Lake Cumberland Area Development District
# Regional Water Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Extend Services to Unserved Areas**

**Discussion of Area Development District Needs:**

The Lake Cumberland Area Development District planning units are in need of repairing and replacing existing infrastructure. The systems in the Lake Cumberland Area need to repair and/or replace pump stations, water lines and tanks due to aging infrastructure. The some systems also need to upgrade the existing treatment plants with safer, more efficient methods of treatment.

The Lake Cumberland Area Development District planning units would like to provide service to more customers by extending service to unserved areas. Providing service to unserved areas will eliminate the use of contaminated individual wells in rural areas.

The needs of the Lake Cumberland Regional Water Management Council are a very diverse collection. Other needs of the area include meeting regulatory requirements, increasing storage capacity, and regionalization.

**Description and Determination of Planning Units:**

The Lake Cumberland Area Development District is made up of fifteen planning units. The planning units were determined by the Lake Cumberland Regional Water Management Council based on local issues in the area such as location, size of area, number of customers, number of systems, and need and ability of systems to plan together. The planning units are Adair (Columbia/Adair County Water Commission and Columbia/Adair Utilities District), Bronston/Burnside (Bronston Water Association and Burnside Municipal Water Works), Campbellsville (Campbellsville Municipal Water & Sewer System), Casey (East Casey County Water District and Liberty Water & Gas), Clinton (Albany Municipal Water & Sewer), Cumberland (Burkesville Municipal Water Works and Cumberland County Water District), Eubank/Science Hill (City of Eubank Water System and Science Hill Water Works), Green-Taylor (Green-Taylor Water District),Greensburg (Greensburg Water Department), McCreary (McCreary County Water District), Russell (Jamestown Utilities and Russell Springs Sewer & Water Works), Somerset (Somerset Utilities), Southeastern (Southeastern Water Association), Wayne (Monticello Utility Commission), and Western (Western Pulaski County Water District).

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# Lake Cumberland Area Development District
# Project Ranking Methodology

The current needs in the Lake Cumberland ADD region are quite sizeable. While water service has been provided to most residents some are still in need of service, expanded treatment capacity and replacement of aging or undersized lines are becoming more and more necessary. For wastewater, the needs include system expansion, unserved areas, aging infrastructure, and expanded treatment capacity.

The Lake Cumberland Regional Water Management Council uses a point based ranking system to rank the needs of the area. Each local system was asked to submit their most needed projects to the Council for ranking. Projects were scored on a series of criteria including Type of Project, Regionalism, Shovel Readiness, Funding Status, Planning Assessment, and Local Need. Additional bonus points were assigned at the discretion of the Council for projects deemed most deserving. In the event of a tie, the project's Cost per Connection was used as the deciding factor.

The following point criteria will be submitted to the Lake Cumberland Regional Water Management Council on December 6, 2012 for approval:

Type of Project (up to 20 points assigned)

**Unserved** – Points based on number of households served per mile

| | |
|---|---|
| AVERAGE 9 OR GREATER HOUSEHOLDS PER MILE - | 20 |
| AVERAGE 7-8 HOUSEHOLDS PER MILE - | 19 |
| AVERAGE 5-6 HOUSEHOLDS PER MILE - | 18 |
| AVERAGE 3-4 HOUSEHOLDS PER MILE - | 15 |
| AVERAGE 1-2 HOUSEHOLDS PER MILE - | 10 |
| AVERAGE OF LESS THAN 1 HOUSEHOLDS PER MILE - | 5 |

**Underserved** – Points based on percentage of total customer base impacted

| | |
|---|---|
| 80-100% OF TOTAL CUSTOMER BASE IMPACTED BY PROJECT - | 20 |
| 60-79% OF TOTAL CUSTOMER BASE IMPACTED BY PROJECT - | 19 |
| 40-59% OF TOTAL CUSTOMER BASE IMPACTED BY PROJECT - | 18 |
| 20-39% OF TOTAL CUSTOMER BASE IMPACTED BY PROJECT - | 15 |
| 10-19% OF TOTAL CUSTOMER BASE IMPACTED BY PROJECT - | 10 |
| LESS THAN 10% OF TOTAL CUSTOMER BASE IMPACTED BY PROJECT – | 5 |

**Industrial/Commercial** – Points based on number of jobs created/retained

| | |
|---|---|
| 100 OR MORE NEW JOBS CREATED OR JOBS RETAINED - | 20 |
| 75-99 NEW JOBS CREATED OR JOBS RETAINED - | 19 |
| 50-74 NEW JOBS CREATED OR JOBS RETAINED - | 18 |
| 20-49 NEW JOBS CREATED OR JOBS RETAINED - | 15 |
| 10-19 NEW JOBS CREATED OR JOBS RETAINED - | 10 |
| LESS THAN 10 NEW JOBS CREATED OR JOBS RETAINED - | 5 |

**Other** – 3 points assigned for projects not meeting the above types

**Combination** – Most favorable listed category plus an additional 3 points

**Project Delivery** (up to 15 points assigned)

Regional - 15 points
Non-Regional – 5 points

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**Project Status** (up to 15 points assigned)

| | |
|---|---|
| Engineering Plans and specs submitted to DOW - | 15 points |
| Preliminary Engineering Report completed - | 10 points |
| Cost estimate by PE - | 5 points |

**Funding Status** (up to 15 points assigned)

Projects with estimated costs greater than $100,000

| | |
|---|---|
| Funding committed for 50% or more - | 15 points |
| Funding committed for 1-49% or more - | 10 points |
| Pending applications - | 5 points |
| Projects with estimated costs of $100,000 or less - | 10 points |

**Planning Unit Assessment** (up to 15 points assigned)

| | |
|---|---|
| Meets primary/secondary need - | 15 points |
| Does not meet primary/secondary need – | 5 points |

**Local Need** (up to 20 points assigned)

Points assigned based on the planning unit ranking

| | |
|---|---|
| 1ST – | 20 POINTS |
| 2ND – | 16 POINTS |
| 3RD – | 13 POINTS |
| 4TH – | 11 POINTS |
| 5TH – | 9 POINTS |
| 6TH – | 7 POINTS |
| 7TH – | 6 POINTS |
| 8TH – | 5 POINTS |
| 9TH – | 4 POINTS |
| 10TH – | 3 POINTS |
| 11TH – | 2 POINTS |
| 12TH – | 1 POINTS |

13TH OR HIGHER – 0 POINTS

**Council Input** (up to 10 points assigned)

Council assigns 10 bonus points to 15% of projects

**Tie Breaker** (no points assigned)

Cost per connection - only used to break point based ties

Lowest cost per connection is ranked highest

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## Project Rankings For Lake Cumberland Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21147027 | MCWD-Water Treatment Plant No.1 Upgrades | 0-2 Years | Not Funded | $3,763,000 | McCreary | 1 | 1 |
| WX21001001 | Columbia/Adair Utilities District-Downtown Water System Improvements Phase 2 | 0-2 Years | Not Funded | $4,100,000 | Adair | 2 | 1 |
| WX21217023 | Campbellsville Regional Water System Improvements | 3-5 Years | Not Funded | $5,951,000 | Taylor | 3 | 1 |
| WX21147023 | MCWD – Emergency Water Plant Power Supply | 0-2 Years | Partially Funded | $1,072,000 | McCreary | 4 | 2 |
| WX21199002 | Oak Hill 3 MG Storage Tank, 10 MG Booster Station, & Transmission | 3-5 Years | Not Funded | $7,600,000 | Pulaski | 5 | 1 |
| WX21217021 | North Campbellsville Area Water Storage Tank | 3-5 Years | Not Funded | $2,565,000 | Taylor | 6 | 2 |
| WX21053004 | Albany – Albany Bypass Water Transmission Main | 3-5 Years | Not Funded | $1,170,000 | Clinton | 7 | 1 |
| WX21199039 | Somerset/Columbia St Water Distribution Rehabilitation | 0-2 Years | Not Funded | $125,000 | Pulaski | 8 | 2 |
| | | | **Total Cost:** | **$26,346,000** | | | |

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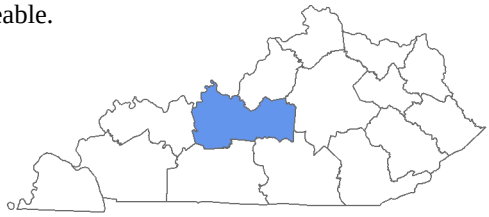
# Lincoln Trail Area Development District (LTADD)



- 2010 census population of 269,117 (116,687 households) with 92% serviceable.
- Projected 2020 population of 295,040 (change of 25,923).
- 865.54 miles of existing water lines.
- 565.00 miles of line extensions proposed in the next 10 years.
- 45.00 miles of line rehabilitation proposed in the next 10 years.
- 50.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $186,784,735.
- Estimated funding needs for projects from 6 to 10 years: $290,400.

Lincoln Trail Area Development District has a 2010 census population count of 269,117 (116,687 households) with a projected 2020 population count of 295,040 (117,392 households). Public water is currently available to approximately 92 percent of the district's households based on 2010 census counts. Over the next ten years approximately 3,571 serviceable households will be added through the construction of 565.00 miles of water line extensions and approximately 2,420 instances of improved service through the rehabilitation of 45.00 miles of existing water lines and other appurtenances. 50.00 miles of transmission lines are also proposed within this district.

**County Summary for Lincoln Trail Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Breckinridge | 20,059 | 10,630 | 21,489 | 8,788 | 7,828 | 74% | $ 48,269,794 |
| Grayson | 25,746 | 13,561 | 27,048 | 11,007 | 13,309 | 98% | $ 13,162,468 |
| Hardin | 105,543 | 43,261 | 116,612 | 46,055 | 40,741 | 94% | $ 69,196,440 |
| Larue | 14,193 | 6,172 | 14,961 | 6,069 | 5,118 | 83% | $ 8,169,000 |
| Marion | 19,820 | 8,182 | 21,424 | 8,332 | 8,018 | 98% | $ 12,553,590 |
| Meade | 28,602 | 11,762 | 30,901 | 11,964 | 9,161 | 78% | $ 16,330,683 |
| Nelson | 43,437 | 18,075 | 50,119 | 20,219 | 17,609 | 97% | $ 11,836,940 |
| Washington | 11,717 | 5,044 | 12,486 | 4,958 | 4,935 | 98% | $ 7,556,220 |
| **Totals** | **269,117** | **116,687** | **295,040** | **117,392** | **106,719** | **91%** | **$ 187,075,135** |

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## Community Drinking Water Systems in Lincoln Trail Area Development District County

Note: Serviceable counts include households outside the area development district.

| PWSID | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0140079 | Cloverport Water & Sewer System | Breckinridge | 1,102 | 548 |
| KY0140966 | Hardinsburg Water Department | Breckinridge | 11,399 | 6,421 |
| KY0140206 | Irvington Water System | Breckinridge | 1,411 | 649 |
| KY0430063 | Caneyville Municipal Water Works | Grayson | 1,634 | 797 |
| KY0430616 | Grayson County Water District | Grayson | 14,125 | 6,998 |
| KY0430244 | Leitchfield Utilities | Grayson | 6,534 | 2,902 |
| KY0470118 | Elizabethtown Water Department | Hardin | 21,501 | 9,854 |
| KY0470990 | Hardin Co. Water District #1 Fort Knox System | Hardin | 127 | 35 |
| KY0470393 | Hardin County Water District #1 | Hardin | 27,350 | 11,652 |
| KY0470175 | Hardin County Water District #2 | Hardin | 45,063 | 18,144 |
| KY0470440 | Vine Grove Water Department | Hardin | 3,572 | 1,520 |
| KY0470455 | West Point Water Department | Hardin | 835 | 443 |
| KY0620200 | Hodgenville Water Works | Larue | 1,971 | 834 |
| KY0620237 | Larue County Water District #1 | Larue | 8,831 | 3,775 |
| KY0780241 | Lebanon Water Works Co Inc | Marion | 6,041 | 2,806 |
| KY0780268 | Marion County Water District | Marion | 14,463 | 5,632 |
| KY0820041 | Brandenburg Water Works | Meade | 3,313 | 1,418 |
| KY0820369 | Meade County Water District | Meade | 15,946 | 6,193 |
| KY0820481 | Muldraugh Water Department | Meade | 947 | 539 |
| KY0900017 | Bardstown Municipal Water Department | Nelson | 25,513 | 10,798 |
| KY0900031 | Bloomfield Water & Sewer Department | Nelson | 4,168 | 1,782 |
| KY0900312 | New Haven Municipal Water Works | Nelson | 1,347 | 577 |
| KY0900323 | North Nelson Water District | Nelson | 10,396 | 4,124 |
| KY1150415 | Springfield Water & Sewer Commission | Washington | 10,410 | 4,496 |
| | | **Totals:** | 237,999 | 102,937 |

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# Lincoln Trail Area Development District
# Regional Water Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Increase Storage Capacity**

**Discussion of Area Development District Needs:**

The Lincoln Trail ADD region has experienced moderate growth in the more urban areas and urban fringes and slow to stagnant growth in the small, rural communities. This has presented different challenges to each area. The concentrations of population in Hardin and Nelson Counties has focused attention on meeting growing demand needs with upgraded facilities (greater capacities).

The least densely populated areas of the region in Breckinridge and Meade Counties still have large areas without potable water but they have made significant progress in reaching areas expressing interest in public water. There is still some need to meet unserved populations; however, the remaining households are typically sparsely settled and the cost per household and potential maintenance issues will be difficult to overcome.

The smaller, more rural communities have seen slow to negative growth and face increasing pressure to repair and replace aging lines and facilities. Many lines in downtown areas were constructed in the 1940's and 1950's and are nearing their life expectancy and their capacities. Treatment facilities in those communities are also facing outdated technologies, difficulty in meeting new regulatory requirements and, high cost of operation (inefficiency). The smaller systems also face unique challenges in keeping qualified personnel as their populations age and decline. They find it difficult to compete financially for experienced personnel or to train new personnel.

Overall, the district's utilities have done well in adjusting to new demands but the horizon financial burdens may handcuff many smaller systems from making necessary repairs and upgrades.

**Description and Determination of Planning Units:**

Planning units in the Lincoln Trail Region are primarily set by county boundaries. They generally compose a large enough geographic area and small enough grouping of utilities to provide reasonable interaction, feedback, and information to be a useful planning unit. Two Counties do not have a "County Water District" that is responsible for unserved rural populations - Breckinridge and Washington. The City of Hardinsburg in Breckinridge County has taken on the challenge of serving the rural population while Washington County has formed the Springfield Water Commission that has county responsibility.

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# Lincoln Trail Area Development District
# Project Ranking Methodology

The Lincoln Trail Area Water Management Planning Council uses the following guideline for prioritizing water and wastewater projects on a regional basis. The guideline was adapted from previous versions outlined by KIA which uses five criteria to assign a point value for each project. The process is hopefully inclusive and allows for discussion at the local level to improve understanding of a proposed project's intent and impact.

County Advisory Committees meet at least once locally. That meeting is hosted by the County Judge/Executive (as the Advisory chairperson) with each local utility, Mayor, and local Health Department invited to participate. All proposed projects are reviewed by the committee and given an initial score based upon how the project meets the five criteria (project type, regional connections, design status, funding status, and local need). Most of the discussion by the committees is centered on what projects address the greatest local needs. Since there can be diverse interests represented, this means the committee members must work together to determine what needs are most important in their community and what projects will meet them.

After all the County Advisory meetings have taken place the Area Water Management Council meets to finalize the priorities. Staff then does a summary tabulation of project points. The Council takes up the projects and scoring as presented by staff and County Advisory Committees. In the past two years, the Council has only included the top five projects from each County Advisory group for the regional prioritization list (meaning there is a maximum of 40 projects eligible to receive regional bonus points). The Council can assign bonus points to projects that they feel best represent the regional interest. The bonus points are assigned to the top 15% scoring projects. The following criteria are used for the overall scoring:

**Project type** [20 points max to 5 points min.]:

- Unserved (customers / mile): 7>/mile=20 pts, 5-6/mile=15 pts, 3-4/mile=10 pts, 2</mile=5 pts;
- Underserved/Improved Service (% of system improved): 75-100%=20 pts, 50-75%=15 pts, 25-49%=10 pts,
- <25% / maintenance = 5 pts;
- Economic Development (# of jobs assisted) 25+ committed= 20pts, 15-24 committed= 15pts, less than 15 committed= 10pts, no quantified jobs= 5 pts; Other (technical improvements, feasibility studies, etc. = 10 points)

**Regional Connection** [20 points max]:

- Regional project that connects or merges 2 or more systems for the sale or production of water or wastewater treatment (20 pts.)
- Increased connectivity: improved existing connection or emergency connection (10 pts.)
- Non-regional (5 pts.)

**Design Status**:

- Div. of Water approved plans (20 pts.)
- Preliminary Engineering Report completed (15 pts.)
- Engineer procured for final design (10 pts.)
- Engineer developed profile (5 pts.)

**Funding Status**: The percentage of cost committed from local sources (20 to 5 points)

- 50% or more from local sources (20pts.)
- 25-49% from local sources (15pts.)
- Less than 25% from local or submitted applications, i.e. CDBG, RD, KIA (10pts)
- Other (5pts)

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**Local Need**:

- Most important project within the planning unit (20 pts.)
- 2nd most important project (18 pts.)
- 3rd most important project (15 pts.)
- 4th most important project (11 pts.)
- 5th most important project (6 pts.)
- Only the top five in each planning unit are scored for local need.

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## Project Rankings For Lincoln Trail Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21229009 | Springfield Danville Interconnect | 0-2 Years | Not Funded | $250,000 | Washington | 1 | 2 |
| WX21155039 | Marion Co. and Taylor Co. Interconnect | 0-2 Years | Not Funded | $3,230,000 | Marion | 2 | 4 |
| WX21093026 | HCWD#1 Is Seeking to Upgrade to An Automated Meter Reading (Amr) | 0-2 Years | Not Funded | $1,500,000 | Hardin | 3 | 1 |
| WX21163016 | Phase VIII Water System Improvements/ Meade Co. Water District | 3-5 Years | Not Funded | $2,000,000 | Meade | 4 | 2 |
| WX21027008 | Rehabilitation of Irvington Water System | 3-5 Years | Not Funded | $1,004,055 | Breckinridge | 5 | 1 |
| WX21155029 | LEBANON WATERWORKS WTP DISINFECTION UPGRADES | 3-5 Years | Not Funded | $400,000 | Marion | 6 | 1 |
| WX21229006 | SPRINGFIELD NEW RAW WATER PUMP | 3-5 Years | Not Funded | $750,000 | Washington | 8 | 3 |
| WX21027046 | Cloverport Service Line Replacement & Extensions | 0-2 Years | Not Funded | $430,810 | Breckinridge | 9 | 2 |
| WX21179014 | BLOOMFIELD WATER SYSTEM IMPROVEMENTS | 0-2 Years | Not Funded | $800,000 | Nelson | 10 | 1 |
| WX21123025 | Larue Co. W.D. - Hwy 84 Pump Station | 3-5 Years | Not Funded | $250,000 | Larue | 11 | 1 |
| WX21163007 | Brandenburg Old State Road Replacement | 3-5 Years | Not Funded | $300,000 | Meade | 12 | 1 |
| WX21229010 | Springfield - Willisburg Lake Improvements | 0-2 Years | Not Funded | $1,500,000 | Washington | 13 | 1 |
| WX21155035 | MARION COUNTY WATER DISTRICT TELEMETRY PROJECT | 0-2 Years | Not Funded | $265,200 | Marion | 14 | 3 |
| WX21163002 | MeCWD - KY 1638 Transmission Main | 0-2 Years | Not Funded | $1,852,783 | Meade | 15 | 3 |
| WX21027047 | Irvington Heights Water Extensions | 0-2 Years | Not Funded | $360,800 | Breckinridge | 16 | 4 |
| WX21093035 | West Point- South Dixie Water Tower | 0-2 Years | Not Funded | $925,000 | Hardin | 17 | 2 |
| WX21093027 | HARDIN COUNTY WATER DISTRICT #1, VULNERABILITY AND PROTECTION MEASURES | 0-2 Years | Not Funded | $120,000 | Hardin | 18 | 4 |
| WX21085007 | City of Leitchfield-Water Tower | 3-5 Years | Not Funded | $1,325,000 | Grayson | 19 | 1 |
| WX21229008 | Springfield Water Supply Study | 0-2 Years | Not Funded | $100,000 | Washington | 20 | 5 |
| WX21085030 | Leitchfield Water AMR Upgrade Project | 0-2 Years | Not Funded | $306,500 | Grayson | 21 | 5 |
| WX21093037 | HCWD #1 - Hwy 1882 Transmission Main Upgrade | 0-2 Years | Partially Funded | $723,000 | Hardin | 22 | 5 |
| WX21155033 | MARION CO. WATER DISTRICT TANK IMPROVEMENTS PHASE I | 3-5 Years | Not Funded | $622,760 | Marion | 23 | 5 |
| WX21027019 | City of Hardinsburg: JM Mercer Campsite Road Water Line Extensi | 0-2 Years | Not Funded | $151,800 | Breckinridge | 24 | 3 |
| WX21093034 | HCWD#2 Cecilia Pump Station Emergency Power | 3-5 Years | Not Funded | $500,000 | Hardin | 25 | 3 |
| WX21155036 | MARION COUNTY WATER DISTRICT LEBANON BYPASS ELEVATED TANK | 3-5 Years | Not Funded | $1,150,000 | Marion | 26 | 2 |
| WX21179020 | CITY OF BARDSTOWN-BOSTON WATER IMPROVEMENTS | 3-5 Years | Not Funded | $1,500,000 | Nelson | 27 | 2 |
| WX21179015 | BLOOMFIELD WATER LINE EXTENSIONS AND TELEMETRY | 0-2 Years | Not Funded | $675,000 | Nelson | 28 | 4 |
| WX21027009 | Rehabilitation of Water Storage Tank In Cloverport | 3-5 Years | Not Funded | $262,990 | Breckinridge | 29 | 5 |
| WX21123018 | HODGENVILLE 1618 WATER MAIN PROJECT | 3-5 Years | Not Funded | $200,000 | Larue | 30 | 5 |
| WX21085023 | Grayson Co. Water District - Tank Mixing Upgrades | 3-5 Years | Not Funded | $250,000 | Grayson | 31 | 2 |
| WX21085024 | City of Caneyville- Tank Mixing Upgrade | 0-2 Years | Not Funded | $250,000 | Grayson | 32 | 3 |
| WX21179009 | North Nelson KY 48 / Murrays Run & Samuels Upgrade | 0-2 Years | Not Funded | $398,100 | Nelson | 33 | 5 |
| WX21123020 | HODGENVILLE SMITH PLAZA TOWER REPLACEMENT/UPGRADE | 3-5 Years | Not Funded | $300,000 | Larue | 34 | 3 |

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## Project Rankings For Lincoln Trail Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21179023 | CITY OF NEW HAVEN - CENTER & MILL ST. WATERLINE REPLACEMENT | 3-5 Years | Not Funded | $150,000 | Nelson | 35 | 3 |
| WX21085029 | Grayson Co. Water District Project 18 | 0-2 Years | Not Funded | $444,500 | Grayson | 36 | 4 |
| WX21229005 | CITY OF SPRINGFIELD WATERLINE REPLACEMENT/UPGRADE | 3-5 Years | Not Funded | $1,000,000 | Washington | 37 | 4 |
| WX21123017 | HODGENVILLE NORTH LINCOLN BLVD. SUPPLY IMPROVEMENT PROJECT | 3-5 Years | Not Funded | $500,000 | Larue | 38 | 2 |
| WX21123026 | LARUE CO. W.D. - METER TAP UPGRADE | 0-2 Years | Not Funded | $50,000 | Larue | 39 | 4 |
| WX21163008 | BRANDENBURG GROUND LEVEL WATER STORAGE TANK | 3-5 Years | Not Funded | $500,000 | Meade | 40 | 5 |
| | | | **Total Cost:** | **$27,298,298** | | | |

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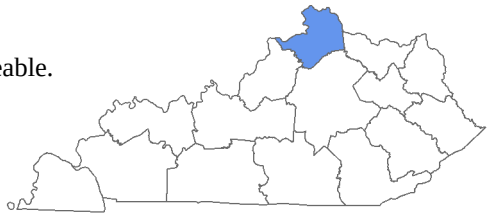
# Northern Kentucky Area Development District (NKADD)



- 2010 census population of 438,647 (185,049 households) with 96% serviceable.
- Projected 2020 population of 488,377 (change of 49,730).
- 2,076.84 miles of existing water lines.
- 478.00 miles of line extensions proposed in the next 10 years.
- 33.00 miles of line rehabilitation proposed in the next 10 years.
- 4.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $195,534,899.
- Estimated funding needs for projects from 6 to 10 years: $37,107,304.

Northern Kentucky Area Development District has a 2010 census population count of 438,647 (185,049 households) with a projected 2020 population count of 488,377 (194,345 households). Public water is currently available to approximately 96 percent of the district's households based on 2010 census counts. Over the next ten years approximately 3,587 serviceable households will be added through the construction of 478.00 miles of water line extensions and approximately 217,233 instances of improved service through the rehabilitation of 33.00 miles of existing water lines and other appurtenances. 4.00 miles of transmission lines are also proposed within this district.

**County Summary for Northern Kentucky Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Boone | 118,811 | 46,154 | 153,933 | 59,951 | 44,168 | 96% | $ 33,079,119 |
| Campbell | 90,336 | 39,523 | 91,642 | 37,713 | 37,926 | 96% | $ 48,379,065 |
| Carroll | 10,811 | 4,696 | 11,440 | 4,408 | 4,577 | 98% | $ 5,093,018 |
| Gallatin | 8,589 | 3,786 | 9,264 | 3,592 | 3,711 | 98% | $ 3,664,248 |
| Grant | 24,662 | 9,942 | 26,917 | 9,870 | 9,781 | 98% | $ 60,122,484 |
| Kenton | 159,720 | 68,975 | 168,458 | 68,111 | 66,264 | 96% | $ 43,639,275 |
| Owen | 10,841 | 5,634 | 11,336 | 4,713 | 4,466 | 79% | $ 17,320,198 |
| Pendleton | 14,877 | 6,339 | 15,387 | 5,987 | 5,783 | 91% | $ 21,344,796 |
| **Totals** | **438,647** | **185,049** | **488,377** | **194,345** | **176,676** | **95%** | **$ 232,642,203** |

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## Community Drinking Water Systems in Northern Kentucky Area Development District County

Note: Serviceable counts include households outside the area development district.

| PWSID | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0080034 | Boone County Water & Sewer District | Boone | 75,771 | 27,785 |
| KY0081013 | Boone-Florence Water Commission | Boone | 91 | 57 |
| KY0080135 | Florence Water & Sewer Commission | Boone | 31,015 | 13,554 |
| KY0080442 | Walton Waterworks Department | Boone | 3,466 | 1,386 |
| KY0210066 | Carroll County Water District #1 | Carroll | 5,850 | 2,823 |
| KY0210067 | Carrollton Utilities | Carroll | 4,693 | 2,001 |
| KY0210008 | West Carroll Water District - Carrollton | Carroll | 2,391 | 1,056 |
| KY0210637 | West Carroll Water District - Milton | Carroll | 95 | 50 |
| KY0390130 | Gallatin County Water District | Gallatin | 5,299 | 2,234 |
| KY0390444 | Warsaw Water Works | Gallatin | 1,981 | 942 |
| KY0410047 | Bullock Pen Water District | Grant | 19,136 | 7,371 |
| KY0410662 | Corinth Water District | Grant | 2,982 | 1,317 |
| KY0410107 | Dry Ridge Water Works Commission | Grant | 2,034 | 811 |
| KY0410472 | Williamstown Municipal Water Department | Grant | 4,604 | 1,963 |
| KY0590220 | Northern Kentucky Water District | Kenton | 236,959 | 103,443 |
| KY0940430 | Kentucky-American Water Company - Northern Division | Owen | 7,802 | 3,830 |
| KY0960051 | Butler Water Works | Pendleton | 619 | 285 |
| KY0960112 | East Pendleton Water District | Pendleton | 5,086 | 2,161 |
| KY0960126 | Falmouth Water Department | Pendleton | 2,562 | 1,176 |
| KY0960348 | Pendleton County Water District #1 North | Pendleton | 4,719 | 1,921 |
| KY0960499 | Pendleton County Water District #1 South | Pendleton | 1,490 | 611 |
| | | **Totals:** | 418,645 | 176,777 |

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# Northern Kentucky Area Development District
# Regional Water Needs Assessment

Primary Need: **Extend Services to Unserved Areas**
Secondary Need: **Repair and Replace Existing Infrastructure**

**Discussion of Area Development District Needs:**

The Northern Kentucky Area Development District's eight counties each have unique challenges. The urban counties have issues with aging infrastructure in the cities in the northern parts, population growth in the suburbs in the middle, and unserved, low density population areas in the south. The rural counties have areas of low density that are a challenge to serve in an economically viable manner, aging infrastructure in the cities, and in some cases, water plants that are at or near capacity.

**Description and Determination of Planning Units:**

The Northern Kentucky Area Development District is composed of the eight counties of Boone, Campbell, Carroll, Gallatin, Grant, Kenton, Owen, and Pendleton.

Regional Overview - Northern Kentucky ADD
The Northern Kentucky Development District region had an estimated population of 150,000 households in 2012 with a projected population of 191,900 households in 2020. There are approximately 3000 miles of water lines in the region serving about 185,000 households, or about 87% of the region's population. 600 miles of proposed water line extensions for the period 2012-2020 would provide service to an additional 7000 households. About 48,000 people in the region rely on private domestic water systems: 5,000 on wells and 43,000 on hauled water and other sources.

There are 33 public and semi-public water systems serve the region: 25 community systems, 6 non-community systems and 2 non-transient non-community systems.

The NKADD Water Management Council reviewed the water systems and their service areas located within the Northern Kentucky Area Development District. The Council designated the Northern Kentucky Area Development District boundary as the regional management area. Within NKADD, the following water systems and their respective water management planning areas were designated by the Council:

1. Boone County Water Management Planning Area
   - Boone County Water District
   - Florence Water & Sewer Commission
   - Walton Water Works Department

2. Kenton/Campbell Water Management Planning Area
   - Northern Kentucky Water District

3. Carroll County Water Management Planning Area
   - Carrollton Utilities
   - West Carroll Water District

4. Gallatin County Water Management Planning Area
   - Gallatin County Water District

5. Owen County Water Management Planning Area
   - Kentucky American Water Company

6. Grant County Water Management Planning Area
   - Bullock Pen Water District
   - Corinth Water District
   - Dry Ridge Water Works Commission
   - Williamstown Municipal Water Department

7. Pendleton County Water Management Planning Area
   - Pendleton County Water District #1
   - East Pendleton Water District
   - Butler Water Works
   - Falmouth Water Department

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# Northern Kentucky Area Development District
# Project Ranking Methodology

The Water Management Council created a subcommittee to develop a ranking methodology for NKADD. This was based on the methodology created by KIA along with modifications instituted by other ADDs. A point system was developed that looked at several aspects of the projects based on the following criteria:

- Consolidation or regionalization of systems
- Local rankings
- Number of unserved/underserved customers affected
- Cost per household
- Amount of planning and development work completed
- Capacity to provide wastewater service (for waterline extensions)
- Local funding

A meeting is held with each Planning Unit to rank their projects. The projects are scored using a matrix developed from the established criteria. At the Water Management Council meeting, these scores are used the rank the projects for the whole ADD. NKADD uses a tiered system so that each Planning Units number one project is in the top 8: the highest number one project is first, the second highest number one project is second, the third highest number one project is third … until all of the projects ranked by the Planning Units are ranked for the whole ADD.

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## Project Rankings For Northern Kentucky Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21041002 | CU - Focusing on Core Mission & Infrastructure Project | 0-2 Years | Not Funded | $963,931 | Carroll | 1 | 1 |
| WX21081001 | Williamstown - New Water Treatment Plant | 0-2 Years | Not Funded | $16,660,000 | Grant | 2 | 2 |
| WX21191003 | Water Storage Reservoir Repair and Roof Replacement | 0-2 Years | Not Funded | $334,711 | Pendleton | 3 | 1 |
| WX21015514 | BCWD - Williams Rd. to Garrison Creek Rd. Phase A | 3-5 Years | Not Funded | $1,296,200 | Boone | 4 | 1 |
| WX21117211 | NKWD - Kenton County Unserved Water Project 2012 (Subdistrict M) | 0-2 Years | Partially Funded | $3,399,336 | Kenton | 5 | 1 |
| WX21037311 | NKWD - Newport/Bellevue/Dayton Water Main Replacement Project | 0-2 Years | Not Funded | $5,004,200 | Campbell | 6 | 3 |
| WX21077213 | Gallatin County Fiscal Court - Kentucky Speedway Area Water Impr | 3-5 Years | Not Funded | $500,000 | Gallatin | 7 | 1 |
| WX21187002 | Owen County Unserved Areas | 0-2 Years | Partially Funded | $827,724 | Owen | 8 | 1 |
| WX21081305 | Bullock Pen - Raw Water Intake | 0-2 Years | Not Funded | $95,000 | Grant | 9 | 1 |
| WX21117212 | NKWD - Covington Water Main Replacement Project | 0-2 Years | Not Funded | $5,008,875 | Kenton | 10 | 3 |
| WX21015001 | Edwards Waterline Replacement Project | 0-2 Years | Partially Funded | $176,927 | Boone | 11 | 3 |
| WX21037310 | NKWD - Campbell County Unserved and Underserved Project 2011 - Subdistrict J | 0-2 Years | Not Funded | $4,647,689 | Campbell | 12 | 1 |
| WX21015301 | Boone-Florence Water Commission - Northwest Water Storage Tank | 0-2 Years | Not Funded | $5,000,000 | Boone | 13 | 2 |
| WX21037004 | Campbell County Water Main Rehabilitation and Treatment Plant Pr | 0-2 Years | Not Funded | $5,644,000 | Campbell | 14 | 4 |
| WX21117013 | Bullock Pen Water Line Extension, Phase 9 | 3-5 Years | Not Funded | $970,713 | Kenton | 15 | 2 |
| WX21081306 | Bullock Pen - Phase II Water System Improvements | 3-5 Years | Not Funded | $560,380 | Grant | 16 | 3 |
| WX21015006 | Bullock Pen Water District - Boone County Master Meter and Improvements | 0-2 Years | Not Funded | $1,549,600 | Boone | 17 | 4 |
| WX21037050 | NKWD, Campbell County Waterline Extension W/ PCWD | 3-5 Years | Not Funded | $1,166,880 | Campbell | 18 | 2 |
| WX21015400 | Boone County Rural Water Project - Phase II | 0-2 Years | Partially Funded | $9,910,000 | Boone | 19 | 5 |
| | | | **Total Cost:** | **$63,716,166** | | | |

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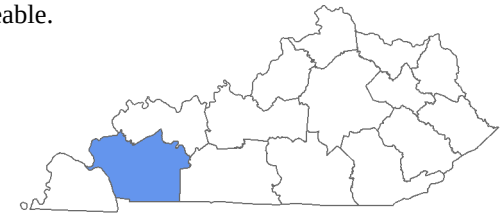
# Pennyrile Area Development District (PEADD)



- 2010 census population of 219,305 (97,910 households) with 95% serviceable.
- Projected 2020 population of 226,580 (change of 7,275).
- 998.35 miles of existing water lines.
- 176.00 miles of line extensions proposed in the next 10 years.
- 97.00 miles of line rehabilitation proposed in the next 10 years.
- There are no transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $163,939,679.
- Estimated funding needs for projects from 6 to 10 years: $15,360,000.

Pennyrile Area Development District has a 2010 census population count of 219,305 (97,910 households) with a projected 2020 population count of 226,580 (89,133 households). Public water is currently available to approximately 95 percent of the district's households based on 2010 census counts. Over the next ten years approximately 631 serviceable households will be added through the construction of 176.00 miles of water line extensions and approximately 5,185 instances of improved service through the rehabilitation of 97.00 miles of existing water lines and other appurtenances.

**County Summary for Pennyrile Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Caldwell | 12,984 | 6,292 | 12,948 | 5,518 | 6,218 | 99% | $ 6,928,933 |
| Christian | 73,955 | 29,459 | 77,840 | 28,340 | 26,576 | 90% | $ 47,541,081 |
| Crittenden | 9,315 | 4,569 | 9,156 | 3,775 | 4,333 | 95% | $ 3,620,000 |
| Hopkins | 46,920 | 21,180 | 48,007 | 19,684 | 20,575 | 97% | $ 14,920,384 |
| Livingston | 9,519 | 4,824 | 9,438 | 4,074 | 4,644 | 96% | $ 6,285,795 |
| Lyon | 8,314 | 4,791 | 8,523 | 3,430 | 4,670 | 98% | $ 4,028,000 |
| Muhlenberg | 31,499 | 13,699 | 31,466 | 12,337 | 13,204 | 96% | $ 9,609,486 |
| Todd | 12,460 | 5,286 | 12,958 | 4,989 | 5,049 | 96% | $ 77,720,000 |
| Trigg | 14,339 | 7,810 | 16,244 | 6,986 | 7,632 | 98% | $ 8,646,000 |
| **Totals** | **219,305** | **97,910** | **226,580** | **89,133** | **92,901** | **95%** | **$ 179,299,679** |

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## Community Drinking Water Systems in Pennyrile Area Development District County

Note: Serviceable counts include households outside the area development district.

| PWSID | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0170528 | Caldwell County Water District | Caldwell | 5,112 | 2,450 |
| KY0170146 | Fredonia Water Department | Caldwell | 717 | 327 |
| KY0170360 | Princeton Water & Wastewater Commission | Caldwell | 7,012 | 3,456 |
| KY0240521 | Christian County Water District | Christian | 15,638 | 6,593 |
| KY0240201 | Hopkinsville Water Environment Authority | Christian | 36,217 | 16,435 |
| KY0240329 | Oak Grove Water Department | Christian | 8,050 | 3,556 |
| KY0280267 | Marion Water Department | Crittenden | 3,035 | 1,490 |
| KY0540958 | Dawson Springs Water & Sewer System | Hopkins | 2,587 | 1,223 |
| KY0540108 | Earlington Water & Sewer Department | Hopkins | 1,464 | 732 |
| KY0540656 | Hanson Water System | Hopkins | 1,151 | 454 |
| KY0540936 | Madisonville Municipal Utilities | Hopkins | 21,932 | 10,225 |
| KY0540269 | Mortons Gap Water Department | Hopkins | 866 | 401 |
| KY0540977 | Nebo Water District | Hopkins | 3,770 | 1,551 |
| KY0540138 | North Hopkins Water District | Hopkins | 3,097 | 1,307 |
| KY0540328 | Nortonville Water Department | Hopkins | 1,758 | 778 |
| KY0540406 | South Hopkins Water District | Hopkins | 7,116 | 3,192 |
| KY0540465 | White Plains Water Department | Hopkins | 1,553 | 667 |
| KY0700532 | Crittenden-Livingston County Water District | Livingston | 9,043 | 4,516 |
| KY0700162 | Grand Rivers Water System | Livingston | 1,999 | 1,153 |
| KY0700243 | Ledbetter Water District | Livingston | 2,720 | 1,206 |
| KY0700380 | Salem Municipal Water System | Livingston | 752 | 362 |
| KY0700401 | Smithland Water & Sewer System | Livingston | 483 | 254 |
| KY0720113 | Eddyville Water Department | Lyon | 2,896 | 1,122 |
| KY0720227 | Kuttawa Water Department | Lyon | 765 | 408 |
| KY0720933 | Lyon County Water District | Lyon | 4,011 | 2,896 |
| KY0890071 | Central City Municipal Water & Sewer System | Muhlenberg | 4,604 | 2,134 |
| KY0890106 | Drakesboro Water & Sewer | Muhlenberg | 667 | 311 |
| KY0890170 | Greenville Utilities Commission | Muhlenberg | 4,708 | 2,121 |
| KY0890302 | Muhlenberg County Water District #1 | Muhlenberg | 14,074 | 6,190 |
| KY0890304 | Muhlenberg County Water District #3 | Muhlenberg | 4,988 | 2,236 |
| KY1100121 | Elkton Utilities | Todd | 2,173 | 958 |
| KY1100171 | Guthrie Water Works | Todd | 1,399 | 638 |
| KY1100944 | Todd County Water District | Todd | 8,396 | 3,734 |
| KY1100428 | Trenton Water Works | Todd | 601 | 275 |
| KY1110019 | Barkley Lake Water District | Trigg | 10,261 | 5,939 |
| KY1110054 | Cadiz Water & Sewer Commission | Trigg | 3,929 | 1,812 |
| | | **Totals:** | 199,544 | 93,102 |

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# Pennyrile Area Development District
# Regional Water Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Increase Storage Capacity**

**Discussion of Area Development District Needs:**

The Pennyrile Area has a lot of varied projects but at this time the majority of our needs fall under the heading of replacing aging infrastructure. This category ranges from replacing aging lines and pumps to replacing tanks and plants. At this time, a large majority of the lines and infrastructure in the Pennyrile region is approaching its designed lifespan. Each system is unique and has different needs but the overall trend is to replace aging cast iron pipe, aging AC (asbestos concrete) lines, and aging pvc lines with newer pvc and ductile iron. One of the problems that we are running into is the shear scope of the replacement projects. In many situations we find that a system needs to replace large sections of their lines or infrastructure. The reason for these large scale replacement projects is that whole sections of the systems were installed during one large project. In the cases of some small municipalities these older projects can cover most of the city. Why do these projects need to addressed? It is because an aging system costs money. These aging systems are inefficient and expensive to maintain. As an area ages it takes more time and resources to address the problems that arise. When a problem area is fixed it frees up manpower and resources which can be used for system maintenance, expansion, and rate stabilization.

The secondary need in the Pennyrile region is an off shoot of the primary need. In many cases the systems do not need to just replace an aging tank but increase the amount of available storage and lines feeding the new structure. Tanks in general are a long term investment for a system. These structures provide the backbone of the system providing pressure and short term storage to the customers. As water systems grow and expand an undersized tank can become a large problem. These undersized tanks can create low pressure zones, bottle necks in the system, and increased pumping and production times at the water treatment plants.

**Description and Determination of Planning Units:**

The planning units in the Pennyrile region are based on the existing county boundaries. By keeping the planning units based on the county boundaries the systems are familiar with the political structure and the current relationship between them and their neighbors. Currently the Pennyrile region has nine planning units (Caldwell County, Christian County, Crittenden County, Hopkins County, Livingston County, Lyon County, Muhlenberg County, Todd County, and Trigg County). These planning units vary in number of systems from as little as two to as many as ten. In each of these instances the county based planning units seem to work well for the Pennyrile region. Many of the counties systems have grown interconnected and interdependent over the last several years. These relationships help foster cooperation and county/regional planning.

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# Pennyrile Area Development District
# Project Ranking Methodology

Each year, the Water Management Council of the Pennyrile Area Development District (PADD) completes a ranking process of water and wastewater projects in the region. This is a "grassroots" process as it begins at the local (system) level and ends with all projects being ranked on a regional basis.

We begin the process with county-wide ranking meetings during which all water/wastewater systems meet with the PADD Water Management Coordinator and their respective County Judge Executive. We discuss the individual projects from each system and rank them according to the priorities within the county. These rankings are then used in the overall regional ranking process.

The PADD Water Management Council has elected to use a point system to determine the overall regional ranking of each project. Projects are ranked based on five categories; Project Type (Unserved Customers, Underserved Customers, and Aging Infrastructure), Regionalization, Level of Engineering/Project Status, Funding Status, and Local Importance. Projects may receive up 20 points in each category except for regionalization. The Water Management Council recognizes the increasing importance of regionalization and has weighted this category heavier. Overall, a project can achieve 110 points. In the instances where two project score the same numerical value the Water Council has elected to use a simple cost analysis to break the tie. The system that is serving the most people with the least amount of money receives the higher ranking (cost of the project/number of customers served).

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## Project Rankings For Pennyrile Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21047012 | Christian County Water District Phase 7 System Extension Project | 0-2 Years | Partially Funded | $5,000,000 | Christian | 1 | 1 |
| WX21033009 | Caldwell County Water District Waterline Extension | 3-5 Years | Partially Funded | $2,092,010 | Caldwell | 2 | 1 |
| WX21047013 | HWEA - US 41A Water Main Improvement, 2 MG Southpark Tank, and Interconnect Project | 0-2 Years | Partially Funded | $6,006,000 | Christian | 3 | 2 |
| WX21139026 | Crittenden-Livingston Water District - Distribution Upgrade | 3-5 Years | Not Funded | $1,160,000 | Livingston | 4 | 1 |
| WX21055009 | Crittenden-Livingston WD - Moore Hill Tank (Crittenden Co.) | 3-5 Years | Not Funded | $610,000 | Crittenden | 5 | 1 |
| WX21143006 | City of Kuttawa - Water Quality Project | 3-5 Years | Partially Funded | $200,000 | Lyon | 6 | 3 |
| WX21107034 | South Hopkins Water District - Waterline Extension & Tank | 3-5 Years | Not Funded | $1,224,004 | Hopkins | 7 | 2 |
| WX21177018 | Muhlenberg County Water District Nebo Pump Station, Watermain & Tank | 3-5 Years | Not Funded | $1,175,985 | Muhlenberg | 8 | 1 |
| WX21047014 | Christian County Water District: System Extension Project | 0-2 Years | Partially Funded | $800,000 | Christian | 9 | 3 |
| WX21033006 | Princeton - Water Distribution Improvements | 3-5 Years | Partially Funded | $500,000 | Caldwell | 10 | 2 |
| WX21107038 | Madisonville North Pressure Zone Improvements | 3-5 Years | Not Funded | $2,299,227 | Hopkins | 11 | 3 |
| WX21107001 | Nortonville - Water Treatment Plant and Well Upgrade. | 0-2 Years | Not Funded | $2,000,000 | Hopkins | 12 | 1 |
| WX21047018 | Oak Grove - Cross Country and Industrial Park Waterline | 0-2 Years | Partially Funded | $2,200,000 | Christian | 13 | 4 |
| WX21219023 | Logan-Todd Rwc/Guthrie - Clarksville, Tn Interconnection | 6-10 Years | Not Funded | $13,000,000 | Todd | 14 | 2 |
| WX21221009 | Cadiz - IGA Water Tank Replacement | 3-5 Years | Not Funded | $870,000 | Trigg | 15 | 1 |
| WX21219014 | Trenton - Water System Improvements | 3-5 Years | Not Funded | $400,000 | Todd | 16 | 1 |
| WX21047035 | Christian County Water District - Waterline Replacement & Extension | 3-5 Years | Not Funded | $3,818,000 | Christian | 17 | 5 |
| WX21177029 | MCFC - Paradise Park Water Transmission Project | 0-2 Years | Not Funded | $898,019 | Muhlenberg | 18 | 10 |
| WX21143011 | City of Kuttawa - I-24 Water Storage Tank | 3-5 Years | Not Funded | $700,000 | Lyon | 19 | 1 |
| WX21177027 | Greenville - Tanks and Chemical Storage Building Upgrade | 3-5 Years | Not Funded | $290,000 | Muhlenberg | 20 | 2 |
| WX21055013 | Marion - Sludge Basin Rehabilitation | 3-5 Years | Not Funded | $375,000 | Crittenden | 21 | 2 |
| WX21139017 | Grand Rivers - Lake City Waterline Replacement Phase II | 3-5 Years | Not Funded | $1,025,000 | Livingston | 22 | 2 |
| WX21143003 | Lyon County Water District - Waterline Replacement | 3-5 Years | Not Funded | $950,000 | Lyon | 23 | 2 |
| WX21107022 | White Plains - Hwy 813 - South Hopkins Water District Interconnect | 3-5 Years | Not Funded | $965,000 | Hopkins | 24 | 10 |
| WX21139012 | Salem - Water Distribution Upgrades | 3-5 Years | Partially Funded | $100,000 | Livingston | 25 | 5 |
| WX21221008 | Barkley Lake Water District - Water Line Extension | 3-5 Years | Not Funded | $3,500,000 | Trigg | 26 | 2 |
| WX21055011 | CLWD - Line Extensions (Crittenden) | 3-5 Years | Not Funded | $975,000 | Crittenden | 27 | 3 |
| WX21033015 | Princeton - System Upgrade | 3-5 Years | Not Funded | $1,445,000 | Caldwell | 28 | 3 |
| WX21219018 | Todd County Water District - KY Hwy 181 Upgrade | 3-5 Years | Not Funded | $2,150,000 | Todd | 29 | 3 |
| WX21221013 | Cadiz - Line Rehabilitation - Will Jackson Road Hwy 778 | 3-5 Years | Not Funded | $875,000 | Trigg | 30 | 3 |
| WX21047036 | Christian County Water District Princeton Road Tank & System Upgrade | 3-5 Years | Not Funded | $1,750,000 | Christian | 31 | 6 |
| WX21177025 | Muhlenberg County Water District #1 - Tank Rehabiliation Project | 3-5 Years | Not Funded | $922,885 | Muhlenberg | 32 | 4 |

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## Project Rankings For Pennyrile Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21219016 | Elkton - Waterline Replacement | 3-5 Years | Not Funded | $120,000 | Todd | 33 | 4 |
| WX21107040 | Mortons Gap Water System Rehab | 3-5 Years | Not Funded | $835,000 | Hopkins | 34 | 4 |
| WX21143008 | LCWD - System Rehabilitation and Improvements | 3-5 Years | Not Funded | $1,038,000 | Lyon | 35 | 4 |
| WX21047027 | HWEA - Crofton Water Line Replacement | 3-5 Years | Not Funded | $4,060,995 | Christian | 36 | 7 |
| WX21047004 | HWEA - Crofton Water Main Extension Project | 3-5 Years | Not Funded | $4,746,749 | Christian | 37 | 8 |
| WX21219008 | Guthrie Water System Rehabilitation Project | 3-5 Years | Not Funded | $1,600,000 | Todd | 38 | 5 |
| WX21177030 | Central City - Wells Community Water System Improvements | 3-5 Years | Not Funded | $170,000 | Muhlenberg | 39 | 9 |
| WX21107008 | Madisonville Noel Av Line Replacement | 3-5 Years | Not Funded | $587,600 | Hopkins | 40 | 5 |
| WX21033016 | Caldwell County WD - Water Tank Replacement and Upgrades | 3-5 Years | Not Funded | $2,252,372 | Caldwell | 41 | 5 |
| WX21107041 | Nebo - Water System Improvements | 3-5 Years | Not Funded | $106,282 | Hopkins | 42 | 6 |
| WX21177023 | Muhlenberg County Water District #1 - System Rehabilitation | 3-5 Years | Not Funded | $584,397 | Muhlenberg | 43 | 7 |
| WX21219024 | Elkton - Water Storage Tank Improvements | 3-5 Years | Not Funded | $200,000 | Todd | 44 | 6 |
| WX21139022 | Ledbetter - Holland Road Main Extension | 3-5 Years | Not Funded | $300,000 | Livingston | 45 | 6 |
| WX21107044 | White Plains - Red Hill Road Ph. III Christian County Interconne | 3-5 Years | Not Funded | $155,000 | Hopkins | 46 | 21 |
| WX21107025 | White Plains - Phase 2 Red Hill Tank, Pump Station and Waterline Extension | 3-5 Years | Not Funded | $670,000 | Hopkins | 47 | 8 |
| WX21047019 | Oak Grove - Hugh Hunter Road Waterline Replacement | 0-2 Years | Not Funded | $865,000 | Christian | 48 | 9 |
| WX21107029 | White Plains - Concord Tank & Pump Station | 3-5 Years | Not Funded | $770,000 | Hopkins | 49 | 9 |
| WX21139023 | Ledbetter - Paris Rd Main Extension | 3-5 Years | Not Funded | $150,000 | Livingston | 50 | 9 |
| WX21139018 | Grand Rivers - Newbern Road Water Line Extension | 3-5 Years | Not Funded | $175,000 | Livingston | 51 | 10 |
| WX21047021 | Oak Grove - Waterline Replacement Project | 0-2 Years | Not Funded | $395,000 | Christian | 52 | 10 |
| WX21047016 | Oak Grove - Northeast Tank Project | 3-5 Years | Not Funded | $2,800,000 | Christian | 53 | 11 |
| WX21107028 | Earlington - Water System Improvements | 3-5 Years | Not Funded | $25,000 | Hopkins | 54 | 12 |
| WX21047020 | Oak Grove - Cross I-24 Waterline | 3-5 Years | Not Funded | $530,000 | Christian | 55 | 12 |
| WX21139013 | Grand Rivers - Waterline Replacement Project | 3-5 Years | Not Funded | $850,000 | Livingston | 56 | 7 |
| WX21047003 | HWEA Hopkinsville Water Main Extension Project | 3-5 Years | Not Funded | $8,163,337 | Christian | 57 | 13 |
| WX21047037 | Oak Grove - Gate 7 Line Extension | 3-5 Years | Not Funded | $250,000 | Christian | 58 | 14 |
| WX21107009 | Madisonville Dozier Heights Waterline Replacement | 3-5 Years | Not Funded | $354,413 | Hopkins | 59 | 7 |
| WX21033019 | Caldwell County Water District - U.S. Hwy 62 Area Water System Improvements | 3-5 Years | Not Funded | $1,456,561 | Caldwell | 60 | 7 |
| WX21047031 | Christian County Water District - Waterline Extensions (10) | 3-5 Years | Not Funded | $1,800,000 | Christian | 61 | 15 |
| WX21107021 | White Plains - US 62/Concord Ch. Rd. - MG Int. (P2) | 3-5 Years | Not Funded | $210,000 | Hopkins | 62 | 13 |
| WX21139025 | CLWD - Line Extensions (Livingston) | 3-5 Years | Not Funded | $565,000 | Livingston | 63 | 8 |
| WX21047008 | Oak Grove 41-A/Hwy 117 Line Extension | 3-5 Years | Not Funded | $615,000 | Christian | 64 | 16 |
| WX21033018 | Princeton - Tank Rehabilitation | 3-5 Years | Not Funded | $300,000 | Caldwell | 65 | 6 |
| WX21047029 | HWEA - Hopkinsville Industrial Foundation Commerce Park West Loop | 3-5 Years | Not Funded | $210,000 | Christian | 66 | 17 |

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## Project Rankings For Pennyrile Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21107019 | Hanson - Hopkins County Industrial Park Water Main | 3-5 Years | Not Funded | $271,883 | Hopkins | 67 | 11 |
| | | | **Total Cost:** | **$98,458,719** | | | |

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# Purchase Area Development District (PUADD)

- 2010 census population of 196,393 (93,709 households) with 79% serviceable.
- Projected 2020 population of 201,697 (change of 5,304).
- 918.63 miles of existing water lines.
- 16.00 miles of line extensions proposed in the next 10 years.
- 474.00 miles of line rehabilitation proposed in the next 10 years.
- 12.00 miles of transmission lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $103,188,874.
- Estimated funding needs for projects from 6 to 10 years: $6,526,440.

Purchase Area Development District has a 2010 census population count of 196,393 (93,709 households) with a projected 2020 population count of 201,697 (86,121 households). Public water is currently available to approximately 79 percent of the district's households based on 2010 census counts. Over the next ten years approximately 689 serviceable households will be added through the construction of 16.00 miles of water line extensions and approximately 32,369 instances of improved service through the rehabilitation of 474.00 miles of existing water lines and other appurtenances. 12.00 miles of transmission lines are also proposed within this district.

**County Summary for Purchase Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Ballard | 8,249 | 3,885 | 8,217 | 3,484 | 1,936 | 50% | $ 2,828,480 |
| Calloway | 37,191 | 18,065 | 40,411 | 17,019 | 12,180 | 67% | $ 7,255,100 |
| Carlisle | 5,104 | 2,441 | 4,947 | 2,093 | 946 | 39% | $ 10,349,978 |
| Fulton | 6,813 | 3,372 | 6,223 | 2,728 | 2,944 | 87% | $ 2,146,523 |
| Graves | 37,121 | 16,777 | 37,630 | 15,459 | 11,483 | 68% | $ 24,227,877 |
| Hickman | 4,902 | 2,342 | 4,625 | 1,938 | 906 | 39% | $ 850,176 |
| McCracken | 65,565 | 31,079 | 66,621 | 29,278 | 29,462 | 95% | $ 29,716,000 |
| Marshall | 31,448 | 15,748 | 33,023 | 14,122 | 14,265 | 91% | $ 32,341,180 |
| **Totals** | **196,393** | **93,709** | **201,697** | **86,121** | **74,122** | **79%** | **$ 109,715,314** |

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## Community Drinking Water Systems in Purchase Area Development District County

Note: Serviceable counts include households outside the area development district.

| PWSID | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0040020 | Barlow Water System | Ballard | 740 | 385 |
| KY0040223 | Kevil Water Department | Ballard | 1,361 | 648 |
| KY0040228 | LaCenter Municipal Water Company | Ballard | 1,070 | 501 |
| KY0040259 | Lovelaceville Water Company | Ballard | 142 | 78 |
| KY0040469 | Wickliffe Municipal Water System | Ballard | 996 | 463 |
| KY0180509 | Center Ridge #2 | Calloway | 116 | 119 |
| KY0180502 | Center Ridge #3 | Calloway | 87 | 59 |
| KY0180549 | Center Ridge Water District | Calloway | 36 | 54 |
| KY0180102 | Dexter Almo Heights Water District | Calloway | 2,118 | 918 |
| KY0180308 | Murray Water District #2 | Calloway | 714 | 327 |
| KY0180309 | Murray Water District #3 | Calloway | 643 | 282 |
| KY0180306 | Murray Water System | Calloway | 21,110 | 10,014 |
| KY0180185 | South 641 Water District | Calloway | 725 | 357 |
| KY0180914 | Stella Trailer Park | Calloway | 46 | 23 |
| KY0200009 | Arlington Water Department | Carlisle | 380 | 194 |
| KY0200018 | Bardwell City Utilities | Carlisle | 776 | 422 |
| KY0200095 | Cunningham Water District | Carlisle | 322 | 153 |
| KY0200284 | Milburn Water District | Carlisle | 311 | 144 |
| KY0380149 | Fulton Municipal Water System | Fulton | 3,256 | 1,751 |
| KY0380193 | Hickman Water Department | Fulton | 2,859 | 1,294 |
| KY0420084 | Graves County Water District (Consumers) | Graves | 4,891 | 2,138 |
| KY0420027 | Graves County Water District (Fancy Farm) | Graves | 1,216 | 528 |
| KY0420172 | Graves County Water District (Hardeman) | Graves | 873 | 405 |
| KY0420405 | Graves County Water District (South Graves) | Graves | 2,331 | 1,059 |
| KY0420194 | Hickory Water District | Graves | 3,302 | 1,503 |
| KY0420274 | Mayfield Electric & Water System | Graves | 10,710 | 5,015 |
| KY0420534 | Sedalia Water District | Graves | 281 | 129 |
| KY0420423 | Symsonia Water District | Graves | 727 | 372 |
| KY0420475 | Wingo Water & Sewer Department | Graves | 711 | 310 |
| KY0530083 | Columbus Water Works | Hickman | 199 | 98 |
| KY0530077 | Water Service Corporation of Kentucky | Hickman | 1,513 | 707 |
| KY0790029 | Benton Water & Sewer System | Marshall | 6,554 | 2,959 |
| KY0790056 | Calvert City Municipal Water Department | Marshall | 3,564 | 1,606 |
| KY0790173 | Hardin Water Department | Marshall | 1,707 | 768 |
| KY0790216 | Jonathan Creek Water District | Marshall | 4,526 | 2,726 |
| KY0790319 | North Marshall Water District | Marshall | 10,951 | 5,708 |
| KY0730533 | Paducah Water Works | McCracken | 59,174 | 28,251 |
| KY0730454 | West McCracken County Water District | McCracken | 3,742 | 1,619 |
| | | **Totals:** | 154,780 | 74,087 |

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# Purchase Area Development District
# Regional Water Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Extend Services to Unserved Areas**

**Discussion of Area Development District Needs:**

The Purchase Area as a whole has a primary need to replace or repair existing infrastructure such as lines, plants, and tanks that are aging and past their useful life. The utilities in the Purchase Area strive to bring good quality service to its customers and if the systems are the aging problems within the systems provide a hindrance to the utilities to provide this level of service.

The Purchase Area like the rest of the state has the majority of its area is covered as far as access to public water. There are a few areas that can still be reached with public water which is the secondary need for this area. The unserved areas that are still in need of public water are the rural areas. For the utilities to extend new service is very cost prohibitive since the areas are not heavily populated. Also the groundwater in the Purchase Area is very good and a lot of the unserved customers are not having problems with their private wells and there has not been a huge need to extend service to this areas.

**Description and Determination of Planning Units:**

The Purchase Area Development District is divided into eight separate planning units, that are based on the eight counties in the Purchase Area. The planning units are: Ballard County planning unit, Calloway County planning unit, Carlisle County planning unit, Fulton County planning unit, Graves County planning unit, Hickman County planning unit, Marshall County planning unit, and McCracken County planning unit.

In the Ballard County planning unit there are five water systems (City of Barlow, City of Kevil, City of Lacenter, Lovelaceville Water Company and City of Wickliffe) that serve approximately 1,922 residents in Ballard County.

The Center Ridge Water District, Center Ridge Water District #2, Center Ridge Water District #3, Dexter-Almo Heights Water District, the City of Murray, Murray Water District #2, Murray Water District #3, South 641 Water District, and the Stella Trailer Park water system make up the seven water systems in the Calloway County planning unit and serve approximately 11,080 residents.

The Carlisle County planning unit is comprised of four water systems (City of Arlington, City of Bardwell, Cunningham Water District, and the Milburn Water District) that serve approximately 940 residents.

The Fulton County planning unit has two water systems (City of Fulton and City of Hickman) that serve approximately 3,034 residents.

The Graves County planning unit also has nine water systems (Graves County Water District (Consumers), Graves County Water District (Fancy Farm), Graves County Water District (Hardeman), Graves County Water District (South Graves), Hickory Water District, Mayfield Electric & Water System, Sedalia Water District, Symsonia Water District, and the City of Wingo) that serve approximately 10,430residents in Graves County.

The Water Service Corporation of Kentucky and the City of Columbus are the two water systems in the Hickman County planning unit and serves approximately 759 residents.

The Marshall County planning unit has five water systems. With those systems being the City of Benton, Calvert City, City of Hardin, Jonathan Creek Water District, and the North Marshall Water District. Together these systems serve approximately 12,648 residents.

Paducah Water Works along with the West McCracken County Water District make up the McCracken County planning unit. These two systems serve approximately 27,647 residents of McCracken County.

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# Purchase Area Development District
# Project Ranking Methodology

The Purchase Area Water Management Council uses a drinking water ranking criteria to establish a regional priority list for water projects in the Purchase Area.

The drinking water ranking criteria consists of five separate categories.

Project Type:

1. Elimination of a Public Water System through a merger- project will receive 25 points if a public water system is being eliminated by merging with other system.
2. Elimination of a water treatment plant through an interconnection- projects will receive 23 points if system is eliminated their WTP and setting up an interconnection with another system to purchase water and will still be a separate system after the interconnection is complete.
3. Rehabilitation and/or replacing aging infrastructure- projects will receive 20 points if an utility is rehabbing any infrastructure within their system.
4. Construction of supplemental potable or raw water supply- projects will receive 17 points if an utility is constructing a new well to supplement their existing supply or an utility is constructing a new interconnect to supplement their existing interconnections.
5. Construction of a new WTP or expansion- projects will receive 15 points if an utility is constructing a new WTP, either to replace the old WTP or a secondary WTP, or if the utility is expanding the capacity of the existing WTP.
6. Construction of new water storage tank- projects will receive 10 points if an utility is constructing a water storage tank to supplement their existing tanks.
7. Extension of service to unserved households- project will receive 20 points if the proposed project will add an average of 9 or more new customers per mile, 19 points for an average of 7-8 new customers per mile, 18 points for an average of 5-6 new customers per mile, 15 points for an average of 3-4 new customers per mile, and 10 points for an average of 1-2 new customers per mile.

Compliance and Enforcement:

A project will receive 5 points if the utility is using this project to achieve full or partial compliance with a court or agreed order.

Funding Status

Projects that are 50%-99% funded and they receive 10 points, the second section is for projects that are 1%-49% funded and they receive 5 points. Any projects that are not funded receive zero points for this category.

Project Status

This category has three sections and a project can receive points in all sections if the utility has completed them. The first section is Engineering plans and specs submitted to DOW, a project will receive 15 points if this step has been completed. The second section is Preliminary engineering report complete, a project will receive 10 points if this step is completed. The third section is Estimated engineer's budget complete, a project will receive 5 points if this step is complete.

County Ranking

In this category, projects will receive points based on their county ranking. A number one ranked project in the county will receive 24 points, a number two ranked project in the county will receive 20 points, a number three ranked project in the county will receive 16 points, a number four ranked project in the county will receive 14 points, and a number five ranked project in the county will receive 12 points. Only the top 5 projects in each county will be ranked regionally. In the event of a tie-breaker between projects, the cost per household will be used to break the tie.

In the event of a tie-breaker between projects, the cost per household will be used to break the tie.

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## Project Rankings For Purchase Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21007022 | Barlow - New Clearwell Construction Project | 3-5 Years | Partially Funded | $433,430 | Ballard | 1 | 2 |
| WX21083055 | Symsonia Water District - New Storage Tank, Wells, and Treatment | 0-2 Years | Partially Funded | $895,000 | Graves | 2 | 1 |
| WX21157046 | Marshall County Fiscal Court-Wv 2020 Projects | 0-2 Years | Partially Funded | $6,000,000 | Marshall | 3 | 3 |
| WX21035006 | Dexter-Almo Water- Hopkins Rd Loop and Metering Installation | 0-2 Years | Partially Funded | $455,000 | Calloway | 4 | 2 |
| WX21157007 | City of Benton-Line Replacement Along Main Street | 3-5 Years | Not Funded | $465,000 | Marshall | 5 | 1 |
| WX21075005 | Hickman Water Department-WTP Rehab | 0-2 Years | Partially Funded | $900,523 | Fulton | 6 | 1 |
| WX21145001 | Paducah Water Works-Interconnection Project | 0-2 Years | Not Funded | $250,000 | McCracken | 7 | 3 |
| WX21145064 | West McCracken Water- Main Replacement Ogden Landing Road | 3-5 Years | Not Funded | $980,000 | McCracken | 8 | 2 |
| WX21039025 | Milburn Water District - Water Tower | 3-5 Years | Not Funded | $355,000 | Carlisle | 9 | 1 |
| WX21035008 | City of Murray- System Improvements | 3-5 Years | Not Funded | $315,000 | Calloway | 10 | 1 |
| WX21105009 | Columbus Water Works - Upgrades to WTP and New Clearwell | 3-5 Years | Not Funded | $400,000 | Hickman | 11 | 1 |
| WX21075007 | Fulton Municipal Water System-Line Replacement | 0-2 Years | Partially Funded | $700,000 | Fulton | 12 | 4 |
| WX21007006 | City of Wicklife- New Well at WTP | 3-5 Years | Not Funded | $150,000 | Ballard | 13 | 1 |
| WX21083051 | Mayfield Electric & Water - Fuller Tank Rehab | 3-5 Years | Not Funded | $250,000 | Graves | 14 | 2 |
| WX21075002 | Fulton Municipal Water-Demolition of Old Clear Well & Degasifier | 3-5 Years | Not Funded | $386,000 | Fulton | 15 | 2 |
| WX21105010 | Columbus Water Works - Water Tank Maintenance | 3-5 Years | Not Funded | $40,000 | Hickman | 16 | 2 |
| WX21039021 | City of Bardwell-Well Relocation | 3-5 Years | Not Funded | $300,000 | Carlisle | 17 | 2 |
| WX21157037 | City of Calvert City-Relocating Water Treatment Plant | 3-5 Years | Not Funded | $15,000,000 | Marshall | 18 | 2 |
| WX21157044 | Jonathan Creek-Phase III Expansion (Near KY-402) | 3-5 Years | Not Funded | $200,000 | Marshall | 19 | 4 |
| WX21035002 | Stella Trailer Park-Line Replacement and Metering | 3-5 Years | Not Funded | $66,000 | Calloway | 20 | 5 |
| WX21083013 | City of Wingo- Replace Water Tank | 3-5 Years | Not Funded | $300,000 | Graves | 21 | 3 |
| WX21007001 | Lovelaceville Water-Meter Replacement & WTP Upgrades | 3-5 Years | Not Funded | $50,000 | Ballard | 22 | 3 |
| WX21039031 | City of Arlington- WTP and Wells Relocation | 3-5 Years | Not Funded | $600,000 | Carlisle | 23 | 3 |
| WX21035001 | Center Ridge Water District #2 & #3 System Improvements. | 3-5 Years | Not Funded | $660,000 | Calloway | 24 | 3 |
| WX21145014 | West McCracken County Water District- Tank Mixers | 3-5 Years | Not Funded | $65,000 | McCracken | 25 | 4 |
| WX21145079 | Paducah Water Work-Massac Elevated Storage Tank | 3-5 Years | Not Funded | $2,067,000 | McCracken | 26 | 1 |
| WX21007019 | LaCenter Municipal Water-Ac Line Replacement Phase I | 3-5 Years | Not Funded | $200,000 | Ballard | 27 | 4 |
| WX21035026 | South 641 Water District-Water Line Replacement & Isolation Valves Installation | 3-5 Years | Not Funded | $100,000 | Calloway | 28 | 4 |
| WX21083075 | Hickory Water District - AC Main Replacement On Treeland | 3-5 Years | Not Funded | $80,000 | Graves | 29 | 4 |
| WX21039005 | Cunningham-Replace AC Mains | 3-5 Years | Not Funded | $830,000 | Carlisle | 30 | 4 |
| WX21083020 | Sedalia Water-Hydrants, Sample Stations, Land Acquisitions | 3-5 Years | Not Funded | $10,000 | Graves | 31 | 5 |
| WX21157039 | City of Calvert City-New Well Field | 3-5 Years | Not Funded | $200,000 | Marshall | 32 | 5 |
| WX21039030 | City of Arlington - WTP Generator | 3-5 Years | Not Funded | $51,000 | Carlisle | 33 | 5 |

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## Project Rankings For Purchase Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| WX21007024 | Kevil - Apperson Road Water Main Extension | 3-5 Years | Not Funded | $250,000 | Ballard | 34 | 5 |
| WX21145016 | Paducah Water-Lovelaceville Road Extension | 3-5 Years | Not Funded | $105,000 | McCracken | 35 | 5 |
| WX21075009 | Fulton Municipal Water System-Myatt Road and Holiday Lane | 0-2 Years | Partially Funded | $250,000 | Fulton | 36 | 5 |
| WX21075015 | City of Hickman- New Water Tank | 3-5 Years | Not Funded | $150,000 | Fulton | 37 | 3 |
| | | | **Total Cost:** | **$34,508,953** | | | |

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# Wastewater

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# Kentucky

- 2010 census population of 4,339,367 (1,927,164 households) with 61% serviceable.
- Projected 2020 population of 4,672,754 (change of 333,387).
- 16,993 miles of existing sewer lines.
- 26 new sewage treatment plants proposed in the next 10 years.
- 2,353 miles of line extensions proposed in the next 10 years.
- 486 miles of line rehabilitation proposed in the next 10 years.
- 369 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $2,208,738,432.
- Estimated funding needs for projects from 6 to 10 years: $300,960,898.

Kentucky has a 2010 census population count of 4,339,367 (1,927,164 households) with a projected 2020 population count of 4,672,754 (1,909,211 households). Public sewer is currently available to approximately 61 percent of the state's households based on 2010 census counts. Over the next ten years approximately 79,274 serviceable households will be added through the construction of 2,353 miles of sewer line extensions and approximately 258,094 instances of improved service through the rehabilitation of 486 miles of existing sewer lines and other appurtenances. 26 new water treatment plants and 369 miles of interceptor lines are also being proposed within the state over the next ten years.

| Area Development District | 2010 Population | 2020 Population | Serviceable Population | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|
| Bluegrass Area Development District | 770,404 | 862,521 | 561,806 | 74% | $ 650,038,476 |
| Barren River Area Development District | 284,195 | 316,297 | 125,329 | 44% | $ 154,801,727 |
| Big Sandy Area Development District | 154,093 | 148,051 | 35,005 | 23% | $ 130,925,151 |
| Buffalo Trace Area Development District | 56,478 | 58,306 | 18,674 | 35% | $ 66,908,383 |
| Cumberland Valley Area Development District | 236,618 | 237,501 | 76,427 | 33% | $ 389,256,591 |
| Five County Area Development District | 137,884 | 139,098 | 70,924 | 52% | $ 74,628,253 |
| Green River Area Development District | 213,472 | 220,544 | 134,101 | 64% | $ 86,291,770 |
| Gateway Area Development District | 81,652 | 87,651 | 35,168 | 40% | $ 24,794,761 |
| Kentuckiana Regional Planning and Development Agency | 959,091 | 1,058,343 | 822,134 | 87% | $ 328,052,811 |
| Kentucky River Area Development District | 114,762 | 111,267 | 24,590 | 21% | $ 99,410,308 |
| Lake Cumberland Area Development District | 207,256 | 221,481 | 55,457 | 26% | $ 77,301,651 |
| Lincoln Trail Area Development District | 269,117 | 295,040 | 104,566 | 40% | $ 87,300,000 |
| Northern Kentucky Area Development District | 438,647 | 488,377 | 354,808 | 81% | $ 60,686,008 |
| Pennyrile Area Development District | 219,305 | 226,580 | 107,361 | 51% | $ 111,998,010 |
| Purchase Area Development District | 196,393 | 201,697 | 95,261 | 49% | $ 167,305,430 |
| **Totals** | **4,339,367** | **4,672,754** | **2,621,611** | **61%** | **$ 2,509,699,330** |

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# Percent of Households Serviceable by Public Wastewater Systems in 2010

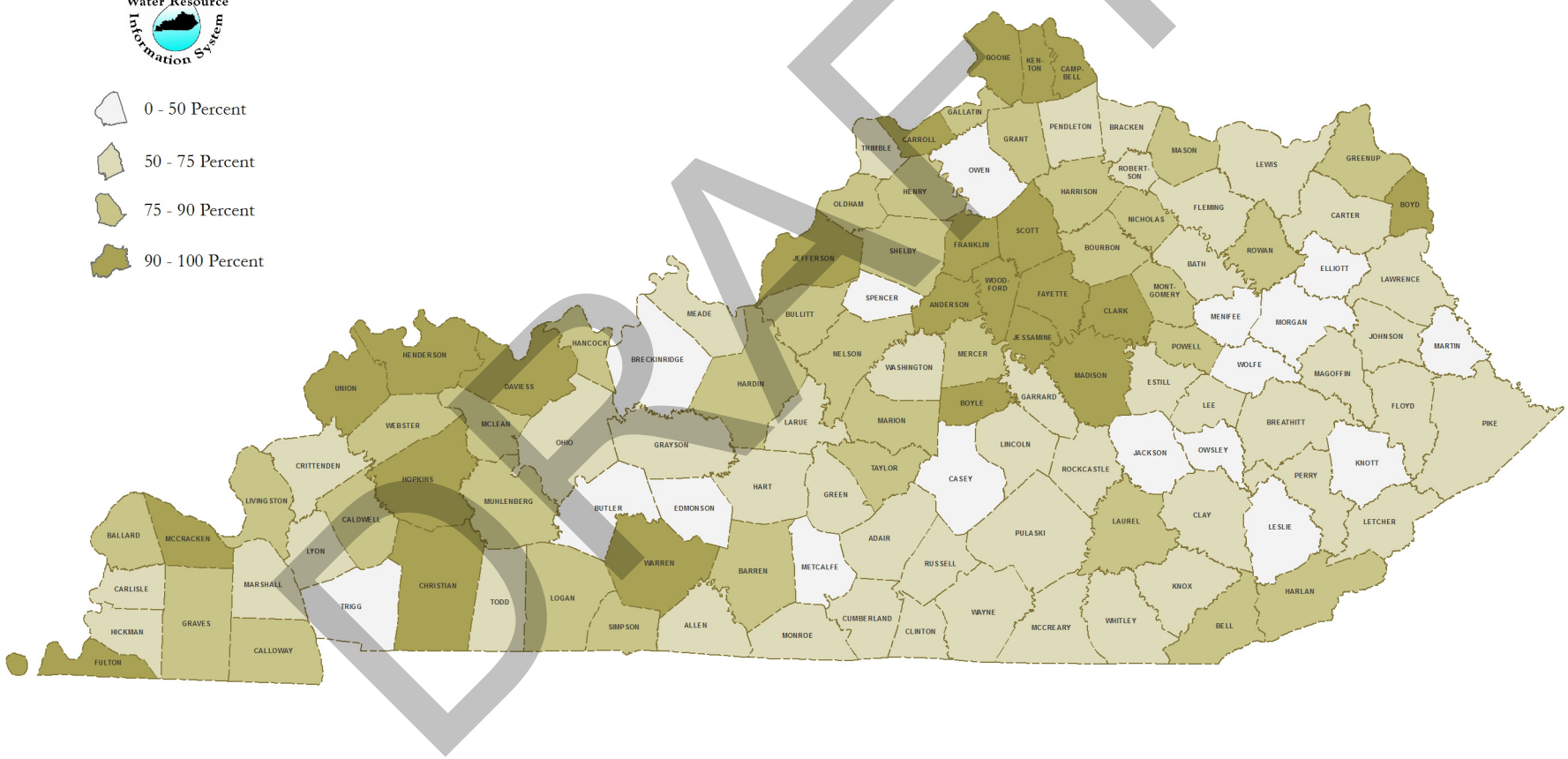
**Prepared By:**
**Kentucky Infrastructure Authority**

Kentucky Infrastructure Authority
1024 Capital Center Drive
Frankfort, KY 40601
(502) 573-0260
http://kia.ky.gov

January, 2013

Water Resource Information System

- 0 - 50 Percent
- 50 - 75 Percent
- 75 - 90 Percent
- 90 - 100 Percent

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# Percent Increase in Households Serviceable by Public Wastewater Systems from 2000 to 2010

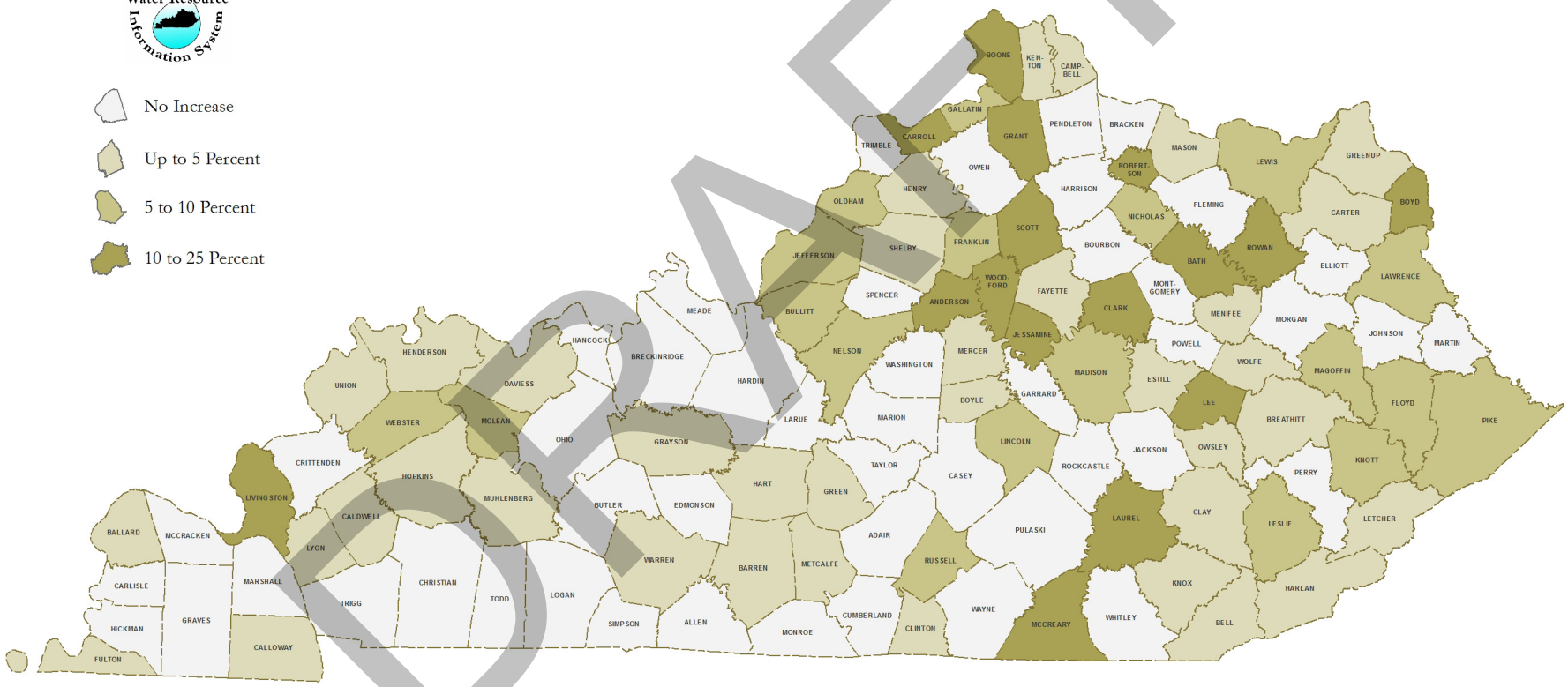
**Prepared By:**
**Kentucky Infrastructure Authority**

Kentucky Infrastructure Authority
1024 Capital Center Drive
Frankfort, KY 40601
(502) 573-0260
http://kia.ky.gov

January, 2013

Water Resource Information System

- No Increase
- Up to 5 Percent
- 5 to 10 Percent
- 10 to 25 Percent

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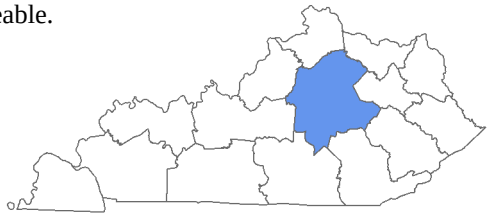
# Bluegrass Area Development District (BGADD)



- 2010 census population of 770,404 (340,939 households) with 74% serviceable.
- Projected 2020 population of 862,521 (change of 92,117).
- 3,180.85 miles of existing sewer lines.
- 246.00 miles of line extensions proposed in the next 10 years.
- 69.00 miles of line rehabilitation proposed in the next 10 years.
- 131.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $524,157,226.
- Estimated funding needs for projects from 6 to 10 years: $125,881,250.

Bluegrass Area Development District has a 2010 census population count of 770,404 (340,939 households) with a projected 2020 population count of 862,521 (355,488 households). Public sewer is currently available to approximately 74 percent of the district's households based on 2010 census counts. Over the next ten years approximately 7,408 serviceable households will be added through the construction of 246.00 miles of sewer line extensions and approximately 16,416 instances of improved service through the rehabilitation of 69.00 miles of existing sewer lines and other appurtenances. 131.00 miles of interceptor lines are also proposed within this district.

**County Summary for Bluegrass Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Anderson | 21,421 | 9,127 | 23,555 | 9,582 | 5,745 | 63% | $ 5,626,000 |
| Bourbon | 19,985 | 8,927 | 20,530 | 8,478 | 5,314 | 60% | $ 16,554,000 |
| Boyle | 28,432 | 12,312 | 29,048 | 11,782 | 8,645 | 70% | $ 18,183,000 |
| Clark | 35,613 | 15,706 | 37,985 | 15,800 | 11,078 | 71% | $ 23,003,250 |
| Estill | 14,672 | 6,865 | 14,359 | 6,115 | 2,217 | 32% | $ 65,558,877 |
| Fayette | 295,803 | 135,160 | 334,733 | 141,152 | 131,248 | 97% | $ 198,317,921 |
| Franklin | 49,285 | 23,164 | 50,777 | 21,761 | 16,951 | 73% | $ 38,852,750 |
| Garrard | 16,912 | 7,463 | 19,122 | 7,917 | 1,854 | 25% | $ 2,659,420 |
| Harrison | 18,846 | 8,208 | 19,640 | 8,006 | 3,140 | 38% | $ 7,074,685 |
| Jessamine | 48,586 | 19,331 | 58,928 | 22,184 | 14,439 | 75% | $ 128,780,149 |
| Lincoln | 24,742 | 10,819 | 26,170 | 10,762 | 2,645 | 24% | $ 13,861,420 |
| Madison | 82,916 | 35,043 | 95,333 | 38,093 | 21,992 | 63% | $ 69,465,979 |
| Mercer | 21,331 | 9,941 | 21,810 | 9,299 | 4,347 | 44% | $ 29,785,975 |
| Nicholas | 7,135 | 3,261 | 7,411 | 3,012 | 1,158 | 36% | $ 525,000 |
| Powell | 12,613 | 5,598 | 12,319 | 4,860 | 1,974 | 35% | $ 6,990,650 |
| Scott | 47,173 | 19,303 | 63,984 | 25,538 | 12,627 | 65% | $ 3,295,000 |
| Woodford | 24,939 | 10,711 | 26,817 | 11,147 | 7,125 | 67% | $ 21,504,400 |
| **Totals** | **770,404** | **340,939** | **862,521** | **355,488** | **252,499** | **74%** | **$ 650,038,476** |

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## Public Sewer Systems in the Bluegrass Area Development District

Note: Serviceable counts include households outside the area development district.

| KPDES | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0021067 | Lawrenceburg Water and Sewer | Anderson | 13,340 | 5,745 |
| KY0020940 | Millersburg Sewer Department | Bourbon | 832 | 430 |
| KY0031836 | North Middletown Sewer Treatment Plant | Bourbon | 668 | 281 |
| KY0090654 | Paris Sewer Department | Bourbon | 10,102 | 4,610 |
| | Danville - Perryville WWTP | Boyle | 872 | 409 |
| KY0057193 | Danville Municipal Sewer System | Boyle | 19,226 | 8,339 |
| KY0037991 | Winchester Municipal Utilities | Clark | 25,074 | 11,078 |
| KY0095940 | Estill County Water District | Estill | 779 | 366 |
| KY0025909 | Irvine Municipal Utilities | Estill | 3,728 | 1,851 |
| KY0021491 | LFUCG - Town Branch | Fayette | 121,836 | 54,556 |
| KY0022861 | Frankfort Sewer Department | Franklin | 33,752 | 16,961 |
| KY0020974 | Lancaster Wastewater Treatment Plant and Sewer Department | Garrard | 3,991 | 1,854 |
| 05011006 | Berry Sewer System | Harrison | 288 | 118 |
| KY0105856 | Cynthiana Sewer Department | Harrison | 6,529 | 3,019 |
| KYP000072 | Jessamine South Elkhorn Water District | Jessamine | 1,615 | 723 |
| KY0021504 | LFUCG - West Hickman | Jessamine | 164,967 | 76,746 |
| KY0100404 | Nicholasville Sewer Department | Jessamine | 29,012 | 11,817 |
| KY0028428 | Wilmore Sewer Department | Jessamine | 5,246 | 1,845 |
| KY0065897 | Crab Orchard Sewer Department | Lincoln | 897 | 447 |
| KY0024619 | Stanford Sewer Department | Lincoln | 4,784 | 2,095 |
| KY0079898 | Berea Sewer Department | Madison | 13,852 | 5,737 |
| KY0102971 | Northern Madison County Sanitation District - Battlefield Estates | Madison | 1,320 | 566 |
| KY0056561 | Northern Madison County Sanitation District - Executive Park Subdivision | Madison | 201 | 91 |
| KYP000071 | Northern Madison County Sanitation District - Greens Crossing | Madison | 790 | 362 |
| KY0105376 | Northern Madison County Sanitation District - Regional Plant | Madison | 2,741 | 1,058 |
| KY0107107 | Richmond Utilities - Otter Creek | Madison | 31,848 | 13,957 |
| KY0103357 | Richmond Utilities - Silver Creek | Madison | 378 | 215 |
| KY0027421 | Harrodsburg Sewer Department | Mercer | 8,788 | 4,137 |
| KYP000080 | Mercer County Sanitation District | Mercer | 369 | 197 |
| KY0020923 | Carlisle Sewer Department | Nicholas | 2,266 | 1,151 |
| KY0025119 | Clay City Wastewater Treatment Plant | Powell | 1,139 | 548 |
| KY0104078 | Powells Valley Water District Sewer Division | Powell | 82 | 64 |
| KY0034428 | Stanton Sewer Department | Powell | 3,104 | 1,362 |
| KY0020150 | GMWSS STP #1 | Scott | 26,174 | 10,890 |
| KY0082007 | GMWSS STP #2 | Scott | 3,562 | 1,377 |
| KY0050512 | GMWSS STP #3 - Stamping Ground | Scott | 799 | 357 |
| KY0028410 | Midway Sewer Department | Woodford | 1,704 | 744 |
| KY0020621 | Versailles Municipal Wastewater | Woodford | 15,104 | 6,371 |
| | | **Totals:** | 561,759 | 252,474 |

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# Bluegrass Area Development District
# Regional Wastewater Needs Assessment

Primary Need: **Extend Services to Unserved**
Secondary Need: **Repair and Replace Existing Infrastructure Areas**

**Discussion of Area Development District Needs:**

The Bluegrass Area Development District (BGADD) estimates that approximately 946 persons do not have access to a community water supply out of a 2010 population of 770,404 people. This is consistent with a water-unserved population of about 0.13 percent and a water-served population of about 99.87 percent. The high percentage of access to public water within the BGADD has resulted in an increased need to access to public sewer service. The highest ranking projects in many of the planning units (Lincoln County Phase 1 Sewer Project, Georgetown/Scott County South Sewer Extension, Wisemantown Sewer Extensions, etc.) recognized the need to extend service to previously unserved populations. Extending service to unserved populations will also have positive side effects on public health, the environment and compliance with the Clean Water Act.

The secondary need is to repair an replace existing infrastructure. As new infrastructure is constructed, old and failing septic systems, straight pipes, etc. can be replaced with new and more efficient equipment. Upgrading old and failing infrastructure will also help meet the needs of growing communities.

**Description and Determination of Planning Units:**

The seventeen counties within our district are split up into seven (7) groups of two (2) to three (3) counties. These counties are adjacent to each other and have the potential to work on regional projects together. The Planning Units are designated as follows:

Planning Unit 1 Meeting - Estill and Powell

Planning Unit 2 Meeting – Bourbon, Harrison and Nicholas

Planning Unit 3 Meeting – Boyle, Garrard and Lincoln

Planning Unit 4 Meeting – Anderson and Mercer

Planning Unit 5 Meeting – Franklin, Scott and Woodford

Planning Unit 6 Meeting – Fayette and Jessamine

Planning Unit 7 Meeting – Clark and Madison

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# Bluegrass Area Development District
# Project Ranking Methodology

The Bluegrass Area Water Management Council will examine the following criteria in the ranking of water and wastewater projects for 2012:

• the current and potential customer base that would benefit;
• adequacy of existing water/wastewater infrastructure;
• optimization of scarce resources, cost per customer, and ability to pay;
• the dependability of existing infrastructure to provide adequate service;
• avoidance of duplication of service;
• current user rates as compared to the median for the region;
• Median Household Income (MHI), and
• Project type such as construction, operation, and maintenance types of projects.

To that end, a scoring matrix will be developed with an available score between zero and 20 for the following seven categories:

1. Project Type: More credit is given for construction projects as opposed to projects that could be categorized as routine maintenance or operation efforts that could perhaps be financed from local revenues derived from user charges.
2. Readiness: The more committed to a project a project sponsor appears to be, the more credit the project would be received in this scoring category. If a project had final engineering plans and specifications complete and regulatory agency approval in hand, it would receive more credit. Projects with only rough conceptual ideas would receive fewer points.
3. Enforcement Actions: If a project is in response to a state or a federal regulatory agency's enforcement action, it would receive more points. If a project is developed in an attempt to prevent a regulatory agency's enforcement action, it could be highly scored also, but perhaps not so highly scored as a utility already under an enforcement action.
4. Cost Effectiveness: Factors to be considered under this category are income levels of project area residents, cost per customer, funding already in place (be it local or non-local), project viability, and existing rates being charged.
5. Regionalization: Projects in which inter-local cooperation could in some way be demonstrated would receive more consideration than projects that were simply local in nature. Regional projects in general, tend to promote efficiency and effectiveness in utility delivery service. The Council was looking to give a boost to projects which were, in small part or in large part, regional in nature. Projects exhibiting more regional thought were given an advantage as compared to projects exhibiting less regional thought.
6. Local Rankings: This measure plays heavily in the regional ranking process. A project that is first-ranked at its local ranking would receive 20 points in this scoring category; a second-ranked project, 18 points; a third-ranked project, 16 points, etc, and finally, a tenth-ranked project, 2 points. Projects locally ranked with an eleventh or twelfth ranking or higher would receive no points in the regional ranking and scoring process.
7. Best of Type: For both water projects and for wastewater projects, the first and second ranked locally ranked projects will be disaggregated from the others. As a maximum, this would have resulted in a pool of 34 (17 counties x 2 projects per county) water projects and a similar pool of 34 wastewater projects. The Executive Council will review the project descriptions and the likely financial scenarios and rank these projects top to bottom. The top 15 water projects will be determined. The highest scoring project will get the full 20 points; the next highest ranked project got 19 points, etc.; the 15th ranked water project will receive 6 points. For projects not in the top 15, no points are awarded in this Best of Type category. The same process is repeated for wastewater projects.

A given project, if top-ranked in every category, could score 140 points.

Executive Council recommendations to the full Bluegrass Water Management Council can be modified by the full Council.

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## Project Rankings For Bluegrass Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21137001 | Phase I Sewer Project (Junction City to Moreland Area) | 0-2 Years | Not Funded | $4,433,000 | Lincoln | 1 | 1 |
| SX21209012 | Georgetown/Scott County South Sewer Extension | 0-2 Years | Not Funded | $2,945,000 | Scott | 2 | 1 |
| SX21049028 | Hampton Manor Outfall Sewer | 0-2 Years | Not Funded | $1,404,000 | Clark | 3 | 2 |
| SX21065002 | Wisemantown Sewer Extensions | 0-2 Years | Not Funded | $3,400,000 | Estill | 4 | 1 |
| SX21167020 | Mecer Co. Sanitation District Sanitary Sewer Service Project | 0-2 Years | Partially Funded | $561,725 | Mercer | 5 | 1 |
| SX21151014 | Sugarville/Terrill Branch Interceptor | 0-2 Years | Partially Funded | $1,271,140 | Madison | 6 | 3 |
| SX21067018 | Lower Cane Run Pump Station - LFUCG | 0-2 Years | Not Funded | $6,000,000 | Fayette | 7 | 3 |
| SX21073029 | Phase I Collection System & 0.75 MGD WWTP | 0-2 Years | Partially Funded | $9,500,000 | Franklin | 8 | 3 |
| SX21113025 | Wilmore WWTP Sludge Handling Improvements | 0-2 Years | Not Funded | $3,460,000 | Jessamine | 9 | 1 |
| SX21049026 | East Interceptor Sanitary Sewer System Rehabilitation | 6-10 Years | Not Funded | $6,430,000 | Clark | 10 | 5 |
| SX21067041 | LFUCG - Town Branch WWTP Flow Equalization Storage Tanks - Phase I | 0-2 Years | Partially Funded | $28,985,000 | Fayette | 11 | 2 |
| SX21017018 | City of Paris - Pump Station Elimination and Rehabilitation | 3-5 Years | Not Funded | $6,500,000 | Bourbon | 12 | 1 |
| SX21067045 | LFUCG - Anniston - Wickland SW Improvement - Phase 3 | 0-2 Years | Not Funded | $1,786,000 | Fayette | 13 | 5 |
| SX21167013 | Harrodsburg - Corning-Industrial Pump Station and Force Main Sys | 3-5 Years | Not Funded | $810,000 | Mercer | 14 | 2 |
| SX21017013 | City of Paris - Bedford Acres Sanitary Sewer Project Phase 2 | 0-2 Years | Not Funded | $1,850,000 | Bourbon | 15 | 4 |
| SX21065007 | Covey Road Sewer Extension - Irvine Municipal Utilities | 0-2 Years | Not Funded | $201,000 | Estill | 16 | 4 |
| SX21079015 | Lancaster Sewer Line Extension to Industrial Park | 0-2 Years | Not Funded | $403,550 | Garrard | 17 | 2 |
| SX21065008 | Kelly Pump Station 6-Inch Force Main Replacement - Imu | 0-2 Years | Not Funded | $250,000 | Estill | 18 | 2 |
| SX21017010 | City of Paris-Southern Hills Sanitary Sewer Collection Project | 3-5 Years | Not Funded | $1,820,000 | Bourbon | 19 | 5 |
| SX21137015 | Stanford - US 27 South Sewer Expansion Project | 0-2 Years | Not Funded | $5,326,420 | Lincoln | 20 | 4 |
| SX21197003 | Powells Valley WD-Slade/Nada Sewer Line Extensions, Phase 2 | 3-5 Years | Not Funded | $569,650 | Powell | 21 | 5 |
| SX21151039 | NMCSD - Madison Village Collection System Rehab | 3-5 Years | Not Funded | $1,275,000 | Madison | 22 | 1 |
| SX21151045 | Berea Gravity Sewer Rehabilitation | 0-2 Years | Not Funded | $1,600,000 | Madison | 23 | 4 |
| SX21005006 | Lawrenceburg - Alton Vacuum Sewer System Replacement Phase 4 | 3-5 Years | Not Funded | $3,150,000 | Anderson | 24 | 3 |
| SX21097015 | Cynthiana - Northend Sewer Extension Project | 0-2 Years | Not Funded | $1,018,285 | Harrison | 25 | 2 |
| SX21167012 | City of Burgin Sanitary Sewer Extension | 0-2 Years | Partially Funded | $9,160,000 | Mercer | 26 | 5 |
| SX21017004 | City of Paris - Claysville Trunk Sewer Replacement Project, Phase II | 0-2 Years | Not Funded | $1,825,000 | Bourbon | | 3 |
| SX21065006 | Wall Street Sewer Extension - Irvine Municipal Utilities | 0-2 Years | Not Funded | $309,000 | Estill | 28 | 3 |
| SX21021015 | East Danville/Horkey | 3-5 Years | Not Funded | $350,000 | Boyle | 29 | 3 |
| SX21239003 | Midway Brand Street Sewer Rehab Project | 0-2 Years | Not Funded | $517,000 | Woodford | 30 | 4 |
| SX21073038 | Frankfort Sewer Department - West Frankfort Pump Station | 0-2 Years | Not Funded | $3,138,500 | Franklin | 31 | 2 |
| SX21167014 | Harrodsburg - Cleaning and Rehabilitation of Sanitary Sewer Collector Lines | 3-5 Years | Not Funded | $576,000 | Mercer | 32 | 4 |

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## Project Rankings For Bluegrass Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21021004 | Danville Major Sewer System Rehabilitation | 3-5 Years | Not Funded | $1,740,000 | Boyle | 33 | 5 |
| SX21239005 | Emergency Backup Power to Serve The WWTP | 0-2 Years | Not Funded | $1,000,000 | Woodford | 34 | 5 |
| SX21017009 | Bourbon County Fiscal Court - Centerville Sewer Project | 0-2 Years | Not Funded | $2,500,000 | Bourbon | 35 | 6 |
| SX21167011 | Mercer County Sanitation District - Agricultural Heritage Center Sanitary Sewer Extension | 0-2 Years | Not Funded | $1,475,000 | Mercer | 36 | 8 |
| SX21073050 | Frankfort Sewer Department FSD Kentucky Ave. Collector Rehabilitation | 0-2 Years | Not Funded | $550,000 | Franklin | 37 | 6 |
| SX21167003 | Harrodsburg New Wastewater Treatment Plant | 6-10 Years | Not Funded | $16,700,000 | Mercer | 38 | 7 |
| SX21017016 | Millersburg Wastewater Treatment Plant Improvements | 0-2 Years | Not Funded | $609,000 | Bourbon | 39 | 7 |
| SX21017015 | City of Paris Rehab Sanitary Sewer Mains | 0-2 Years | Not Funded | $250,000 | Bourbon | 40 | 8 |
| | | | **Total Cost:** | **$135,649,270** | | | |

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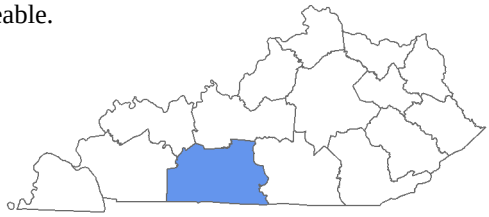
# Barren River Area Development District (BRADD)



- 2010 census population of 284,195 (126,280 households) with 44% serviceable.
- Projected 2020 population of 316,297 (change of 32,102).
- 985.85 miles of existing sewer lines.
- 160.00 miles of line extensions proposed in the next 10 years.
- 45.00 miles of line rehabilitation proposed in the next 10 years.
- 11.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $142,573,727.
- Estimated funding needs for projects from 6 to 10 years: $12,228,000.

Barren River Area Development District has a 2010 census population count of 284,195 (126,280 households) with a projected 2020 population count of 316,297 (128,239 households). Public sewer is currently available to approximately 44 percent of the district's households based on 2010 census counts. Over the next ten years approximately 3,314 serviceable households will be added through the construction of 160.00 miles of sewer line extensions and approximately 10,988 instances of improved service through the rehabilitation of 45.00 miles of existing sewer lines and other appurtenances. 11.00 miles of interceptor lines are also proposed within this district.

**County Summary for Barren River Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Allen | 19,956 | 9,307 | 22,366 | 9,171 | 2,029 | 22% | $ 9,686,000 |
| Barren | 42,173 | 19,188 | 46,361 | 19,245 | 8,912 | 46% | $ 29,348,000 |
| Butler | 12,690 | 5,877 | 12,544 | 5,178 | 1,146 | 20% | $ 5,611,940 |
| Edmonson | 12,161 | 6,467 | 12,628 | 5,283 | 698 | 11% | $ 11,158,771 |
| Hart | 18,199 | 8,559 | 18,690 | 7,604 | 2,407 | 28% | $ 1,850,000 |
| Logan | 26,835 | 12,339 | 27,382 | 11,301 | 4,862 | 39% | $ 37,408,942 |
| Metcalfe | 10,099 | 4,681 | 10,329 | 4,306 | 808 | 17% | $ 3,875,000 |
| Monroe | 10,963 | 5,204 | 10,405 | 4,423 | 1,500 | 29% | $ 4,013,000 |
| Simpson | 17,327 | 7,435 | 18,342 | 7,429 | 4,376 | 59% | $ 28,007,069 |
| Warren | 113,792 | 47,223 | 137,250 | 54,299 | 29,243 | 62% | $ 23,843,005 |
| **Totals** | **284,195** | **126,280** | **316,297** | **128,239** | **55,981** | **44%** | **$ 154,801,727** |

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## Public Sewer Systems in the Barren River Area Development District

Note: Serviceable counts include households outside the area development district.

| KPDES | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0024783 | Scottsville Municipal Water & Sewer Department | Allen | 4,125 | 2,029 |
| KY0021164 | Glasgow Water Company | Barren | 15,049 | 7,225 |
| KY0021024 | Morgantown Utilities | Butler | 2,480 | 1,146 |
| KY0023396 | Brownsville Municipal Water & Sewer | Edmonson | 929 | 480 |
| KY0091561 | Caveland Environmental Authority | Hart | 7,343 | 3,524 |
| KY0031755 | Munfordville Municipal Water/Sewer Commission | Hart | 1,576 | 774 |
| KY0020885 | Adairville Sewer Department | Logan | 889 | 431 |
| KY0021202 | Auburn Sewer Department | Logan | 1,396 | 658 |
| | Lewisburg Municipal Water & Sewer Department | Logan | 856 | 462 |
| KY0020877 | Russellville Municipal Sewer Department | Logan | 6,829 | 3,311 |
| KY0028100 | Edmonton Water Works | Metcalfe | 1,591 | 808 |
| KIA171001 | Fountain Run Water District #1 | Monroe | 224 | 133 |
| KY0095257 | Gamaliel Municipal Water & Wastewater Department | Monroe | 457 | 215 |
| KY0020702 | Tompkinsville Sewer Department | Monroe | 2,309 | 1,154 |
| KY0027456 | Franklin Sewer Department | Simpson | 9,948 | 4,376 |
| KY0022403 | Bowling Green Municipal Utilities | Warren | 54,383 | 23,152 |
| KYP000032 | Warren County Water District | Warren | 14,937 | 6,091 |
| | | **Totals:** | 125,321 | 55,969 |

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# Barren River Area Development District Regional Wastewater Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Extend Services to Unserved Areas**

**Discussion of Area Development District Needs:**

The majority of planning units within the BRADD region have identified the repair and replacement of existing infrastructure as the primary need within their respective county. Evidence of this need is reflected by the types of projects currently on record as well as the overall regional priority rankings submitted by each planning unit. Many planning units within the region have identified aging and/or failing existing infrastructure as a major obstacle to improving water service quality and have developed projects to combat this issue. Planning units also indicated that addressing the primary need of repair and replacement will also aid in the pursuit of extending services to unserved areas which, represents the secondary need most identified most frequently within the BRADD region.

**Description and Determination of Planning Units:**

Planning units within the BRADD region are determined by county and are comprised of all wastewater systems located within county boundaries. In addition, wastewater systems that operate on a regional level within multiple counties are included in each planning unit in which they operate. Wastewater planning units within the BRADD region:

Allen:
- Scottsville Municipal Water & Sewer Department

Barren:
- Glasgow Water Company

Butler:
- Morgantown Utilities

Edmonson:
- Brownsville Municipal Water & Sewer
- Edmonson County Water District

Hart:
- Caveland Environmental Authority
- Munfordville Municipal Water/Sewer Commission

Logan:
- Adairville Sewer Department
- Auburn Sewer Department
- Lewisburg Municipal Water & Sewer Department
- Russellville Municipal Sewer Department

Metcalfe:
- Edmonton Water Works

- Fountain Run Water District #1
- Gamaliel Municipal Water & Wastewater DepartmentTompkinsville Sewer Department.

Simpson:
- Franklin Sewer Department.

Warren:
- Bowling Green Municipal Utilities
- Warren County Water District.

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# Barren River Area Development District
# Project Ranking Methodology

The Barren River Water Management Council utilizes the following criteria for the prioritization of water and wastewater projects on a regional scale. The criteria has been adapted from previous versions used by the BRADD combined with examples from other ADDs resulting in a 5 tiered ranking criteria to determine a numerical point value for each project. This process provides for increased collaboration on a local level to increase awareness on the impacts (locally and regionally) of proposed projects.

County Planning Unit Councils meet at least once locally to discuss and rank potential projects. These meetings are hosted by the County Judge/Executive with each local utility, mayor and other officials invited to attend. All proposed projects are reviewed by the council and given a numerical score based on a five tiered ranking criteria including: (1. Project Type 2.Complicance with Enforcement Action 3. Funding Status 4. Project Status and 5. County Ranking). Due to the diverse composition of each planning unit, a wide variety of interests are represented and therefore collaboration and compromise are key factors throughout the ranking process. This also provides for an increased level of understanding regarding the needs of planning unit as a whole and ensures that projects providing the most benefit (both locally and regionally) receive priority.

After all Planning Unit Council meetings have been completed, a summary tabulation of project scores is created and the Area Water Management Council meets to vote and finalize the regional ranking priorities. The top five scoring projects for each county are selected for ranking, resulting in a total of 50 ranked projects each for both water and wastewater. In addition, the top 10 overall projects are comprised of those projects identified as the #1 overall priority for each county (as indicated by each planning unit during regional ranking meetings). In this way each county is assured to have one project appear in the top 10 regional ranking, thus ensuring equal opportunity throughout the region. After the top 10 the projects are ranked based on overall score. The following criteria are used to score projects:

Drinking Water Ranking Criteria

**I. Project Type**

A. Elimination of a Public Water System (PWS) through a merger = 25 points
B. Elimination of water treatment plant through an interconnection = 23 points
C. Rehabilitation and or replacement of aging infrastructure = 20 points
D. Construction of a supplemental potable/raw water supply = 17 points
E. Construction of a new water treatment plant or expansion = 15 points
F. Construction of a new water storage tank = 10 point

G. Economic Development
100+ jobs created or maintained - 20 points
75-99 jobs created or maintained - 19 points
50-74 jobs created or maintained - 18 points
20-49 jobs created or maintained - 15 points
10-19 jobs created or maintained - 10 points
less than 10 jobs created or maintained - 5 points

H. Extension of Service to Unserved Households
9+ households per mile - 20 points
7-8 households per mile - 19 points
5-6 households per mile - 18 points

1-2 households per mile - 10 points

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I. Underserved Customers

80-100+ households per mile - 20 points
60-80 households per mile - 19 points
40-60 households per mile - 18 points
20-40 households per mile - 15 points
0-20 households per mile - 10 points

**II. Compliance with Enforcement Action (Receive points in either A or B)**

A. Does the project address correction of a documented health threat? = 10 Points
B. Is the project necessary to achieve full or partial compliance with a court order, agreed order, or a judicial or administrative consent decree? = 5 Points

**III. Funding Status (Receive points in either A, B, or C)**

A. Funds committed for 50-99% of total project cost = 10 points
B. Funds committed for 1-49% of total project cost = 5 points
C. No funds committed for project = 0 points

**IV. Project Status (Can receive points in multiple categories)**

A. All necessary approvals obtained to start construction (including rights-of-way) = 20 points
B. Engineering plans & specs submitted to DOW = 15 points
C. Preliminary engineering report complete = 10 points
D. Estimated engineer's budget complete = 5 points

**V. County Ranking (Receive points in either A, B, C, or D)**

A. Number one ranked project = 24 points
B. Number two ranked project =18 points
C. Number three ranked project = 14 points
D. Number four ranked project = 10 points
E. Number five ranked project = 8 Points

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## Project Rankings For Barren River Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21171007 | City of Tompkinsville - Sewer System Rehab | 3-5 Years | Not Funded | $1,000,000 | Monroe | 1 | 1 |
| SX21031009 | Morgantown - Sewer Main Infrastructure Replacement/Repair to Sewer Main | 3-5 Years | Not Funded | $500,000 | Butler | 2 | 1 |
| SX21169015 | Edmonton Water Works - Sewer Rehab Project | 3-5 Years | Not Funded | $2,500,000 | Metcalfe | 3 | 1 |
| SX21003027 | Sewer Plant Improvements | 0-2 Years | Not Funded | $750,000 | Allen | 4 | 1 |
| SX21213037 | 31W South Annexation Sewer Extension | 3-5 Years | Not Funded | $748,375 | Simpson | 5 | 1 |
| SX21009018 | Glasgow Southside Interceptor | 0-2 Years | Not Funded | $2,500,000 | Barren | 6 | 1 |
| SX21141014 | City of Auburn - Upgrade of Existing Wastewater Treatment Plant | 3-5 Years | Not Funded | $2,000,000 | Logan | 7 | 1 |
| SX21061009 | Edmonson County Water District - Collection System Phase III | 3-5 Years | Not Funded | $7,843,771 | Edmonson | 8 | 1 |
| SX21227074 | BGMU - Industrial Dr Interceptor | 3-5 Years | Not Funded | $8,000,000 | Warren | 9 | 1 |
| SX21099006 | Caveland Environmental - Sewer Service to Rolling Hills Community | 3-5 Years | Not Funded | $400,000 | Hart | 10 | 1 |
| SX21009044 | Caveland Environmental - Hiseville School Sewer Project | 3-5 Years | Not Funded | $1,000,000 | Barren | 11 | 2 |
| SX21171006 | City of Gamaliel - Sewer Rehabilitation Project | 0-2 Years | Not Funded | $1,010,000 | Monroe | 12 | 2 |
| SX21213028 | City of Franklin - Sewer Upgrades to Ky Downs | 3-5 Years | Not Funded | $7,140,000 | Simpson | 13 | 2 |
| SX21227047 | WCWD- Alvaton Area Sewer Extension | 0-2 Years | Not Funded | $1,087,005 | Warren | 14 | 2 |
| SX21061007 | Edmonson County Water District - KY 259 Wastewater Collection System | 3-5 Years | Not Funded | $3,315,000 | Edmonson | 15 | 2 |
| SX21003036 | City of Scottsville - Inflow and Infiltration Project, Phase I | 0-2 Years | Not Funded | $400,000 | Allen | 16 | 2 |
| SX21141001 | Adairville Project 1 - City Limits I&I Correction | 3-5 Years | Not Funded | $822,800 | Logan | 17 | 2 |
| SX21099021 | City of Munfordville - SSES and Stormwater Inflow Removal Project | 3-5 Years | Not Funded | $1,450,000 | Hart | 18 | 2 |
| SX21031010 | Morgantown - Sanitary Sewer Infiltration Project-Phase I | 3-5 Years | Not Funded | $300,000 | Butler | 19 | 2 |
| SX21169012 | Edmonton - Old Glasgow Street Area Extension | 3-5 Years | Not Funded | $300,000 | Metcalfe | 20 | 2 |
| SX21009017 | Glasgow Old WWTP Retention | 0-2 Years | Not Funded | $3,000,000 | Barren | 21 | 3 |
| SX21171014 | Fountain Run Water District #1 - Sewer System Improvements | 3-5 Years | Not Funded | $360,000 | Monroe | 22 | 3 |
| SX21141036 | Russellville - Franklin Road Sewer Project | 3-5 Years | Not Funded | $1,020,000 | Logan | 23 | 3 |
| SX21213024 | City of Franklin - Sewer Line Replacement 31W Downtown | 3-5 Years | Not Funded | $2,010,000 | Simpson | 24 | 3 |
| SX21003011 | City of Scottsville - South Court Street Sewer Rehab | 3-5 Years | Not Funded | $750,000 | Allen | 25 | 3 |
| SX21227079 | BGMU - Collet and Fairview Sanitary Sewer Interceptor Rehabilitation | 3-5 Years | Not Funded | $1,850,000 | Warren | 26 | 3 |
| SX21169007 | Edmonton - Cumberland Parkway Area Extension | 3-5 Years | Not Funded | $400,000 | Metcalfe | 27 | 3 |
| SX21031011 | City of Morgantown - Sanitary Sewer Extension - Hwy 231 | 3-5 Years | Not Funded | $37,840 | Butler | 28 | 3 |
| SX21009045 | Caveland Environmental - Cave City Replacement | 0-2 Years | Not Funded | $900,000 | Barren | 29 | 4 |
| SX21003022 | City of Scottsville - Pump Station Replacement Project | 3-5 Years | Not Funded | $1,250,000 | Allen | 30 | 4 |
| SX21169008 | Edmonton - River Road Project Extension | 3-5 Years | Not Funded | $300,000 | Metcalfe | 31 | 4 |
| SX21141024 | City of Auburn - Wastewater Project #2 - Replace Lift Stations | 3-5 Years | Not Funded | $750,000 | Logan | 32 | 4 |
| SX21171018 | Fountain Run Water District #1 - SCADA control system for the sewer system | 3-5 Years | Not Funded | $193,000 | Monroe | 33 | 4 |

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## Project Rankings For Barren River Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21213027 | City of Franklin - Manhole Rehabilitation Project | 3-5 Years | Not Funded | $258,750 | Simpson | 34 | 4 |
| SX21227044 | WCWD - Rivendale Upgrades | 3-5 Years | Not Funded | $231,000 | Warren | 35 | 4 |
| SX21031005 | Morgantown - North Taylor Street Sewer Extension | 3-5 Years | Not Funded | $72,000 | Butler | 36 | 4 |
| SX21009049 | CEA - Cave City WWTP Improvements | 3-5 Years | Not Funded | $505,000 | Barren | 37 | 5 |
| SX21213019 | City of Franklin - Highlands Subdivision Sewer Line Replacement | 3-5 Years | Not Funded | $630,000 | Simpson | 38 | 5 |
| SX21227070 | BGMU - Electrical Quick Connections to Pump Stations | 0-2 Years | Not Funded | $400,000 | Warren | 39 | 5 |
| SX21141034 | Russellville Greens Sewer Project | 0-2 Years | Not Funded | $595,000 | Logan | 40 | 5 |
| SX21003018 | City of Scottsville - Pump Station Telemetry Project | 6-10 Years | Not Funded | $650,000 | Allen | 41 | 5 |
| SX21031006 | Morgantown - Sawmill Road Sewer Extension | 3-5 Years | Not Funded | $80,000 | Butler | 42 | 5 |
| SX21169013 | Edmonton - Sartin Drive Area Extension | 3-5 Years | Not Funded | $300,000 | Metcalfe | 43 | 5 |
| SX21171003 | City of Tompkinsville - Collection System Extensions to Unserved Areas | 3-5 Years | Not Funded | $1,000,000 | Monroe | 44 | 5 |
| | | | **Total Cost:** | **$60,609,541** | | | |

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# Big Sandy Area Development District (BSADD)

- 2010 census population of 154,093 (70,217 households) with 23% serviceable.
- Projected 2020 population of 148,051 (change of -6,042).
- 350.80 miles of existing sewer lines.
- 256.00 miles of line extensions proposed in the next 10 years.
- 12.00 miles of line rehabilitation proposed in the next 10 years.
- 3.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $122,793,801.
- Estimated funding needs for projects from 6 to 10 years: $8,131,350.

Big Sandy Area Development District has a 2010 census population count of 154,093 (70,217 households) with a projected 2020 population count of 148,051 (61,704 households). Public sewer is currently available to approximately 23 percent of the district's households based on 2010 census counts. Over the next ten years approximately 8,879 serviceable households will be added through the construction of 256.00 miles of sewer line extensions and approximately 641 instances of improved service through the rehabilitation of 12.00 miles of existing sewer lines and other appurtenances. 3.00 miles of interceptor lines are also proposed within this district.

**County Summary for Big Sandy Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Floyd | 39,451 | 18,175 | 37,153 | 15,594 | 5,030 | 28% | $ 38,309,392 |
| Johnson | 23,356 | 10,624 | 23,265 | 9,647 | 2,956 | 28% | $ 18,888,885 |
| Magoffin | 13,333 | 5,950 | 13,587 | 5,696 | 1,307 | 22% | $ 13,295,698 |
| Martin | 12,929 | 5,164 | 12,055 | 4,410 | 566 | 11% | $ 18,901,190 |
| Pike | 65,024 | 30,304 | 61,991 | 26,357 | 6,577 | 22% | $ 41,529,986 |
| **Totals** | **154,093** | **70,217** | **148,051** | **61,704** | **16,436** | **23%** | **$ 130,925,151** |

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## Public Sewer Systems in the Big Sandy Area Development District

Note: Serviceable counts include households outside the area development district.

| KPDES | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0026921 | Martin Wastewater Treatment Plant | Floyd | 788 | 442 |
| KY0027413 | Prestonsburg City's Utilities | Floyd | 7,909 | 3,676 |
| KY0105228 | Southern Water & Sewer District - Wayland STP | Floyd | 228 | 100 |
| KY0107051 | | Floyd | 37 | 24 |
| KY0028789 | Wheelwright Utility Commission | Floyd | 923 | 374 |
| KY0103578 | Paintsville Utilities Commission - Honey Branch | Johnson | 2,119 | 950 |
| KY0020630 | Paintsville Utilities Commission - Paintsville STP | Johnson | 5,008 | 2,420 |
| KY0104540 | Salyersville Water Works | Magoffin | 2,885 | 1,307 |
| KY0079316 | Martin County Sanitation District | Martin | 1,193 | 566 |
| KY0020958 | Elkhorn City Water Department | Pike | 1,014 | 493 |
| KY0042811 | Mountain Water District - Douglas | Pike | 1,722 | 850 |
| KY0025291 | Pikeville Wastewater Treatment Plant | Pike | 11,179 | 5,234 |
| | | **Totals:** | 35,005 | 16,436 |

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# Big Sandy Area Development District
# Regional Wastewater Needs Assessment

Primary Need: **Extend Services to Unserved Areas**
Secondary Need: **Economic Stimulation**

**Discussion of Area Development District Needs:**

In the Big Sandy Area wastewater infrastructure is limited outside of corporate boundaries. Current infrastructure does not effectively protect public health, environmental quality or add value to current living conditions and does not accommodate future economic growth. Big Sandy Area infrastructure needs include new developments, expansion of existing community wastewater systems, construction of individual wastewater treatment systems, or the construction of a new community wastewater collection and treatment facilities. Extending current services to residential areas would be beneficial to adequately meet the sewage needs of the current population and eliminate straight pipes and failing septic systems.

Big Sandy's primary clean water need is to extend services to unserved areas. The major projects underway include the Harold Sewer Project located along the US 23 corridor in Floyd County which will result in having public wastewater system availability in this high traffic/high growth area. Project funding for a major wastewater project serving Warfield in Martin County has been secured and is expected to be underway in 2012. Each of these projects will impact hundreds of customers that have never had access to public wastewater systems resulting in a cleaner environment eliminating small package treatment plants and furthering potential for economic development. The secondary need in the Big Sandy Area is for economic simulation.

The systems in the Big Sandy Area lack the capacity to pay for capital improvements and cost associated with operation and maintenance of wastewater system.

Big Sandy has five wastewater planning areas, Floyd, Johnson, Magoffin, Martin, and Pike Counties. The planning group is made up of Judge Executives, Mayors, and Utilities within the planning area. The water suppliers in the planning groups are as follows:

- Floyd County Utilities – Prestonsburg City's, Martin Water Works, Wheelwright Utilities, Southern Water and Sewer District
- Johnson County - Paintsville Utilities
- Magoffin County- Magoffin County Water District, Salyersville Water Works
- Martin County- Martin County Water District
- Pike County-Mountain Water District, Pikeville Water Department, and Elkhorn City Water Department.

The planning areas follow the county boundary of the respective planning unit.

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# Big Sandy Area Development District
# Project Ranking Methodology

The Big Sandy Area staff works in conjunction with the Kentucky Infrastructure Authority (KIA) in services of planning, grants administration, and identifying potential funding sources relating to water and wastewater infrastructure. Projects seeking various federal and State funding, are identified through the Water Management Council.

Yearly, the WMC reviews area projects and originates a priority list based on need for the Big Sandy Area. The Big Sandy Area currently has water needs for more efficient service to the existing customer base and distribution to the un-served. The population in the Big Sandy Area is mainly un-served by sanitary wastewater system. The lack of sewer in our area proposes a health hazard to several communities. There is a great need for wastewater projects in the Big Sandy Area. The drinking water and sanitary sewer needs of our area bring about these projects and lead to the process of ranking. The methodology BSADD Water Management Council uses to rank infrastructure projects is a combination of planning area ranking and priority score.

Big Sandy Area WMC Coordinator meets with the Area Utilities individually and discusses projects and identifies a project list for that utility. Once every utility in the region has been visit and each system has a project priority list, the WMC Coordinator then meets with all utilities in a planning area. Big Sandy has five Water and Wastewater planning areas, Floyd, Johnson, Magoffin, Martin, and Pike Counties. The Water Management Coordinator provides a list of projects provided by each utility to the planning group. The planning group is made up of Judge Executives, Mayors, and Utilities within the planning area. The group places a number of projects in rank order based on their perceived or measured importance to the planning area.

Regionally projects are scored. There are a total of 80 points possible for each project. The scoring criteria includes, project type, delivery area, project status, and funding status. Once the projects are scored we look back at the planning area ranking. The number 1 project for each planning area is ranked subsequently in order of the score they received on the sheets, and then move on to the number 2 project for each county and so on until each project submitted is ranked. In the event of a tie, the cost per connection is considered in the ranking.

Projects are placed in a fiscal year ranking order and presented to area council. The WMC approves the ranking. The rankings are submitted to KIA and provided to local and state officials for review.

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## Project Rankings For Big Sandy Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21153522 | Magoffin County Industrial Park Sewer Extension | 3-5 Years | Not Funded | $3,134,998 | Magoffin | 1 | 1 |
| SX21115008 | Paintsville WWTP I & I Removal Project Phase I | 0-2 Years | Not Funded | $5,000,000 | Johnson | 2 | 1 |
| SX21195699 | Douglas WWTP Expansion | 0-2 Years | Partially Funded | $2,800,000 | Pike | 3 | 1 |
| SX21071005 | Phase III - Harold Sewer Project | 3-5 Years | Partially Funded | $3,100,000 | Floyd | 4 | 1 |
| SX21159002 | Inez Wastewater Sewerline Extension KY 3 Rockcastle Branch | 3-5 Years | Not Funded | $2,100,000 | Martin | 5 | 1 |
| SX21153004 | Magoffin County Garage Lift Station and Line Replacement Project | 0-2 Years | Unknown | $0 | Magoffin | 6 | 2 |
| SX21071721 | SWSD - Wayland Sewer Line Extension Project | 3-5 Years | Not Funded | $2,000,000 | Floyd | 7 | 2 |
| SX21195024 | City of Pikeville KY Waste water Treatment Plant Upgrade | 0-2 Years | Partially Funded | $18,925,070 | Pike | 8 | 2 |
| SX21115005 | Paintsville Utility Commission Sewer Line Extension Thelma | 0-2 Years | Not Funded | $2,500,000 | Johnson | 9 | 2 |
| SX21159005 | Coldwater Sewer Line Extension Phase 1 | 0-2 Years | Not Funded | $2,535,000 | Martin | 10 | 2 |
| SX21195692 | MWD - Belfry-Pond Sewer Project | 0-2 Years | Not Funded | $4,000,000 | Pike | 11 | 3 |
| SX21071215 | PCUC - Section 531 Project | 3-5 Years | Partially Funded | $785,417 | Floyd | 12 | 3 |
| SX21195011 | Thompson Road Lift Station | 0-2 Years | Not Funded | $275,000 | Pike | 13 | 4 |
| SX21195014 | Elkhorn City - Sewerlines Replacement At 4th, 5th, and 6th Stree | 0-2 Years | Not Funded | $150,000 | Pike | 14 | 5 |
| SX21195018 | Elkhorn City Wastewater elkhorn City Wastewater Improvements | 0-2 Years | Not Funded | $22,800 | Pike | 15 | 6 |
| SX21071001 | Extend Service to Golf Hollow and Branham Hollow (Stoker Branch) | 3-5 Years | Not Funded | $150,000 | Floyd | 16 | 5 |
| | | | **Total Cost:** | **$47,478,285** | | | |

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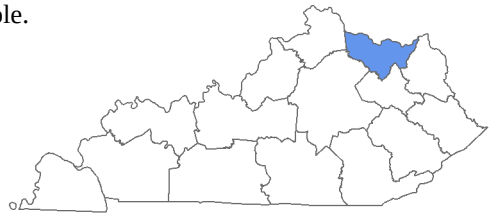
# Buffalo Trace Area Development District (BTADD)



- 2010 census population of 56,478 (26,144 households) with 35% serviceable.
- Projected 2020 population of 58,306 (change of 1,828).
- 211.21 miles of existing sewer lines.
- 94.00 miles of line extensions proposed in the next 10 years.
- 1.00 miles of line rehabilitation proposed in the next 10 years.
- 14.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $55,172,383.
- Estimated funding needs for projects from 6 to 10 years: $11,736,000.

Buffalo Trace Area Development District has a 2010 census population count of 56,478 (26,144 households) with a projected 2020 population count of 58,306 (24,059 households). Public sewer is currently available to approximately 35 percent of the district's households based on 2010 census counts. Over the next ten years approximately 4,352 serviceable households will be added through the construction of 94.00 miles of sewer line extensions and approximately 5,284 instances of improved service through the rehabilitation of 1.00 miles of existing sewer lines and other appurtenances. 14.00 miles of interceptor lines are also proposed within this district.

**County Summary for Buffalo Trace Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Bracken | 8,488 | 3,840 | 8,744 | 3,538 | 954 | 25% | $ 12,540,000 |
| Fleming | 14,348 | 6,623 | 14,880 | 6,231 | 1,611 | 24% | $ 17,268,883 |
| Lewis | 13,870 | 6,481 | 13,899 | 5,717 | 1,645 | 25% | $ 16,494,000 |
| Mason | 17,490 | 8,105 | 18,419 | 7,608 | 4,685 | 58% | $ 17,593,500 |
| Robertson | 2,282 | 1,095 | 2,364 | 965 | 263 | 24% | $ 3,012,000 |
| **Totals** | **56,478** | **26,144** | **58,306** | **24,059** | **9,158** | **35%** | **$ 66,908,383** |

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## Public Sewer Systems in the Buffalo Trace Area Development District

Note: Serviceable counts include households outside the area development district.

| KPDES | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0021261 | Augusta Sewer | Bracken | 1,165 | 570 |
| KY0025232 | Brooksville Sewer | Bracken | 686 | 311 |
| KY0021229 | Flemingsburg Sewer | Fleming | 3,020 | 1,553 |
| KY0105422 | Garrison Sewer | Lewis | 758 | 351 |
| KY0102601 | | Lewis | 1,109 | 514 |
| KY0021512 | Vanceburg Sewer | Lewis | 1,583 | 780 |
| KY0020257 | Maysville Sewer | Mason | 8,802 | 4,381 |
| KYP000081 | Western Mason Sanitation District | Mason | 848 | 377 |
| KY0104299 | Mount Olivet Sewer | Robertson | 560 | 258 |
| | | **Totals:** | 18,531 | 9,095 |

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# Buffalo Trace Area Development District
# Regional Wastewater Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Sanitary Sewer Overflow Correction**

**Discussion of Area Development District Needs:**

Buffalo Trace Area Development District (BTADD) is comprised of Bracken, Fleming, Lewis, Mason and Robertson Counties. Nine (9) wastewater systems provide sanitary service to the residents of the area. During a Regional Water Management Council meeting, the systems were given the opportunity to meet with the other systems in their respective county to discuss the needs for their system and determine the needs that were most prevalent in the county. The needs identified were used in the determination of the primary and secondary of the Buffalo Trace Area Development District.

The District's primary Clean Water need is to Repair and Replace Existing Infrastructure. This was identified as the primary or secondary need in four of the five planning units. Aging and undersized lines, along with treatment plants being insufficient to handle KY Division of Water limits, were primary reasons cited for determining Repair and Replace Existing Infrastructure as the primary need.

There was a tie to identify the secondary need for the region with Meet Regulatory Requirements and Extend Services to Unserved Areas. Meet Regulatory Requirements is directly related to the primary need. Two planning units have systems that are currently unable to meet regulatory requirements regarding ammonia and phosphorous limits that are required by KY Division of Water. Extend Services to Unserved Areas is also a critical need of the area. Wastewater systems provide service to less than 40% of the households in the Buffalo Trace region.

Additional needs identified as Clean Water needs for the region include Regionalization and Sanitary Sewer Overflow Correction.

**Description and Determination of Planning Units:**

The Buffalo Trace Area Development covers five planning units, each encompassing a political county boundary. The five planning units are: Bracken County, Fleming County, Lewis County, Mason County and Robertson County.

There are three (3) wastewater utilities in the Bracken County Planning Unit: Augusta Sewer, Brooksville Sewer and a portion of Western Mason Sanitation District.

One (1) wastewater utility, Flemingsburg Utility, primarily serves residences in Fleming County Planning Unit. In addition, there are a minimal number of residences served by Morehead Utility Plant Board.

Lewis County Planning Unit is served by three (3) wastewater systems; Garrison Sewer, Lewis County Sanitation District #1 and Vanceburg Electric Plant Board.

Mason County Planning Unit is served by two (2) wastewater systems. They include: Maysville Utility System and Western Mason Sanitation District.

Mt. Olivet Utilities provides service to residences in the Robertson County Planning Unit.

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# Buffalo Trace Area Development District
# Project Ranking Methodology

Buffalo Trace completes county meetings. Every person who is on the mailing list for the Water Management Council (systems, Judge Executives, Mayors, engineers, Health Departments, DOW, etc.) is notified of the meetings. Each project is discussed and then the individuals present at the meeting rank the projects by what they determine to be most important and beneficial for the county. The rankings are reached by consensus.

After the county meetings, the Water Management Council ranks the projects on a regional basis. Each project that received a #1 ranking at the county meeting is presented. The Council then ranks those projects as to what is determined to be the most important and beneficial for the region. After those five projects are ranked and consensus reached, the projects are ranked on an alternating basis. The county that received the number 1 rank then receives the number 10 rank. The county that received the 2 rank receives the 9 rank. The county that received the 3 rank receives the 8 rank. The county that received the 4 rank receives the 7 rank. The county that received the 5 rank receives the 6 rank.

The rankings continue in an alternating fashion.
Basically;
County A receives regional rankings of 1, 10, 11, 20, etc.
County B receives regional rankings of 2, 9, 12, 19, etc.
County C receives regional rankings of 3, 8, 13, 18, etc.
County D receives regional rankings of 4, 7, 14, 17, etc.
County E receives regional rankings of 5, 6, 15, 16, etc.

This process is completed for both water and sewer projects. The order of regional rankings for water and sewer projects are completed independently of each other.

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## Project Rankings For Buffalo Trace Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21135018 | LCSD #1 Sewer Plant Upgrade | 3-5 Years | Not Funded | $6,350,000 | Lewis | 1 | 1 |
| SX21023005 | Augusta/Brooksville Regional Sewer Project | 3-5 Years | Partially Funded | $11,550,000 | Bracken | 2 | 1 |
| SX21161006 | Maysville Utility- Stonelick Line Extension | 0-2 Years | Not Funded | $500,000 | Mason | 3 | 1 |
| SX21201005 | Mt. Olivet Phase III Sewer Line Extension | 3-5 Years | Not Funded | $659,000 | Robertson | 4 | 1 |
| SX21069017 | Ewing Sewer Phase I (Construction) | 3-5 Years | Not Funded | $5,870,000 | Fleming | 5 | 1 |
| SX21069018 | Hillsboro Sewer Phase I (Construction) | 3-5 Years | Not Funded | $5,550,000 | Fleming | 6 | 2 |
| SX21201004 | Mt. Olivet-Extend Service to Sardis From KY 616 | 6-10 Years | Not Funded | $2,353,000 | Robertson | 7 | 2 |
| SX21161021 | Western Mason Lift Station Upgrade | 0-2 Years | Not Funded | $500,500 | Mason | 8 | 2 |
| SX21023007 | Augusta-2nd Street Sewer Relinement | 3-5 Years | Not Funded | $150,000 | Bracken | 9 | 2 |
| SX21135002 | Garrison Sewer Phase II | 3-5 Years | Not Funded | $2,000,000 | Lewis | 10 | 2 |
| SX21135009 | Vanceburg-Main Sewer Plant | 0-2 Years | Not Funded | $1,500,000 | Lewis | 11 | 3 |
| SX21023008 | WMSD-Jett Estates Sewer | 6-10 Years | Not Funded | $840,000 | Bracken | 12 | 3 |
| SX21161020 | Phase 2A- Maysville Combined Sewer Elimination (Maysville WWTP I | 0-2 Years | Not Funded | $3,500,000 | Mason | 13 | 3 |
| SX21069005 | Ewing Sewer Phase II | 6-10 Years | Not Funded | $2,850,000 | Fleming | 14 | 3 |
| SX21069008 | Hillsboro Sewer Phase II | 6-10 Years | Not Funded | $1,500,000 | Fleming | 15 | 4 |
| SX21161002 | Mays Lick Sewer System | 3-5 Years | Not Funded | $2,500,000 | Mason | 16 | 4 |
| SX21135020 | LCSD Sewer Extension to Burtonville | 3-5 Years | Not Funded | $1,080,000 | Lewis | 17 | 4 |
| SX21135016 | Vanceburg CSO Renovate Phase II | 0-2 Years | Not Funded | $1,000,000 | Lewis | 18 | 5 |
| SX21161024 | WMSD Barrett Pike-Clarks Run Expansion | 3-5 Years | Not Funded | $950,000 | Mason | 19 | 5 |
| SX21069006 | Ewing Sewer Phase III | 11-20 Years | Not Funded | $2,850,000 | Fleming | 20 | 5 |
| SX21069009 | Hillsboro Sewer Phase III | 11-20 Years | Not Funded | $1,500,000 | Fleming | 21 | 6 |
| SX21161004 | Maysville Utility Wastewater Dump Station | 3-5 Years | Not Funded | $100,000 | Mason | 22 | 6 |
| SX21135015 | Vanceburg EPB Sanitary Sewer Improvements | 3-5 Years | Not Funded | $1,000,000 | Lewis | 23 | 6 |
| SX21135013 | 3037 Collection | 6-10 Years | Not Funded | $1,000,000 | Lewis | 24 | 7 |
| SX21135007 | LCSD-Ribolt Area | 3-5 Years | Not Funded | $794,000 | Lewis | 25 | 8 |
| SX21135010 | Vanceburg - Meadowbrook | 0-2 Years | Not Funded | $1,500,000 | Lewis | 26 | 9 |
| SX21135003 | Garrison Sewer Phase III | 11-20 Years | Not Funded | $1,500,000 | Lewis | 27 | 10 |
| SX21135022 | Tollesboro Industrial Park (Sewer) | 3-5 Years | Not Funded | $270,000 | Lewis | 28 | 11 |
| | | | **Total Cost:** | **$61,716,500** | | | |

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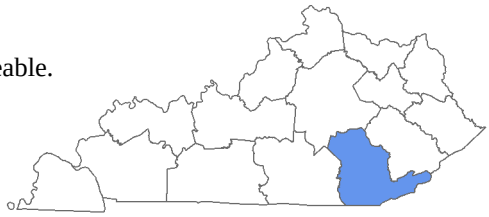
# Cumberland Valley Area Development District (CVADD)



- 2010 census population of 236,618 (104,865 households) with 33% serviceable.
- Projected 2020 population of 237,501 (change of 883).
- 685.14 miles of existing sewer lines.
- 811.00 miles of line extensions proposed in the next 10 years.
- 112.00 miles of line rehabilitation proposed in the next 10 years.
- 41.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $321,281,934.
- Estimated funding needs for projects from 6 to 10 years: $67,974,657.

Cumberland Valley Area Development District has a 2010 census population count of 236,618 (104,865 households) with a projected 2020 population count of 237,501 (97,085 households). Public sewer is currently available to approximately 33 percent of the district's households based on 2010 census counts. Over the next ten years approximately 27,539 serviceable households will be added through the construction of 811.00 miles of sewer line extensions and approximately 21,684 instances of improved service through the rehabilitation of 112.00 miles of existing sewer lines and other appurtenances. 41.00 miles of interceptor lines are also proposed within this district.

**County Summary for Cumberland Valley Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Bell | 28,691 | 13,154 | 27,648 | 11,714 | 6,305 | 48% | $ 31,951,000 |
| Clay | 21,730 | 8,875 | 20,289 | 7,421 | 1,834 | 21% | $ 33,937,703 |
| Harlan | 29,278 | 13,513 | 26,099 | 10,856 | 5,318 | 39% | $ 33,975,901 |
| Jackson | 13,494 | 6,523 | 13,771 | 5,961 | 474 | 7% | - |
| Knox | 31,883 | 14,485 | 32,132 | 13,362 | 4,632 | 32% | $ 16,769,737 |
| Laurel | 58,849 | 25,446 | 64,713 | 26,415 | 9,281 | 37% | $ 108,326,550 |
| Rockcastle | 17,056 | 7,703 | 17,593 | 7,308 | 1,991 | 26% | $ 28,438,000 |
| Whitley | 35,637 | 15,166 | 35,256 | 14,048 | 4,917 | 32% | $ 135,857,700 |
| **Totals** | **236,618** | **104,865** | **237,501** | **97,085** | **34,752** | **33%** | **$ 389,256,591** |

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## Public Sewer Systems in the Cumberland Valley Area Development District

Note: Serviceable counts include households outside the area development district.

| KPDES | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0072885 | Middlesboro STP | Bell | 10,363 | 4,970 |
| KY0024058 | Pineville STP | Bell | 3,102 | |
| KY0029122 | Manchester STP | Clay | 4,514 | 1,814 |
| KY0025755 | Benham STP | Harlan | 778 | 406 |
| KY0021571 | Cumberland STP | Harlan | 2,198 | 1,047 |
| KY0073091 | Evarts STP | Harlan | 1,307 | 483 |
| KY0026093 | Harlan STP | Harlan | 5,331 | 2,463 |
| KY0026115 | Loyall STP | Harlan | 731 | 368 |
| KY0024279 | Lynch STP | Harlan | 839 | 499 |
| KY0077615 | Turner Trailer Park | Harlan | 81 | 43 |
| KY0034444 | McKee STP | Jackson | 871 | 474 |
| KY0024082 | Barbourville STP | Knox | 5,604 | 2,546 |
| KYP000074 | Knox County Utility Commission | Knox | 113 | 60 |
| KY0020133 | Corbin STP | Laurel | 13,022 | 6,129 |
| KY0021270 | London STP | Laurel | 12,410 | 5,604 |
| KYP000063 | Wood Creek Water District | Laurel | 4,908 | 2,227 |
| KY0047431 | City of Brodhead | Rockcastle | 1,176 | 531 |
| KY0040703 | Livingston STP | Rockcastle | 198 | 105 |
| KY0024694 | Mt Vernon STP | Rockcastle | 2,867 | 1,355 |
| KY0028347 | Williamsburg STP | Whitley | 5,633 | 2,165 |
| | | **Totals:** | 76,046 | 34,616 |

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# Cumberland Valley Area Development District
# Regional Wastewater Needs Assessment

Primary Need: **Extend Services to Unserved Areas**
Secondary Need: **Repair and Replace Existing Infrastructure**

**Discussion of Area Development District Needs:**

The Cumberland Valley ADD wastewater planning needs include extending lines to unserved areas, repairing and replacing existing infrastructure, new collector sewer and appurtenances, sanitary sewer overflow correction, meeting regulatory requirements, ground water protection, regionalization and improving security.
Extending wastewater services to unserved areas, repair and replacing aging infrastructure is a great need in the Cumberland Valley Planning Unit. Each County has identifies wastewater needs and proposed projects to meet those needs. Those projects are listed in the planning unit section.

Lack of wastewater services in rural areas of the Cumberland Valley ADD is a major challenge. A lot of time and effort has been devoted to planning for wastewater services but that has not brought change to many communities in the area. County by county has cluster of communities that could benefit from some on site treatment method, but funding and management issues have held the process. The situation could be improved if more water districts and associations could provide services in their respective service areas. Laurel and Whitley Counties have shown leadership in wastewater planning at the grass root level, but implementation has been held back by lack of funding.

**Description and Determination of Planning Units:**

The Cumberland Valley ADD wastewater planning units were not determined in the same manner that water planning units were, but now wastewater planning is based on water planning boundaries. That is by region consisting of eight counties: Bell, Clay, Harlan, Jackson, Knox, Laurel, Rockcastle and Whitley counties.

The Cumberland Valley Wastewater Planning Units changed when the idea of water management planning areas was dropped. Unlike water planning, where watershed is not a factor, wastewater planning was initially guided by watershed boundaries. It did not follow county or utility boundaries, but rather went by landscape or elevation. Housing clusters and soil type in the area were other factors considered. Wastewater onsite treatment technologies for communities far from municipal wastewater treatment facilities were proposed. Some of those in Laurel and Whitley Counties are described in project profiles.

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# Cumberland Valley Area Development District
# Project Ranking Methodology

Federal Water Pollution Control Act of 1995 provided a strong role for the federal government in the construction of publicly owned wastewater treatment works. The amendments enacted in 1972, commonly known as the Clean Water Act (CWA), expanded the level of federal aid in an effort to speed up the pace of construction of wastewater treatment facility and the elimination the backlog of needed facilities. The 1977 Amendments to the Clean Water Act directed the Environmental Protection Agency (EPA) to delegate most of its construction grants management functions to the states. The Water Quality Act of 1987, which amended the CWA, authorized EPA to make capitalization grants to each state for the purpose of establishing a water pollution control revolving fund for providing financial assistance for projects that protect and restore water quality.

In 1988, The Kentucky General assembly enacted House Bill 217, which established the Clean Water State Revolving Fund (CWSRF). Funds deposited into CWSRF are used to fund publicly owned treatment works, including storm water projects among others. In order to compete for these funds, the Cumberland Valley ADD ranks projects in a manner that allow them to compete for these and other funds designated for construction of wastewater capital projects. Ranking projects at the at the County and regional level is designed to be in line with the Division of Water project priority ranking and also to provide objectivity to individual utility and county needs.

The Cumberland Valley ADD project ranking system describes the ranking methodology for a wide variety of municipal and non- municipal water and wastewater projects that are eligible for financial assistance through various state and federal programs. The ranking system gives highest priority to projects that are proposing to extend wastewater lines to unserved areas within the Cumberland Valley ADD planning unit. Projects in that category are further evaluated in terms of need. For example, projects extending lines to more customers are ranked higher than those with fewer customers. likewise, project with partial funding get higher priority than those with no funding commitment.

**Wastewater Ranking at the Utility Level**

Prior to ranking wastewater project at the County level, each utility prioritizes all its projects as high (0-2 years), medium (3-5 years) or low (6-10 years) depending on several factors ranging from need for the project to potential funding sources. Project readiness and construction work load are all factored in the decision making process. Once projects are prioritized at the utility level, they are submitted to the ADD planner's office to be entered into the database. Thereafter, the projects are approved or deferred by the Area Water Management Planning Council at one of the quarterly meetings. At another meeting, all County proposed projects are evaluated and ranked from 1 to 10 or whatever number is agreed upon by those in attendance. All 0-2 projects are usually ranked, but some low priority projects may not be ranked.

**Wastewater Ranking at the County Level**

Wastewater ranking system at the County level give priority to projects extending lines to unserved areas followed by those that address discharges of raw, or inadequately treated sewage to the State's waters during wet weather, including projects to abate combined sewer overflows (CSOs) and projects to address sanitary sewer system overflow. In general, the Cumberland Valley ranking process is consistent with public health and water quality goals, and pays attention to project needs, decentralization, compliance, water quality, financing, project readiness and the technology to be employed.

**Wastewater Ranking at the Regional Level**

The method used to rank projects at the regional level was determined when the council was first created and afforded the responsibility to rank water projects for funding purposes. At that initial meeting, counties were designated numbers 1-8. The county designated number 1, had their county number one project ranked first at the regional level. The county ranked number one the first time would have their number one project ranked 8 in the next ranking cycle. Rotation continues from one year to the next. This ranking methodology is easy for the Council and the planner and gives every county project the opportunity to ranked number one at some point. Secondly, this methodology allows for objectivity and eliminates biases. The only disadvantage with this ranking method is that some of the project ranked 1-8 may not be competitive enough at the state level. During the September, 2012 meeting, the Council had a discussion to review and possibly change the methodology, but no decision was arrived at. Instead, the motion to change the current methodology was deferred to the next water council meeting.

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## Project Rankings For Cumberland Valley Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21125003 | Oneal Road Area Sewer Extension | 3-5 Years | Not Funded | $1,600,000 | Laurel | 1 | 1 |
| SX21121501 | Knox County (Bimble) Sewer Extension | 3-5 Years | Not Funded | $1,250,000 | Knox | 2 | 1 |
| SX21235001 | Kentucky Hill Wastewater Treatment Plant | 0-2 Years | Not Funded | $742,500 | Whitley | 3 | 1 |
| SX21051006 | Lift Station Rehabilitation and Replacement | 0-2 Years | Not Funded | $500,000 | Clay | 5 | 1 |
| SX21109090 | City of McKee 400,000 Gallons Wastewater Expansion Plant | 0-2 Years | Partially Funded | $5,184,480 | Jackson | 6 | 1 |
| SX21013151 | Pineville: Virginia Avenue Utility Replacement | 0-2 Years | Partially Funded | $6,000,000 | Bell | 7 | 1 |
| SX21203316 | City of Brodhead - Sewer Rehabilitation | 0-2 Years | Not Funded | $1,775,000 | Rockcastle | 8 | 1 |
| SX21125151 | Wood Creek Wastewater Treatment Facilities | 0-2 Years | Not Funded | $4,000,000 | Laurel | 9 | 2 |
| SX21121133 | Barbourville: Sewer Rehab | 3-5 Years | Not Funded | $1,000,000 | Knox | 10 | 2 |
| SX21125113 | Corbin - Sanitary Sewer Collection System to Serve Dantley Drive | 3-5 Years | Not Funded | $1,117,725 | Whitley | 11 | 2 |
| SX21095004 | City of Loyall - wastewater Line Replacement Project Phase 3 | 0-2 Years | Not Funded | $1,284,500 | Harlan | 12 | 2 |
| SX21051001 | Downtown Manchester Sewer Line Rehabilitation and Replacement | 0-2 Years | Not Funded | $10,000,000 | Clay | 13 | 2 |
| SX21013148 | Middlesboro: Noetown Sewer Rehab/Binghamtown PS Rehab | 0-2 Years | Partially Funded | $2,550,000 | Bell | 14 | 2 |
| SX21203190 | City of Mt. Vernon Wastewater Extension Along Main Street | 0-2 Years | Not Funded | $1,025,000 | Rockcastle | 15 | 2 |
| SX21125322 | WCWD - Unserved Customers In Lake Watershed | 3-5 Years | Not Funded | $10,150,000 | Laurel | 16 | 3 |
| SX21235002 | Commercial Area Sewer Line Extension | 0-2 Years | Not Funded | $449,000 | Whitley | 17 | 3 |
| SX21095053 | City of Evarts Wastewater Collection and Treatment Plant Expansion | 0-2 Years | Not Funded | $5,000,000 | Harlan | 18 | 3 |
| SX21013144 | Pineville - PMRIDA Sewer Ext to Industrial Park | 0-2 Years | Partially Funded | $4,994,000 | Bell | 19 | 3 |
| SX21203317 | City of Brodhead - WWTP Upgrade and Improvement | 0-2 Years | Not Funded | $3,520,000 | Rockcastle | 20 | 3 |
| SX21125311 | East Laurel Water District - Wastewater Line Extensions #11 | 3-5 Years | Not Funded | $1,974,118 | Laurel | 21 | 4 |
| SX21125115 | Sanitary Sewer Collection Sytem to Serve Sandy Hills Subdvison | 3-5 Years | Not Funded | $231,475 | Laurel | 22 | |
| SX21095054 | Evarts - Pride Wastewater Construction Program | 0-2 Years | Not Funded | $1,365,000 | Harlan | 23 | 4 |
| SX21013145 | Pineville: Ferndale Sewerline Extension | 0-2 Years | Not Funded | $1,500,000 | Bell | 24 | 4 |
| SX21203156 | City of Livingston - New 60,000 GPD WWTP | 3-5 Years | Not Funded | $718,000 | Rockcastle | 25 | 4 |
| SX21125304 | East Laurel Water District - Pride: Kentucky Highway 638 to Johnson Elementary School | 3-5 Years | Not Funded | $567,625 | Laurel | 26 | 5 |
| SX21235219 | Whitley County: Package Treatment Plant and Wastewater Line to M | 3-5 Years | Not Funded | $1,991,680 | Whitley | 27 | 5 |
| SX21095055 | Evarts Pride Wastewater Sewer Extension | 0-2 Years | Not Funded | $600,000 | Harlan | 28 | 5 |
| SX21013029 | Turkey Creek Sewer Extension | 0-2 Years | Not Funded | $1,000,000 | Bell | 29 | 5 |
| SX21203197 | City of Mt. Vernon: Rainbow Ridge Area Sanitary Collection and Transfer | 0-2 Years | Not Funded | $2,091,000 | Rockcastle | 30 | 5 |
| SX21235230 | Williamsburg/Cumberland Falls Sewer Improvements | 0-2 Years | Not Funded | $6,655,000 | Whitley | 32 | 6 |
| SX21013142 | Middlesboro - "y" Road Sewer Extension/Whitmer Industrial Park | 0-2 Years | Not Funded | $1,097,000 | Bell | 33 | 6 |
| SX21203192 | Mount Vernon Wastewater Gravity Force Main and Lift Station Hwy 25 South From Mt. Vernon to Burr Area | 0-2 Years | Not Funded | $5,385,000 | Rockcastle | 34 | 6 |

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## Project Rankings For Cumberland Valley Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21125201 | WLWA - Wastewater Line Extension #2 | 3-5 Years | Not Funded | $2,227,454 | Laurel | 35 | 7 |
| SX21235224 | Whitley County: Wastewater Line Extension to Clio Airport | 3-5 Years | Not Funded | $5,802,720 | Whitley | 36 | 7 |
| SX21013150 | Pineville: Paula Drive Sewer Extension | 0-2 Years | Not Funded | $950,000 | Bell | 37 | 7 |
| SX21203155 | City of Livingston -Update Facility Plan | 3-5 Years | Not Funded | $47,000 | Rockcastle | 38 | 7 |
| SX21125202 | West Laurel - Pride:highway 192 to Cold Hill Elementary School | 0-2 Years | Not Funded | $678,170 | Laurel | 39 | 8 |
| SX21203161 | City of Livingston - Replace Main Sewer Pump Station | 3-5 Years | Not Funded | $156,000 | Rockcastle | 40 | 8 |
| SX21125300 | East Laurel Water District - Wastewater Treatment Plant | 6-10 Years | Not Funded | $2,100,080 | Laurel | 41 | 9 |
| SX21125318 | East Laurel Water District - Wastewater Line Extensions #18 | 3-5 Years | Not Funded | $1,199,266 | Laurel | 42 | 10 |
| SX21125316 | East Laurel Water District - Wastewater Line Extensions #16 | 6-10 Years | Not Funded | $1,520,042 | Laurel | 43 | 11 |
| SX21125317 | East Laurel - Wastewater Line Extensions #17. | 6-10 Years | Not Funded | $1,701,503 | Laurel | 44 | 12 |
| | | | **Total Cost:** | **$103,700,338** | | | |

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# Five County Area Development District (FIVCO)

- 2010 census population of 137,884 (61,101 households) with 52% serviceable.
- Projected 2020 population of 139,098 (change of 1,214).
- 579.75 miles of existing sewer lines.
- 73.00 miles of line extensions proposed in the next 10 years.
- 15.00 miles of line rehabilitation proposed in the next 10 years.
- 6.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $74,628,253.
- There are no projects planned from 6 to 10 years.

Five County Area Development District has a 2010 census population count of 137,884 (61,101 households) with a projected 2020 population count of 139,098 (56,252 households). Public sewer is currently available to approximately 52 percent of the district's households based on 2010 census counts. Over the next ten years approximately 2,596 serviceable households will be added through the construction of 73.00 miles of sewer line extensions and approximately 30,891 instances of improved service through the rehabilitation of 15.00 miles of existing sewer lines and other appurtenances. 6.00 miles of interceptor lines are also proposed within this district.

**County Summary for Five County Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Boyd | 49,542 | 21,803 | 49,446 | 20,040 | 17,597 | 81% | $ 25,881,750 |
| Carter | 27,720 | 12,311 | 28,459 | 11,508 | 2,873 | 23% | $ 7,530,033 |
| Elliott | 7,852 | 3,371 | 8,078 | 3,011 | 368 | 11% | - |
| Greenup | 36,910 | 16,330 | 36,923 | 15,046 | 9,193 | 56% | $ 27,108,210 |
| Lawrence | 15,860 | 7,286 | 16,192 | 6,647 | 1,934 | 27% | $ 14,108,260 |
| **Totals** | **137,884** | **61,101** | **139,098** | **56,252** | **31,965** | **52%** | **$ 74,628,253** |

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## Public Sewer Systems in the Five County Area Development District

Note: Serviceable counts include households outside the area development district.

| KPDES | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0022373 | Ashland Sewer Department | Boyd | 21,648 | 10,527 |
| KYP000035 | Boyd County Sanitation District #2 | Boyd | 4,214 | 1,875 |
| KYP000044 | Boyd County Sanitation District #4 | | 10,724 | 4,120 |
| KY0035467 | Catlettsburg Sewer Department | Boyd | 2,283 | 1,075 |
| KY0020931 | Grayson Sewer Department | Carter | 4,637 | 1,957 |
| KY0025925 | Olive Hill Sewer Department | Carter | 1,837 | 903 |
| KY0052264 | Sandy Hook Sewer Department | Elliott | 688 | 368 |
| KYP000040 | Boyd & Greenup County Sanitation District #1 | Greenup | 3,044 | 1,275 |
| KYP000039 | Flatwoods Sewer Department | Greenup | 7,692 | 3,431 |
| KY0026450 | Greenup Sewer Department | Greenup | 1,270 | 542 |
| KYP000038 | Raceland Sewer Department | Greenup | 2,436 | 1,130 |
| KYP000037 | Russell Sewer Department | Greenup | 854 | 420 |
| KY0026131 | South Shore Sewer Department | Greenup | 2,282 | 1,102 |
| KY0022926 | Worthington Sewer Department | Greenup | 1,611 | 682 |
| KY0033553 | Wurtland Sewer Department | Greenup | 1,429 | 605 |
| KYP000061 | Lawrence County Fiscal Court | Lawrence | 820 | 353 |
| KY0027961 | Louisa Sewer Department | Lawrence | 3,419 | 1,581 |
| | | **Totals:** | 70,888 | 31,946 |

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# Five County Area Development District
# Regional Wastewater Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Meet Regulartory Requirements**

**Discussion of Area Development District Needs:**

Aging infrastructure is the primary need across all five counties of the ADD: In Worthington, for example, some collection lines were installed during the 1930's and 1940's, while the City of Ashland has many large brick sewers deeply buried and still in use. With all the maintenance needs of our communities, replacement of older parts of a collection system generally occurs when a failure or collapse focuses the repair crew's attention into that area.

Money. There is a limit to the number of rate hikes the customer base can absorb to keep the system working and still allow the utility to replace/upgrade the older sections. Loans work for a time, but the rebuilt section addressed by a loan ages 30 years during the terms of the loan along with all the other sections of the system.

Extensions: Listing "extend services into unserved areas" should not be limited to municipal gravity lines. The "services" may well be mandatory inspection and repair (by the utility) of on-site systems required per County ordinance. Payment for such a program could come from modest utility bills to fund a responsible entity (such as a municipal system) to perform the function on a three year rotation to different of the county. Such an approach to wastewater treatment in the County surrounding any municipal system could only work if proper ordinances were in place and enforced. Gravity lines or low pressure systems should not be ruled out but may be prohibitively expensive. Satellite treatment that rely on gravity collection systems rather than expensive pump stations may also be an option.

Several utilities expressed a desire for the Fiscal Court of each county to invest in backup generators that could be trucked to areas of need during a crisis that disables part of a utility's system.

**Description and Determination of Planning Units:**

The Planning Units for the FIVCO ADD follow the county boundaries. This was necessary because of the small, unconnected nature of a collection system. Rarely does one utility's line come within several miles of the neighboring system and the concerns of one county do not carry over into the next county.

Boyd County is effectively covered throughout the county because of a county ordinance making hook-up to collection system mandatory. Though there are uncovered areas, the collection systems are growing.

Carter County has two municipalities separated by more than 10 miles that do not approach their neighboring counties. Elliott County and Lawrence County each have a municipal system with little extension beyond the cities. Without a mandatory hookup ordinance, extension of service outside city limits is difficult if not impossible for all these counties.

Fully half of the wastewater systems in the FIVCO ADD are in Greenup County. The Greenup County Environmental Commission is a regional treatment plant serving three cities and two sanitation districts. The other communities have their own treatment plants with the remainder of the county covered by on-site systems.

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# Five County Area Development District
# Project Ranking Methodology

The annual ranking in the FIVCO ADD area begins with a series of county-wide meetings comprised of all the water and sewer utilities in the county where the meeting is taking place. Each utility present decides which of their projects is to be ranked (typically two or three from their list) and determines the importance of those for themselves.

A point system is not used as the members of the Council feel that the importance of a project exists independent of a score based on its position in the development process. To provide some structure to the ranking, however, priority was given to projects dealing with:

• Immanent public health issues
• Critical system failures (current or threatening) that might bring down a utility lacking a backup plan
• Input from DOW such as a Notice of Violation (NOV) or an Agreed Order
• Regionalization

Projects are considered based on the aforementioned criteria and a ranking is produced following amicable discussion by all those present.

**********
If a Ranking cannot be agreed upon, FIVCO ADD has a backup plan using the following point system. Note, this system has never been used.

Points / Problem Addressed by Project

7 Immanent public health issues or critical system failures that might bring down a utility
6 Agreed Order from DOW
5 Notice of Violation from DOW
4 Regionalization of services
3 Maintenance projects on existing infrastructure
2 Upgrades to the treatment plants, pumps, or the distribution/collection system
1 Extension of new service lines

Add five (5) points if plans have been engineered and submitted to DOW for approval.

Discussion within the group can override the points attached to each problem addressed by the project.

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## Project Rankings For Five County Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21019061 | Catlettsburg: Rehab Clarifiers at Wastewater Treatment Plant | 0-2 Years | Not Funded | $462,000 | Boyd | 1 | 1 |
| SX21089095 | South Shore: Upgrade Lift Stations 4, 5, and 6 | 0-2 Years | Not Funded | $707,500 | Greenup | 2 | 1 |
| SX21043030 | Grayson: Rolling Hills Subdivision Sewer Extension | 0-2 Years | Not Funded | $1,200,000 | Carter | 3 | 1 |
| SX21127029 | Louisa: Wastewater Treatment Plant | 0-2 Years | Not Funded | $6,750,000 | Lawrence | 4 | 1 |
| SX21089021 | Wurtland: Lloyd Sanitary Sewer Project | 3-5 Years | Partially Funded | $6,725,000 | Greenup | 5 | 2 |
| SX21019062 | Sd2: System-Wide Inflow and Infiltration Abatement Project | 0-2 Years | Not Funded | $2,173,000 | Boyd | 6 | 2 |
| SX21043017 | Olive Hill: Rehab of City Lines to Replace Clay Pipe | 3-5 Years | Not Funded | $831,775 | Carter | 7 | 2 |
| SX21127027 | Louisa: Fallsburg Phase 1 Extension to The Top of Five Forks | 0-2 Years | Not Funded | $1,900,000 | Lawrence | 8 | 2 |
| SX21089028 | Wurtland: Conley Subdivision Sewer Project | 0-2 Years | Not Funded | $650,000 | Greenup | 9 | 3 |
| SX21043003 | Grayson: Rt 7 to Landsdowne Subdivision | 0-2 Years | Not Funded | $765,000 | Carter | 10 | 3 |
| SX21019053 | SD4: Systemwide Pump Station Maintenance | 0-2 Years | Not Funded | $950,000 | Boyd | 11 | 3 |
| SX21127028 | Louisa: Fallsburg Phase 2 | 3-5 Years | Not Funded | $1,935,000 | Lawrence | 12 | 3 |
| SX21019064 | Catlettsburg: Grit Chamber Rehab/Replacement | 0-2 Years | Not Funded | $300,000 | Boyd | 13 | 4 |
| SX21043015 | Olive Hill: Sparks Avenue Project | 3-5 Years | Not Funded | $68,000 | Carter | 14 | 4 |
| SX21089069 | Raceland: Caroline Road Line Extension | 3-5 Years | Not Funded | $220,000 | Greenup | 15 | 4 |
| SX21127006 | Louisa: Fallsburg Phase 3 Fuller Ridge Sanitary Sewer Main Line | 0-2 Years | Not Funded | $3,798,260 | Lawrence | 16 | 4 |
| SX21019071 | SD4: Molsberger Road Sewer Line | 0-2 Years | Not Funded | $325,000 | Boyd | 17 | 5 |
| SX21043006 | Grayson: Valleyview Subdivision | 0-2 Years | Not Funded | $775,000 | Carter | 18 | 5 |
| SX21089094 | Wurtland: Industrial Parkway Sewer Service | 0-2 Years | Not Funded | $100,000 | Greenup | 19 | 5 |
| SX21043018 | Olive Hill: Woodland Subdivision Sewer Project | 3-5 Years | Not Funded | $315,000 | Carter | 20 | 6 |
| SX21089017 | Raceland: Cherokee Road Sewer Extension | 3-5 Years | Not Funded | $102,000 | Greenup | 21 | 6 |
| SX21043024 | Grayson: Route 1 Sewer Project | 0-2 Years | Not Funded | $150,000 | Carter | 22 | 7 |
| SX21089038 | South Shore: Sewer System Rehabilitation | 0-2 Years | Partially Funded | $2,006,000 | Greenup | 23 | 7 |
| | | | **Total Cost:** | **$33,208,535** | | | |

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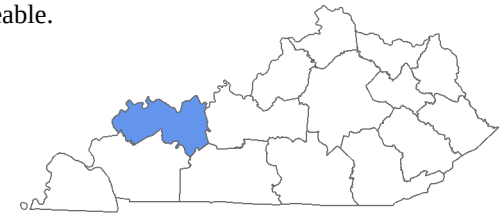
# Green River Area Development District (GRADD)

- 2010 census population of 213,472 (92,066 households) with 64% serviceable.
- Projected 2020 population of 220,544 (change of 7,072).
- 1,001.98 miles of existing sewer lines.
- 65.00 miles of line extensions proposed in the next 10 years.
- 21.00 miles of line rehabilitation proposed in the next 10 years.
- 13.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $79,716,770.
- Estimated funding needs for projects from 6 to 10 years: $6,575,000.



Green River Area Development District has a 2010 census population count of 213,472 (92,066 households) with a projected 2020 population count of 220,544 (89,593 households). Public sewer is currently available to approximately 64 percent of the district's households based on 2010 census counts. Over the next ten years approximately 4,426 serviceable households will be added through the construction of 65.00 miles of sewer line extensions and approximately 70,819 instances of improved service through the rehabilitation of 21.00 miles of existing sewer lines and other appurtenances. 13.00 miles of interceptor lines are also proposed within this district.

**County Summary for Green River Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Daviess | 96,656 | 41,452 | 102,214 | 41,878 | 32,204 | 78% | $ 19,691,115 |
| Hancock | 8,565 | 3,734 | 8,843 | 3,502 | 1,441 | 39% | $ 6,275,000 |
| Henderson | 46,250 | 20,320 | 47,600 | 19,851 | 13,886 | 68% | $ 30,350,085 |
| McLean | 9,531 | 4,264 | 9,271 | 3,821 | 1,817 | 43% | $ 7,747,000 |
| Ohio | 23,842 | 10,219 | 24,781 | 9,786 | 3,289 | 32% | $ 4,719,570 |
| Union | 15,007 | 6,141 | 14,436 | 5,463 | 3,689 | 60% | $ 10,776,000 |
| Webster | 13,621 | 5,936 | 13,399 | 5,292 | 2,825 | 48% | $ 6,733,000 |
| **Totals** | **213,472** | **92,066** | **220,544** | **89,593** | **59,151** | **64%** | **$ 86,291,770** |

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## Public Sewer Systems in the Green River Area Development District

Note: Serviceable counts include households outside the area development district.

| KPDES | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0073377 | Regional Water Resource Agency - East | Daviess | 31,947 | 13,434 |
| KY0020095 | Regional Water Resource Agency - West | Daviess | 40,508 | 18,472 |
| KY0054941 | Whitesville Water Works | Daviess | 671 | 298 |
| KY0020087 | Hawesville Water Works | Hancock | 1,331 | 588 |
| KY0025241 | Lewisport Municipal Water Works | Hancock | 1,828 | 853 |
| KYP000042 | Corydon Wastewater Collection | Henderson | 750 | 307 |
| KY0020711 | Henderson Water Utility - North | Henderson | 29,780 | 13,578 |
| KY0020125 | Calhoun Water Works | McLean | 1,182 | 566 |
| KY0066605 | Island Water Department | McLean | 507 | 229 |
| KY0020613 | Livermore Water Works | McLean | 1,464 | 695 |
| KY0091731 | Sacramento Water Works | McLean | 685 | 327 |
| | Beaver Dam Municipal Water/Sewer | Ohio | 3,842 | 1,619 |
| KYP000078 | Centertown Water System | Ohio | 521 | 211 |
| KY0054801 | Fordsville Water District | Ohio | 562 | 248 |
| KYP000077 | Hartford Municipal Water Works | Ohio | 2,655 | 1,144 |
| KY0105791 | Ohio County Regional Wastewater District | Ohio | 165 | 67 |
| KY0021440 | Morganfield Water Works | Union | 5,706 | 1,985 |
| KY0025895 | Sturgis Water Works | Union | 2,096 | 1,029 |
| KY0025844 | Uniontown Water/Sewer Department | Union | 1,123 | 515 |
| KYP000060 | Waverly Wastewater Collection | Union | 353 | 160 |
| KY0028096 | Clay Water Works | Webster | 1,203 | 523 |
| KY0021296 | Providence Water Works | Webster | 2,868 | 1,447 |
| KYP000054 | Sebree Collection System | Webster | 1,511 | 572 |
| KYP000055 | Webster County Sanitation District | Webster | 822 | 276 |
| | | **Totals:** | 134,080 | 59,143 |

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# Green River Area Development District
# Regional Wastewater Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **New Collector and Appurtenances**

**Discussion of Area Development District Needs:**

The GRADD region covers seven counties and their individual needs vary widely. The counties all know the importance and value of rationalization and regional projects and strive to build them. However, these individual systems have other needs that must be addressed on a daily basis while regional projects can take years to plan and complete.

In the GRADD region, the primary need is the repair and replacement of existing infrastructure. All seven counties in the GRADD region considered repair and replacement of existing infrastructure as their primary need. Under this, the most important aspect is repair/replacement of sewer lines to combat I&I, but also includes repairing/replacing equipment in the distribution system as well as that at sewer plant.

The secondary need of the area is to build new collector sewer and appurtenances. The need for this varies from county to county as well as between systems. The project needs include building new sewer lines that will redesign the systems flow and will help the system run more efficiently, to building out new sewer lines to serving areas that have failing on-site systems or no sewer system at all.

**Description and Determination of Planning Units:**

The GRADD Water Management Council adopted the GRADD geographical boundary as its services area.

The following wastewater systems serve communities in the Green River Area Development District, and their service areas are included in the Water Management Planning Area:

*Daviess County
1. Regional Water Resource Agency - East Plant
2. Regional Water Resource Agency - West Plant
3. Whitesville Water Works

*Hancock County
1. Hawesville Water Works
2. Lewisport Municipal Water Works

*Henderson County
1. Henderson Water Utility--North
2. Henderson Water Utility--South

*McLean County
1. Calhoun Water Works
2. Island Water Department
3. Livermore Water Works
4. Sacramento Water Works

*Ohio County
1. Beaver Dam Municipal Water
3. Fordsville Water Works
4. Hartford Municipal Water Works
5. Ohio County Regional Wastewater District

*Union County
1. Morganfield Water Works
2. Sturgis Water Works
3. Uniontown Water Department
4. Waverly Wastewater Collection

*Webster County
1. Clay Water Works
2. Providence Water Works
3. Sebree Water Department
4. Webster County Sanitation District

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# Green River Area Development District
# Project Ranking Methodology

The current needs in the Green River ADD region vary widely between Planning Areas and between water and wastewater systems. Operators of both water and wastewater systems value and strive to complete regional projects; however, they recognize the importance of their systems individual needs. The primary need of the water systems is repair and replacement of existing infrastructure and the secondary need is a variety of source protection projects. For wastewater, the primary need is repair and replace existing infrastructure and the secondary need is new collector sewer and appurtenances. While primary and secondary needs have been chosen for each planning area that does not mean that systems cannot have projects outside of those scopes.

The Green River Area Development District Water Management Council uses a point based ranking system to rank the needs of the area. All of the current partially and unfunded projects were submitted to each of the Planning Units for ranking. Projects were scored on a series of criteria including Type of Project, Delivery Area, Project Status, Funding Status, and Environmental Factors. In the event of a tie, the project's Cost per Connection was used as the deciding factor.

The following point criteria was submitted and endorsed by the Green River Area Development District Water Management Council on September 20, 2012:

**Basic Information**

- Project County
- Project Owner
- WRIS Project Number
- Project Description
- Estimated Project Cost

**Type of Project**

Unserved

| | |
|---|---|
| • 9 or more per mile | 20 pts |
| • 7-8 per mile | 19 pts |
| • 5-6 per mile | 18 pts |
| • 3-4 per mile | 15 pts |
| • 1-2 per mile | 10 pts |
| • <1 per mile | 5 pts |

Underserved

| | |
|---|---|
| • 80-100% total customer base impacted | 20 pts |
| • 60-79% total customer base impacted | 19 pts |
| • 40-59% total customer base impacted | 18 pts |
| • 20-39% total customer base impacted | 15 pts |
| • 10-19% total customer base impacted | 10 pts |
| • less than 10% customer base impacted | 5 pts |

Economic Development

| | |
|---|---|
| • 100 or more jobs created or retained | 20 pts |
| • 75-99 jobs created or retained | 19 pts |
| • 50-74 jobs created or retained | 18 pts |
| • 20-49 jobs created or retained | 15 pts |
| • 10-19 jobs created or retained | 10 pts |
| • less than 10 jobs created or retained | 5 pts |

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Other (a project that does not meet above criteria, i.e. a building for chemicals)

- 3 pts

Combination

- If a project is a combination of the above, whichever category the project scored higher in (unserved, underserved, or economic development) the project will get those points, plus 3 additional pts

Maximum of 20 points for this section

**Delivery Area**

| | |
|---|---|
| • Regional – Consolidation into single system | 30 pts |
| • Regionalization of a WTP or WWTP | 20 pts |
| • Project benefits multiple systems/communities | 15 pts |
| • Project benefits two systems/communities | 10 pts |
| • Non-regional | 5 pts |
| • Non-regional project that eliminates a lift station/ package treatment plant/pump station | 10 pts |

**Project Status**

| | |
|---|---|
| • Engineering plans and specs submitted to DOW | 20 pts |
| • PER | 15 pts |
| • Engineering procurement completed | 10 pts |
| • Cost estimate by PE | 10 pts |
| • Preliminary planning by system | 5 pts |

**Funding Status**

A project costing greater than $100,000

| | |
|---|---|
| 1. Funding committed for 50% or more | 20 pts |
| 2. Funding committed for 25-49% | 10 pts |
| 3. Funding committed for 1-24% | 5 pts |
| 4. Pending applications | 3 pts |

A project costing less than $100,000

1. 10 pts as long as the project is in one of the above four processes

**Environmental Factors**

Any project can receive as many (or none) of the points below

| | |
|---|---|
| • Water loss reduction/I&I reduction | 5 pts |
| • Replacing inefficient pumps/motors with high efficiency ones | 5 pts |
| • Use of some other Green Technology not listed above | 5 pts |

Tie breaker is cost per connection

**County Ranking**

The highest scoring project in a county will be the number one ranking project for that county. The number two and subsequently ranked projects will follow in order of next highest scoring. The top five ranked projects in the county will be sent to be ranked regionally; however, all county ranked projects will still be submitted to KIA.

**Regional Ranking**

The highest scoring projects in the region will be determined from the highest ranked projects in the counties.

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## Project Rankings For Green River Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21101030 | Janalee Drive Pump Station Rehabilitation | 3-5 Years | Not Funded | $1,900,000 | Henderson | 1 | 1 |
| SX21059031 | Sunrise Drive Sewer Extension | 0-2 Years | Not Funded | $1,655,565 | Daviess | 2 | 1 |
| SX21101038 | Finely Addition Sewer Extension | 0-2 Years | Partially Funded | $2,100,000 | Henderson | 3 | 2 |
| SX21225021 | Grangertown Lift Station Rehab and Taylor Mine Road Lift Station Replacement | 0-2 Years | Partially Funded | $415,000 | Union | 4 | 1 |
| SX21059014 | Masonville Sewer Extension | 0-2 Years | Not Funded | $1,538,750 | Daviess | 5 | 2 |
| SX21233021 | Providence Aerobic Digester Aeration Improvement Project | 3-5 Years | Not Funded | $80,000 | Webster | 6 | 1 |
| SX21225006 | Camp Breckenridge Sewer Rehab | 0-2 Years | Not Funded | $3,552,800 | Union | 7 | 2 |
| SX21183014 | Hartford Sewer Rehabilitation Project - Phase II | 0-2 Years | Not Funded | $2,165,000 | Ohio | 8 | 1 |
| SX21101002 | Canoe Creek Phase II Sewer Improvements | 3-5 Years | Partially Funded | $11,000,000 | Henderson | 9 | 3 |
| SX21183015 | Fordsville Wastewater System Improvement/Rehabilitation Project | 0-2 Years | Not Funded | $753,450 | Ohio | 10 | 2 |
| SX21149017 | Sacramento Sewer Pumps 2 | 3-5 Years | Not Funded | $280,000 | McLean | 11 | 1 |
| SX21225012 | Sturgis Wastewater Treatment Plant Upgrade | 6-10 Years | Not Funded | $2,710,000 | Union | 12 | 3 |
| SX21225007 | Morganfield Combine Sewer Separation Project | 0-2 Years | Fully Funded | $2,925,000 | Union | 13 | 4 |
| SX21149023 | Sacramento Gravity Sewer Project, Phase II | 0-2 Years | Not Funded | $940,000 | McLean | 14 | 2 |
| SX21091012 | Hawesville Generator Project | 3-5 Years | Not Funded | $75,000 | Hancock | 16 | 1 |
| SX21059026 | Woodlands South Sewer Extension | 0-2 Years | Not Funded | $406,550 | Daviess | 17 | 3 |
| SX21233022 | Providence Sewer Treatment Plant Generator Project | 3-5 Years | Not Funded | $100,000 | Webster | 18 | 3 |
| SX21059043 | Whitesville Sewer Rehabilitation Project | 3-5 Years | Not Funded | $58,000 | Daviess | 19 | 4 |
| SX21149024 | Island Sewer Plant and Lift Station Generators Project | 3-5 Years | Not Funded | $112,000 | McLean | 20 | 3 |
| SX21183002 | North 231 Sewer Extension Project | 3-5 Years | Not Funded | $700,000 | Ohio | 21 | 3 |
| SX21225023 | Individual Pump Stations for Unsewered Residents of Sturgis | 0-2 Years | Not Funded | $115,000 | Union | 22 | 5 |
| SX21233010 | Providence Sewer Loan Payoff | 3-5 Years | Partially Funded | $800,000 | | 23 | 4 |
| SX21149026 | KY815/KY81 Sanitary Sewer Project | 3-5 Years | Not Funded | $800,000 | McLean | 24 | 4 |
| SX21091013 | Highway 60 East Economic Development | 3-5 Years | Not Funded | $500,000 | Hancock | 25 | 2 |
| SX21101029 | North Treatment Plant Improvements | 3-5 Years | Not Funded | $200,000 | Henderson | 26 | 4 |
| SX21183013 | Beaver Dam Sewer Rehab Debt Payoff | 3-5 Years | Not Funded | $580,000 | Ohio | 27 | 4 |
| SX21233008 | Wheatcroft Sewer Collection System Project - Phase I | 3-5 Years | Not Funded | $100,000 | Webster | 28 | 5 |
| SX21101036 | Thorn Ridge Sewer Extension | 3-5 Years | Not Funded | $200,000 | Henderson | 29 | 5 |
| SX21149002 | Livermore Sewer Line Extensions | 3-5 Years | Not Funded | $1,500,000 | McLean | 30 | 5 |
| SX21183007 | Centertown Sewer Clean Out Machine Purchase Project | 3-5 Years | Not Funded | $50,000 | Ohio | 31 | 5 |
| SX21091014 | Hawesville Lift Station Rehabilitation | 3-5 Years | Not Funded | $100,000 | Hancock | 32 | 3 |
| SX21091009 | Lewisport Slip Lining | 3-5 Years | Not Funded | $600,000 | Hancock | 33 | 4 |
| SX21059039 | Pleasant View Estates Sewer Expansion | 3-5 Years | Not Funded | $475,000 | Daviess | 34 | 5 |
| | | | **Total Cost:** | **$39,487,115** | | | |

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# Gateway Area Development District (GWADD)

- 2010 census population of 81,652 (36,780 households) with 40% serviceable.
- Projected 2020 population of 87,651 (change of 5,999).
- 327.29 miles of existing sewer lines.
- 33.00 miles of line extensions proposed in the next 10 years.
- 4.00 miles of line rehabilitation proposed in the next 10 years.
- There are no interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $24,794,761.
- There are no projects planned from 6 to 10 years.

Gateway Area Development District has a 2010 census population count of 81,652 (36,780 households) with a projected 2020 population count of 87,651 (34,583 households). Public sewer is currently available to approximately 40 percent of the district's households based on 2010 census counts. Over the next ten years approximately 1,072 serviceable households will be added through the construction of 33.00 miles of sewer line extensions and approximately 64,154 instances of improved service through the rehabilitation of 4.00 miles of existing sewer lines and other appurtenances.

**County Summary for Gateway Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Bath | 11,591 | 5,405 | 12,132 | 5,006 | 1,743 | 32% | $ 4,170,384 |
| Menifee | 6,306 | 3,744 | 6,038 | 2,422 | 547 | 15% | $ 5,951,915 |
| Montgomery | 26,499 | 11,699 | 30,750 | 12,483 | 6,264 | 54% | $ 5,260,589 |
| Morgan | 13,923 | 5,830 | 14,023 | 5,126 | 723 | 12% | $ 5,907,940 |
| Rowan | 23,333 | 10,102 | 24,708 | 9,546 | 5,562 | 55% | $ 3,503,933 |
| **Totals** | **81,652** | **36,780** | **87,651** | **34,583** | **14,839** | **40%** | **$ 24,794,761** |

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## Public Sewer Systems in the Gateway Area Development District

Note: Serviceable counts include households outside the area development district.

| KPDES | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KIA011001 | Bath County Sanitation District | Bath | 153 | 72 |
| KY0024287 | Owingsville Water and Sewer | Bath | 1,995 | 992 |
| KY0088421 | Sharpsburg Sewer | Bath | 387 | 226 |
| KY0040584 | Frenchburg Water and Sewer | Menifee | 675 | |
| KY0100901 | Menifee County Sanitation District # 1 | Menifee | 401 | 169 |
| KY0069736 | Montgomery County Sanitation Dist #2 | Montgomery | 1,770 | 792 |
| KY0104400 | Mount Sterling Water and Sewer System | Montgomery | 11,862 | 5,472 |
| KY0089567 | West Liberty Sewer | Morgan | 3,320 | 723 |
| KY0052752 | Morehead Utility Plant Board | Rowan | 14,666 | 6,052 |
| | | **Totals:** | 35,229 | 14,868 |

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# Gateway Area Development District
# Regional Wastewater Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Extend Services to Unserved Areas**

**Discussion of Area Development District Needs:**

There are nine wastewater systems that serve Gateway Area Development District. Each wastewater utility in the Gateway ADD was provided with the opportunity to identify the needs for the system. The needs of every system were considered in the determination of the Gateway Area Development District's primary and secondary Clean Water needs.

The District's primary Clean Water need is Repair/Replace Existing Infrastructure. This was the primary need of every planning unit in the Gateway ADD with the exception of the Menifee County Planning Unit. The wastewater systems in the region have identified this as a Clean Water need for a variety of reasons. Some areas of the region's sewer infrastructure have been damaged as a result of severe weather events, some portions of the aging infrastructure need to be replaced to prevent pipe bursts, and other portions of the existing infrastructure need to be replaced because the current lines, lift stations, etc. are at/near capacity.

Extend Services to Unserved Areas is the secondary Clean Water need in the Gateway Area Development District. This was identified as the secondary need in three of the planning units and mentioned as an additional need in a forth planning unit. While urbanized areas and the larger communities in the Gateway Area Development District have sewer infrastructure, there are large portions of the region that do not have access to wastewater services. Approximately 60% of the region's population is not served by a wastewater system.

Additional needs that were identified for the region are Economic Stimulation for areas that cannot currently support potential industrial development, New Collector Sewer and Appurtenances, and Sanitary Sewer Overflow Correction for systems that expereince problems with infiltration.

**Description and Determination of Planning Units:**

The Gateway Area Development District is divided into five planning units which are: Bath County, Menifee County, Montgomery County, Morgan County, and Rowan County. These planning units follow the political county boundaries.

There are three wastewater systems in Bath County. Two of the systems in the Bath County Planning Unit are municipalities (City of Owingsville Water and Sewer and City of Sharpsburg Sewer) and the other is a sanitation district (Bath County Sanitation District).

The Menifee County Planning Unit has two systems; one municipality (City of Frenchburg Water and Sewer) and one sanitation district (Menifee County Sanitation District #1).

The Montgomery County Planning Unit also has two systems; one municipality (Mt. Sterling Water and Sewer) and one sanitation district (Montgomery County Sanitation District #2).

The Morgan and Rowan County Planning Units each have one municipal wastewater system (Morgan County - City of West Liberty Water and Sewer; Rowan County - Morehead Utility Plant Board).

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# Gateway Area Development District
# Project Ranking Methodology

The Gateway Area Water Management Council prioritizes projects based on points. Points are given under the following categories: Type of Project, Project Delivery, Project Status, and Funding Status.

**Type of Project**

Under this category, points are awarded based on un-served households, underserved households, and economic development. Un-served households are homes that currently do not have public water/wastewater service available to them. Underserved households are homes that have public water/wastewater service, but the completion of the proposed project will improve service and/or quality to said areas in the utility's system. Points are allocated to the economic development group based on the number of jobs the completed project will create. The more households and jobs that a project affects/creates, the more points the project is given. A combination of points can be added together among the aforementioned subgroups for a maximum amount of 20 points possible.

**Project Delivery**

Project Delivery is allotted 20 points for a regional project and 5 points for a non-regional project. A regional project affects more than one utility.

**Project Status**

Projects are given 5 points for preliminary planning, 10 points for attaining a cost estimate from a project engineer, 10 points for procuring an engineer for the project, 15 points if a preliminary engineering report is completed, or 20 points if engineering plans and specs have been completed and submitted to Division of Water under the Project Status heading.

**Funding Status**

For projects with a cost estimate less than $100,000, 10 points are awarded within the funding status header. For projects with a cost estimate over $100,000, 3 points are given for a pending application status, 5 points if 1-24% of the funding has been committed, 10 points if 25-49% of funding has been committed, and 20 points if 50% or more of funding has been committed. Funding can be committed by the utility, or another funding source.

The category totals are added together for a maximum of 80 points possible. The higher the cumulative total, the higher the project is ranked. For projects with the same overall point total, a cost per connection tie breaker is utilized. The cost per connection tie breaker is calculated using the estimated project cost divided by the total number of households the project will affect. The lower the cost per connection, the higher ranking the project receives.

All profiled projects that are submitted to the Water Management Council are prioritized and receive both a county and regional ranking. The prioritization of the projects is based on the points allocated during the ranking process.

Moving forward, the Gateway region is facing many of the same issues that other regions and utilities are being confronted with. Since the majority of the Gateway region counties are served by public water, water utilities will be switching their primary focus to maintenance, upkeep and rehab projects within their respective systems. Added costs for new testing and compliance issues cut into both water and wastewater utilities' revenues. Escalated electrical and fuel costs pose a huge hurdle for utilities. If cost effective measures are not taken to lower electrical and fuel consumption, utilities will have no other alternative but to increase rates to their customers. Wastewater systems are challenged with the cost of providing sewer service to customers outside of city limits and to repair and manage inflow and infiltration issues to existing infrastructure.

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## Project Rankings For Gateway Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21205033 | Morehead Utility Plant Board Phase 5 Inflow and Infiltration Sew | 3-5 Years | Not Funded | $500,000 | Rowan | 1 | 1 |
| SX21175013 | City of West Liberty Liberty Road Sewer Extension | 3-5 Years | Not Funded | $3,257,940 | Morgan | 2 | 1 |
| SX21205035 | Morehead Utility Plant Board 519 Sewer Extension | 3-5 Years | Not Funded | $500,000 | Rowan | 3 | 2 |
| SX21173027 | Mount Sterling Water and Sewer SCADA System Replacement Project | 3-5 Years | Not Funded | $45,000 | Montgomery | 4 | 1 |
| SX21173017 | Mt. Sterling Water & Sewer Portable Diesel Pump Project | 3-5 Years | Not Funded | $75,000 | Montgomery | 5 | 2 |
| SX21173023 | Mt. Sterling Water & Sewer Long Wood Tie In Project | 3-5 Years | Not Funded | $275,000 | Montgomery | 6 | 3 |
| SX21173014 | Mt. Sterling Water & Sewer System Manhole Rehab Project | 3-5 Years | Not Funded | $625,000 | Montgomery | 7 | 4 |
| SX21173066 | Montgomery County Sanitation Dist #2 Boom and Clarifier Weirs Replacement Project | 3-5 Years | Not Funded | $75,000 | Montgomery | 8 | 5 |
| SX21011002 | City of Owingsville Lagoon System Cleaning Project | 3-5 Years | Not Funded | $700,000 | Bath | 9 | 1 |
| SX21173046 | Montgomery County Sanitation District Upgrade Chlorine Room At W | 3-5 Years | Not Funded | $14,500 | Montgomery | 10 | 6 |
| SX21205029 | Morehead Utility Plant Board Sunnybrook Development Sewer Line E | 3-5 Years | Not Funded | $789,750 | Rowan | 11 | 3 |
| SX21173063 | Montgomery County Sanitation District No. 2 Sludge Holding Tank | 3-5 Years | Not Funded | $170,089 | Montgomery | 12 | 7 |
| SX21173033 | Montgomery County Sanitation District No. 2 Head Works Screen Pr | 3-5 Years | Not Funded | $200,000 | Montgomery | 13 | 8 |
| SX21173024 | Montgomery County Sanitation District No. 2 Pump Station No. 5 P | 3-5 Years | Not Funded | $267,000 | Montgomery | 14 | 9 |
| SX21011019 | City of Owingsville Re-Route Sanitary Sewer to Sbr Plant Project | 3-5 Years | Not Funded | $360,000 | Bath | 15 | 2 |
| SX21173010 | Montgomery Co. Sanitation Dist.#2 Pump Station and Line Upgrade | 3-5 Years | Not Funded | $464,000 | Montgomery | 16 | 10 |
| SX21173034 | Montgomery County Sanitation District No. 2 Pump Station Upgrade | 3-5 Years | Not Funded | $510,000 | Montgomery | 17 | 11 |
| SX21011016 | City of Owingsville Slate Avenue Pipe Bursting Project | 3-5 Years | Not Funded | $590,000 | Bath | 18 | 3 |
| SX21165017 | Menifee County Sanitation District No. 1 Equalization Basin | 3-5 Years | Not Funded | $750,000 | Menifee | 19 | 1 |
| SX21011015 | City of Owingsville Wyoming Road Sewer Line Extension | 3-5 Years | Not Funded | $225,000 | Bath | 20 | 4 |
| SX21165010 | City of Frenchburg Ponder Branch Sewer Extension | 3-5 Years | Not Funded | $101,665 | Menifee | 21 | 2 |
| SX21165015 | City of Frenchburg Bryant Lane/Shotgun Hollow Sewer Line Extension Project | 3-5 Years | Not Funded | $650,250 | Menifee | 22 | 3 |
| SX21011007 | City of Sharpsburg Oaklawn Line Extension Project | 3-5 Years | Not Funded | $882,100 | Bath | 23 | 5 |
| SX21165013 | City of Frenchburg Tower Road and Cresent Hill Wastewater Collection Improvements | 3-5 Years | Not Funded | $350,000 | Menifee | 24 | 4 |
| SX21011017 | City of Owingsville KY 36 North Sewer Extension | 3-5 Years | Not Funded | $563,284 | Bath | 25 | 6 |
| SX21205036 | Morehead Utility Plant Board KY 801 and KY 158 Sewer Extension Project | 3-5 Years | Not Funded | $1,498,883 | Rowan | 26 | 4 |
| SX21173064 | Mt. Sterling Water & Sewer WWTP Generator Project | 3-5 Years | Not Funded | $150,000 | Montgomery | 27 | 12 |
| SX21173055 | Mt. Sterling Water & Sewer I&I Study and Repair Project | 3-5 Years | Not Funded | $1,000,000 | Montgomery | 28 | 13 |
| SX21175021 | City of West Liberty WWTP Equipment Improvement Project | 3-5 Years | Not Funded | $200,000 | Morgan | 29 | 2 |
| SX21175008 | City of West Liberty Old Route 7 Sewer Extension | 3-5 Years | Not Funded | $300,000 | Morgan | 30 | 3 |
| SX21011018 | Bath County Sanitation District Preston Sewer Project Phase II | 3-5 Years | Not Funded | $750,000 | Bath | 31 | 7 |

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## Project Rankings For Gateway Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21165007 | City of Frenchburg McCausey/Amos Ridge Extension Project | 3-5 Years | Not Funded | $4,000,000 | Menifee | 32 | 5 |
| SX21011020 | City of Owingsville Sewer Extension to Remaining Unserved In Cit | 3-5 Years | Not Funded | $100,000 | Bath | 33 | 8 |
| SX21173015 | Mt. Sterling Water & Sewer Eastland Heights Lift Station Upgrade | 3-5 Years | Not Funded | $75,000 | Montgomery | 34 | 14 |
| SX21173053 | Mt. Sterling Water & Sewer Alliance Acres Lift Station Upgrade | 3-5 Years | Not Funded | $85,000 | Montgomery | 35 | 15 |
| SX21173051 | Mt. Sterling Water & Sewer Doe Run Lift Station Upgrade | 3-5 Years | Not Funded | $85,000 | Montgomery | 36 | 16 |
| SX21173052 | Mt. Sterling Water & Sewer Spencer Road Lift Station Upgrade | 3-5 Years | Not Funded | $85,000 | Montgomery | 37 | 17 |
| SX21173054 | Mt. Sterling Water & Sewer LMS Pump Station Elimination | 3-5 Years | Not Funded | $100,000 | Montgomery | 38 | 18 |
| SX21173049 | Mt. Sterling Water & Sewer Woodford Drive Lift Station Upgrade P | 3-5 Years | Not Funded | $100,000 | Montgomery | 39 | 19 |
| SX21173048 | Montgomery County Sanitation District No. 2 Phosphate Reduction | 3-5 Years | Not Funded | $100,000 | Montgomery | 40 | 20 |
| SX21173050 | Mt. Sterling Water & Sewer Arlington Avenue Lift Station Upgrade | 3-5 Years | Not Funded | $175,000 | Montgomery | 41 | 21 |
| SX21173056 | Mt. Sterling Water & Sewer System Mapping Project | 3-5 Years | Not Funded | $225,000 | Montgomery | 42 | 22 |
| SX21173059 | Mt. Sterling Water & Sewer Combo Vac Truck Project | 3-5 Years | Not Funded | $240,000 | Montgomery | 43 | 23 |
| SX21205031 | MUPB Wastewater Treatment Plant Equipment Upgrade Project | 3-5 Years | Not Funded | $215,300 | Rowan | 44 | 5 |
| SX21173062 | Montgomery County Sanitation District No. 2 Combo Vac Truck Proj | 3-5 Years | Not Funded | $120,000 | Montgomery | 45 | 24 |
| SX21175020 | City of West Liberty Camera Inspection Equipment Purchase Project | 3-5 Years | Not Funded | $150,000 | Morgan | 46 | 4 |
| SX21165014 | Menifee County Sanitation District System Improvement Project Phase 2 | 3-5 Years | Not Funded | $100,000 | Menifee | 47 | 6 |
| | | | **Total Cost:** | **$22,794,761** | | | |

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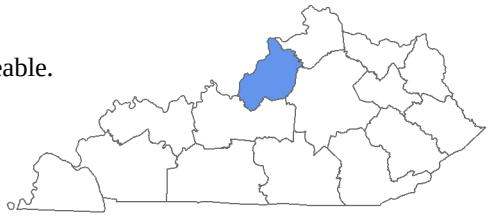
# Kentuckiana Regional Planning and Development Agency (KIPDA)



- 2010 census population of 959,091 (421,502 households) with 87% serviceable.
- Projected 2020 population of 1,058,343 (change of 99,252).
- 4,027.56 miles of existing sewer lines.
- 29.00 miles of line extensions proposed in the next 10 years.
- 9.00 miles of line rehabilitation proposed in the next 10 years.
- 20.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $312,792,210.
- Estimated funding needs for projects from 6 to 10 years: $15,260,601.

Kentuckiana Regional Planning and Development Agency has a 2010 census population count of 959,091 (421,502 households) with a projected 2020 population count of 1,058,343 (437,016 households). Public sewer is currently available to approximately 87 percent of the district's households based on 2010 census counts. Over the next ten years approximately 1,719 serviceable households will be added through the construction of 29.00 miles of sewer line extensions and approximately 6,455 instances of improved service through the rehabilitation of 9.00 miles of existing sewer lines and other appurtenances. 20.00 miles of interceptor lines are also proposed within this district.

**County Summary for Kentuckiana Regional Planning and Development Agency**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Bullitt | 74,319 | 29,318 | 88,508 | 34,970 | 15,732 | 54% | $ 32,980,365 |
| Henry | 15,416 | 6,640 | 15,915 | 6,405 | 2,328 | 35% | $ 3,228,779 |
| Jefferson | 741,096 | 337,616 | 793,817 | 336,744 | 328,791 | 97% | $ 177,259,253 |
| Oldham | 60,316 | 20,688 | 74,990 | 26,354 | 11,322 | 55% | $ 104,151,851 |
| Shelby | 42,074 | 16,606 | 51,944 | 19,663 | 8,460 | 51% | $ 6,118,063 |
| Spencer | 17,061 | 6,704 | 23,655 | 9,025 | 668 | 10% | $ 1,650,000 |
| Trimble | 8,809 | 3,930 | 9,514 | 3,855 | 923 | 24% | $ 2,664,500 |
| **Totals** | **959,091** | **421,502** | **1,058,343** | **437,016** | **368,224** | **87%** | **$ 328,052,811** |

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## Public Sewer Systems in the Kentuckiana Regional Planning and Development Agency

Note: Serviceable counts include households outside the area development district.

| KPDES | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0034169 | Bullitt County Sanitation District - BCSD Hillview #2 | Bullitt | 2,510 | 922 |
| KY0034177 | Bullitt County Sanitation District - BCSD Hillview #3 | Bullitt | 1,221 | 454 |
| KY0034801 | Bullitt County Sanitation District - Bullitt Hills Subdivision | Bullitt | 3,489 | 1,430 |
| KY0094307 | Bullitt County Sanitation District - Willabrook Sanitation | Bullitt | 473 | 197 |
| KY0104043 | Lebanon Junction Wastewater | Bullitt | 1,624 | |
| KY0033804 | Mount Washington Water & Sewer Company | Bullitt | 14,575 | 5,836 |
| KY0027359 | Shepherdsville Sewer | Bullitt | 12,227 | 4,922 |
| KY0026883 | Eminence Wastewater | Henry | 2,549 | 1,102 |
| KY0031828 | New Castle Wastewater | Henry | 1,103 | 507 |
| KYP000036 | Pleasureville | Henry | 937 | 415 |
| KY0039021 | Louisville & Jefferson County MSD - Bancroft | Jefferson | 574 | 229 |
| KY0036501 | Louisville & Jefferson County MSD - Berrytown | Jefferson | 855 | 317 |
| KY0098540 | Louisville & Jefferson County MSD - Cedar Creek | Jefferson | 30,011 | 12,243 |
| KY0029459 | Louisville & Jefferson County MSD - Chenoweth Hills | Jefferson | 2,138 | 741 |
| KY0078956 | Louisville & Jefferson County MSD - Derek R Guthrie | Jefferson | 202,642 | 86,012 |
| KY0102784 | Louisville & Jefferson County MSD - Floyds Fork | Jefferson | 21,734 | 8,741 |
| KY0044261 | Louisville & Jefferson County MSD - Glenview Bluff | Jefferson | 37 | 19 |
| KY0022420 | Louisville & Jefferson County MSD - Hite Creek | Jefferson | 28,473 | 11,854 |
| KY0029106 | Louisville & Jefferson County MSD - Hunting Creek North | Jefferson | 2,479 | 983 |
| KY0029114 | Louisville & Jefferson County MSD - Hunting Creek South | Jefferson | 1,692 | 759 |
| KY0025194 | Louisville & Jefferson County MSD - Jeffersontown | Jefferson | 20,504 | 8,651 |
| KY0022497 | Louisville & Jefferson County MSD - Ken Carla | Jefferson | 84 | 43 |
| KY0044342 | Louisville & Jefferson County MSD - Lake of the Woods | Jefferson | 357 | 128 |
| KY0029416 | Louisville & Jefferson County MSD - McNeely Lake | Jefferson | 1,593 | 667 |
| KY0022411 | Louisville & Jefferson County MSD - Morris Forman | Jefferson | 409,242 | 197,428 |
| KY0028801 | Louisville & Jefferson County MSD - Silver Heights | Jefferson | 2,290 | 980 |
| KY0031712 | Louisville & Jefferson County MSD - Starview | Jefferson | 742 | 396 |
| KY0043087 | Louisville & Jefferson County MSD - Timberlake | Jefferson | 1,122 | 512 |
| KY0020001 | Lagrange Utilities Commission | Oldham | 7,962 | 3,168 |
| KY0024724 | Oldham County Environmental Authority - Ash Avenue | Oldham | 4,274 | 1,560 |
| KY0103110 | Oldham County Environmental Authority - Buckner | Oldham | 2,855 | 620 |
| KY0060577 | Oldham County Environmental Authority - Country Village | Oldham | 469 | 179 |
| KY0047635 | Oldham County Environmental Authority - Covered Bridge | Oldham | 1,919 | 674 |
| KY0054674 | Oldham County Environmental Authority - Lockwood Estates Subdivision | Oldham | 911 | 326 |
| KY0076813 | Oldham County Environmental Authority - Mockingbird Valley | Oldham | 175 | 54 |
| KY0106143 | Oldham County Environmental Authority - Ohio River | Oldham | 6,168 | 2,156 |
| KY0046264 | Oldham County Environmental Authority - Willow Creek | Oldham | 654 | 262 |
| KY0020427 | Shelbyville Municipal Water & Sewer Commission | Shelby | 18,598 | 7,475 |
| KY0065889 | Simpsonville Wastewater | Shelby | 2,389 | 947 |
| KY0028142 | Taylorsville Wastewater | Spencer | 1,451 | 668 |
| KY0069825 | Bedford Wastewater | Trimble | 987 | 431 |
| KY0088625 | Milton Wastewater | Trimble | 1,006 | 492 |
| | | **Totals:** | 817,095 | 366,208 |

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# Kentuckiana Regional Planning and Development Agency
# Regional Wastewater Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Extend Services to Unserved Areas**

**Discussion of Area Development District Needs:**

The KIPDA Regional Water Council through discussion recognizes that planning needs in the region are constantly changing. What may be viewed as the primary need in the near future could differ from what is viewed as the primary need in the present. All of the listed options are viewed as necessities throughout the region and many are viewed to be intertwined with none being mutually exclusive. With these thoughts in consideration, the KIPDA Regional Water Management Council identified the Repair and Replacement of Existing Infrastructure as its primary planning need. This planning need is tied to Economic Stimulation, meeting Regulatory Requirements, and the consolidation of Package Treatment Plants.

With a few exceptions, utilities upgrade existing infrastructure when it is replaced. The increased capabilities from these upgrades enable systems to meet demands and provide improved services to areas which leads to economic stimulation. These upgrades could be in the form of increased size in line replacements to increased treatment and pumping capacity. The ability to provide service drives economic stimulation and the Council realizes that upgrading existing infrastructure is essential to meeting future needs.

Regulatory requirements are often met through the repair and replacement of existing infrastructure. An example from several priority projects in the region includes the identification of of problematic areas within the system and manhole rehabilitation, these projects will address I/I issues and compliance with regulatory requirements. Further examples include expanding treatment capacities to comply with Agreed Orders and construction of chlorine capacity tanks at WWTPs to meet future compliance.

Consolidation in the form of the elimination of package treatment plants was another factor discussed in relation to the repair and replacement of existing infrastructure; especially in Bullitt and Oldham counties. Oldham County is currently in the process of taking five PTPs offline while failing package treatment plants have presented themselves as an issue in Bullitt County. Their elimination will be an improvement of service to customers and to environmental quality in the area. This also relates to what the Council views as the secondary need within the region.

Extending Service to Unserved Areas is viewed by the Council as the secondary need within the region. The caveat in place was the extension of service be to already developed areas. As with the elimination of failing package treatment plants, the benefits of taking customers off septic systems will be realized in the form of improvement to public health, the environment, and water sources in the area.

Further, the Council designated the seven (7) water management areas in the KIPDA region to be defined by county boundaries.

1. Bullitt County Wastewater Management Planning Area
• Bullitt County Sanitation District
• Lebanon Junction, City of
• Mount Washington Water and Sewer Company
• Shepherdsville, City of

2. Henry County Wastewater Management Planning Area
• Eminence, City of
• New Castle, City of
• Pleasureville, City of

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3. Jefferson County Water Management Planning Area
• Louisville & Jefferson County MSD

4. Oldham County Water Management Planning Area
• Lagrange Utilities Commission
• Oldham County Environmental Authority

5. Shelby County Water Management Planning Area
• Shelbyville Municipal Water and Sewer Commission
• Simpsonville, City of

6. Spencer County Water Management Planning Area
• Taylorsville, City of

7. Trimble County Water Management Planning Area
• Bedford, City of
• Milton, City of

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# Kentuckiana Regional Planning and Development Agency Project Ranking Methodology

he KIPDA Regional Water Management Council prioritizes projects using local input and an established priority ranking scoresheet.

Before projects are brought before the KIPDA Regional Water Management Council to be prioritized, they are ranked at the County level. The County Water Management Councils consist of utility representatives and local elected officials. Projects are ranked based on perceived importance within the county.

To bring continuity and fairness throughout the region, the KIPDA Regional Water Management Council requires all projects that are to be considered for Regional Prioritization to complete a Priority Ranking Scoresheet. The methodology for the scoresheet was established in 2007 by a group of Area Development Water Management Coordinators along with KIA staff. This is no longer required for all water and wastewater projects requesting State funding, but the KIPDA Council choice to continue using this method due to past success.

The scoresheet provides for a maximum of 100 points to be assigned to each project depending on how it scores according to the following criteria:

**Type of Project (20 point Maximum)**

For unserved and underserved projects, households served are the basis for the priority scoring while jobs created are the consideration for economic development projects. Feasibility studies and other projects that don't involve unserved, underserved, commercial, or industrial development are assigned a specified score.

**Project Delivery (20 point Maximum)**

Projects are scored on whether they are Regional or Non-Regional. For this purpose, regional is defined as projects involving two or more systems that, through shared or consolidated resources, improve services to consumers and achieve economy of scale.

**Project Status (20 point Maximum)**

Projects are scored based on their status relative to the planning process, the status of the development of engineering plans and specifications, and the detail of the data used to develop the estimated cost of the project. Projects that are further along in the process will receive a higher priority score.

**Funding Status (20 point Maximum)**

The projects are categorized based on their status relative its size and the funding needed to execute. Projects that are further along in the funding process will receive a higher priority as indicated below.

**Local Importance (20 point Maximum)**

The projects are assigned priority points based on their importance to the county as determined by consensus during the County Water Management Councils.

With the intention of each county having equal representation on the priority ranking list, the top projects from each county are ranked against each other according to their priority ranking score. This method is continued for the second, third, fourth, etc projects until all submitted projects receive a ranking.

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## Project Rankings For Kentuckiana Regional Planning and Development Agency

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21029009 | Shepherdsville Regional Interceptor Sewer Line (Salt River Interceptor) | 3-5 Years | Partially Funded | $1,081,200 | Bullitt | 1 | 1 |
| SX21103001 | Wastewater Treatment Plant Expansion | 0-2 Years | Partially Funded | $1,500,000 | Henry | 2 | 1 |
| SX21211017 | Shelby County Cooperative Extension Office | 0-2 Years | Not Funded | $469,263 | Shelby | 3 | 1 |
| SX21185006 | Wastewater Treatment Plant Expansion | 0-2 Years | Partially Funded | $4,900,000 | Oldham | 4 | 1 |
| SX21215002 | Sewer System Expansion - Priority 2 | 0-2 Years | Partially Funded | $1,340,000 | Spencer | 5 | 1 |
| SX21223008 | Pump Station Rehabilitation | 3-5 Years | Not Funded | $95,000 | Trimble | 6 | 1 |
| SX21185032 | Kentucky State Reformatory - Rehab Phase I | 0-2 Years | Not Funded | $2,718,080 | Oldham | 7 | 2 |
| SX21029014 | Bullitt Hills Subdivision and Hillview Wastewater Treatment System | 0-2 Years | Partially Funded | $1,119,000 | Bullitt | 8 | 2 |
| SX21103011 | Pleasureville Wastewater Capacity Upgrade | 3-5 Years | Not Funded | $150,000 | Henry | 9 | 2 |
| SX21211008 | Eminence Pike Gravity Sewers | 3-5 Years | Not Funded | $2,380,000 | Shelby | 10 | 2 |
| SX21223009 | Wastewater Treatment Plant Improvements | 0-2 Years | Not Funded | $250,000 | Trimble | 11 | 2 |
| SX21185005 | Madison Street Lift Station Upgrade | 0-2 Years | Not Funded | $306,500 | Oldham | 12 | 3 |
| SX21029015 | Willabrook Wastewater Treatment Plant Expansion | 0-2 Years | Partially Funded | $3,000,000 | Bullitt | 13 | 3 |
| SX21223011 | City of Milton - I/I Mitigation | 0-2 Years | Not Funded | $350,000 | Trimble | 14 | 3 |
| SX21103015 | New Castle - WWTP Sludge Removal | 3-5 Years | Not Funded | $208,800 | Henry | 15 | 3 |
| SX21211014 | Fast Action Response & Management (Farm) Project | 3-5 Years | Not Funded | $336,000 | Shelby | 16 | 3 |
| SX21029029 | Shepherdsville-Blue Lick Stormwater Project | 0-2 Years | Not Funded | $1,250,500 | Bullitt | 17 | 4 |
| SX21185051 | OCEA Lift Station Rehab, Renovation, and Replacement | 0-2 Years | Not Funded | $2,005,000 | Oldham | 18 | 4 |
| SX21103014 | I-71 Exit 34 Sewer Extension | 0-2 Years | Not Funded | $303,479 | Henry | 19 | 4 |
| SX21223010 | Collection System Improvements & I/I Mitigation | 0-2 Years | Not Funded | $370,000 | Trimble | 20 | 4 |
| SX21185036 | Ash Avenue Sewer Rehab | 0-2 Years | Not Funded | $478,420 | Oldham | 21 | 5 |
| SX21029002 | Shepherdsville Sewer Rehab | 3-5 Years | Not Funded | $500,000 | Bullitt | 22 | 5 |
| SX21185045 | Septic Tank Management District | 3-5 Years | Not Funded | $500,000 | Oldham | 23 | 6 |
| SX21029006 | Woodland Acres Package Plant Project | 0-2 Years | Not Funded | $600,000 | Bullitt | 24 | 6 |
| SX21185010 | I-71 Interceptor Sewer Replacement | 0-2 Years | Not Funded | $694,000 | Oldham | 25 | 7 |
| SX21185011 | South Pump Station | 3-5 Years | Not Funded | $688,000 | Oldham | 26 | 8 |
| | | | **Total Cost:** | **$27,593,242** | | | |

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# Kentucky River Area Development District (KRADD)

- 2010 census population of 114,762 (52,786 households) with 21% serviceable.
- Projected 2020 population of 111,267 (change of -3,495).
- 254.30 miles of existing sewer lines.
- 163.00 miles of line extensions proposed in the next 10 years.
- 10.00 miles of line rehabilitation proposed in the next 10 years.
- There are no interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $82,220,308.
- Estimated funding needs for projects from 6 to 10 years: $17,190,000.

Kentucky River Area Development District has a 2010 census population count of 114,762 (52,786 households) with a projected 2020 population count of 111,267 (45,823 households). Public sewer is currently available to approximately 21 percent of the district's households based on 2010 census counts. Over the next ten years approximately 5,398 serviceable households will be added through the construction of 163.00 miles of sewer line extensions and approximately 5,370 instances of improved service through the rehabilitation of 10.00 miles of existing sewer lines and other appurtenances.

**County Summary for Kentucky River Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Breathitt | 13,878 | 6,231 | 12,495 | 5,046 | 1,403 | 23% | $ 14,306,150 |
| Knott | 16,346 | 7,461 | 15,635 | 6,332 | 891 | 12% | $ 16,906,531 |
| Lee | 7,887 | 3,436 | 7,820 | 3,014 | 962 | 28% | $ 8,000,000 |
| Leslie | 11,310 | 5,278 | 10,603 | 4,377 | 662 | 13% | $ 6,470,000 |
| Letcher | 24,519 | 11,601 | 24,237 | 10,161 | 3,006 | 26% | $ 17,832,000 |
| Owsley | 4,755 | 2,328 | 4,704 | 1,971 | 392 | 17% | $ 7,726,500 |
| Perry | 28,712 | 12,791 | 28,137 | 11,637 | 3,490 | 27% | $ 27,920,527 |
| Wolfe | 7,355 | 3,660 | 7,636 | 3,285 | 358 | 10% | $ 248,600 |
| **Totals** | **114,762** | **52,786** | **111,267** | **45,823** | **11,164** | **21%** | **$ 99,410,308** |

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## Public Sewer Systems in the Kentucky River Area Development District

Note: Serviceable counts include households outside the area development district.

| KPDES | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0021288 | Jackson Wastewater | Breathitt | 2,963 | 1,403 |
| KY0027685 | Hindman Wastewater | Knott | 1,303 | 620 |
| KY0042854 | Knott County Water and Sewer District | Knott | 547 | 107 |
| KY0107956 | Troublesome Creek Environmental Authority (Ball Creek) | Knott | 264 | 121 |
| KY0021121 | Beattyville Wastewater | Lee | 2,626 | 962 |
| KY0021245 | Hyden Wastewater Department | Leslie | 1,429 | 662 |
| KY0027405 | Fleming-Neon Wastewater | | 1,951 | 979 |
| KY0038571 | Jenkins Wastewater | Letcher | 1,879 | 897 |
| KY0103217 | Letcher County Water & Sewer District - Millstone | Letcher | 91 | 39 |
| KY0106283 | Whitesburg Wastewater | Letcher | 2,350 | 1,091 |
| KY0033774 | Booneville Water and Sewer | Owsley | 827 | 392 |
| KY0020079 | Hazard Wastewater | Perry | 6,258 | 2,895 |
| KYP000034 | Perry County Sanitation District #1 | Perry | 960 | 438 |
| KY0060259 | Vicco Wastewater | Perry | 426 | 192 |
| KY0104728 | Campton Wastewater Department | Wolfe | 700 | 358 |
| | | **Totals:** | 24,574 | 11,156 |

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# Kentucky River Area Development District
# Regional Wastewater Needs Assessment

Primary Need: **Extend Services to Unserved Areas**
Secondary Need: **Repair and Replace Existing Infrastructure**

**Discussion of Area Development District Needs:**

The majority of the area is now beginning to turn to wastewater service extensions as the past has mostly been focused on providing reliable and safe potable water to the residents. The majority of our counties are now reaching 80% served with potable water and some have even achieved 95-98% served. Our entities are now looking to improve the water quality and the environment by providing a reliable means of wastewater removal which will improve the streams that empty into the rivers most use for their water source. Many residents in the area rely on failing septic systems or straight pipes for their wastewater removal needs.

Those utilities who have provided wastewater removal services for the area, have done so for many years and are now facing aging infrastructure that is in constant need of repair and/or replacement. Many of the lines are constantly breaking and the lift stations are failing which creates the potential for contamination. Wastewater concerns are focused on replacement of degraded lines, rehabilitation of lift stations and plants and when rehabilitation of the plants is not feasible construction of new ones.

**Description and Determination of Planning Units:**

The Kentucky River Area Water Management Council reviewed the wastewater systems and their service areas located within the Kentucky River Area Development District. The Council designated the Kentucky River Area Development District boundary as the regional management area. Within the Kentucky River Region, the following wastewater systems and their respective wastewater management planning areas were designated by the Council:

Kentucky River Area Water Management Planning Areas

1. Breathitt County Wastewater Management Planning Area
a) Breathitt County Water District (Planning to provide wastewater service in near future)
b) Jackson Wastewater
c) Troublesome Creek Environmental Authority (stand alone plant)

2. Knott County Wastewater Management Planning Area
a) Hindman Wastewater
b) Knott Co. Water and Sewer District
c) Troublesome Creek Environmental Authority (stand alone plant)

3. Lee County Wastewater Management Planning Area
a) Beattyville Wastewater

4. Leslie County Wastewater Management Planning Area
a) Hyden Wastewater Department

5. Letcher County Wastewater Management Planning Area
a) Fleming-Neon Wastewater
b) Jenkins Wastewater
c) Letcher County Water and Sewer District
d) Whitesburg Wastewater

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6. Owsley County Wastewater Management Planning Area
a) Booneville Water and Sewer

7. Perry County Wastewater Management Planning Area
a) Hazard Wastewater
b) Vicco Wastewater
c) Perry County Sanitation District #1
d) Troublesome Creek Environmental Authority

8. Wolfe County Wastewater Management Planning Area
a) Campton Wastewater

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# Kentucky River Area Development District
# Project Ranking Methodology

The KRADD Water Management Council meets once a year to prioritize projects in our area. Our area's utility managers and chief executives begin the ranking by first reviewing the previous year's prioritization and then pair off by county to discuss their current projects. Each county is given a list of the profiles they have in the WRIS and then they rank their basic needs during this portion of the meeting.

Once the counties rank their projects the Council then begins the process of prioritizing the projects that are of the most concern for the region. The council first discusses everyone's top ranked county project. This discussion is based on service population, violations the entity has received, current funding, whether the project is for new or existing customers and the overall community need. Following this discussion the council then begins the process of selecting the top regional projects based on the information presented. The county with the most critical overall need is the first ranked and then the other counties follow suit.

The Kentucky River region's main concerns for water projects are those that address establishing new water service to areas that currently rely on failing or contaminated wells and areas that must haul water. The region is also faced with major rehab as most systems have lines that have been in place for 40+ years as well as rehabilitation of existing plants and in cases where rehab is to expensive then the construction of new plants.

Wastewater concerns are focused on rehabilitation of lift stations and plants and when rehabilitation of the plants is not feasible construction of new ones. The majority of the area is now beginning to turn to wastewater service extensions as the past has mostly been focused on providing reliable and safe potable water to the residents. The majority of our counties are now reaching 80% served and some have even achieved 95-98% served. Our entities are now looking to improve the water quality and the environment by providing a reliable means of wastewater removal which will improve the streams that empty into the rivers most utilize for their water source.

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## Project Rankings For Kentucky River Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21131211 | Hyden - Wooton Sewer Plant Project | 6-10 Years | Not Funded | $4,200,000 | Leslie | 1 | 1 |
| SX21133009 | Crafts Colley Sanitary Sewer Project - Phase 1 | 0-2 Years | Partially Funded | $2,675,000 | Letcher | 2 | 1 |
| SX21133644 | Jenkins Dairy Hollow Sewer Extension | 3-5 Years | Not Funded | $250,000 | Letcher | 3 | 2 |
| SX21193006 | Vicco Wastewater Treatment Plant & Sewer Collection Project - Phase III | 3-5 Years | Not Funded | $2,036,800 | Perry | 4 | 2 |
| SX21193003 | Hazard Sanitary Trunk Rehabilitation | 3-5 Years | Not Funded | $3,211,510 | Perry | 5 | 1 |
| SX21129005 | Beattyville Highway 11 South Sewer Line Extension | 3-5 Years | Not Funded | $2,000,000 | Lee | 6 | 1 |
| SX21025006 | Jackson - Wastewater Lift Station Rehabilitation Project | 0-2 Years | Fully Funded | $1,200,000 | Breathitt | 7 | 1 |
| SX21189003 | Booneville - Highway 11 Sewer Extensions | 3-5 Years | Not Funded | $2,239,900 | Owsley | 8 | 1 |
| SX21237003 | Campton Lake Area Sewer Extensions | 3-5 Years | Not Funded | $248,600 | Wolfe | 9 | 1 |
| SX21025003 | Wolverine Sewer Extensions | 3-5 Years | Not Funded | $697,500 | Breathitt | 10 | 2 |
| SX21129007 | Beattyville - Wastewater Treatment Plant Expansion | 3-5 Years | Not Funded | $6,000,000 | Lee | 11 | 2 |
| SX21189600 | Booneville Hwy 1411 Sewer Extension | 3-5 Years | Not Funded | $602,600 | Owsley | 12 | 2 |
| SX21133020 | Jenkins - Wastewater Treatment Plant Improvements | 3-5 Years | Not Funded | $1,200,000 | Letcher | 13 | 6 |
| SX21193051 | TEA - Perry County Sewer Project Phase I | 3-5 Years | Partially Funded | $4,689,780 | Perry | 14 | 3 |
| SX21193100 | PCSD - Chavies Wastewater Treatment Plant | 0-2 Years | Partially Funded | $3,002,000 | Perry | 15 | 5 |
| | | | **Total Cost:** | **$34,253,690** | | | |

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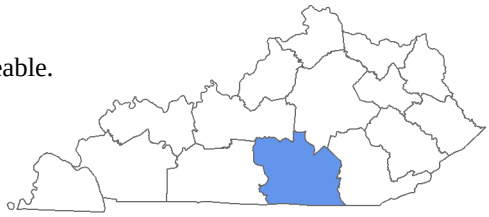
# Lake Cumberland Area Development District (LCADD)



- 2010 census population of 207,256 (101,129 households) with 26% serviceable.
- Projected 2020 population of 221,481 (change of 14,225).
- 528.53 miles of existing sewer lines.
- 142.00 miles of line extensions proposed in the next 10 years.
- 15.00 miles of line rehabilitation proposed in the next 10 years.
- 25.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $70,162,971.
- Estimated funding needs for projects from 6 to 10 years: $7,138,680.

Lake Cumberland Area Development District has a 2010 census population count of 207,256 (101,129 households) with a projected 2020 population count of 221,481 (92,378 households). Public sewer is currently available to approximately 26 percent of the district's households based on 2010 census counts. Over the next ten years approximately 3,859 serviceable households will be added through the construction of 142.00 miles of sewer line extensions and approximately 841 instances of improved service through the rehabilitation of 15.00 miles of existing sewer lines and other appurtenances. 25.00 miles of interceptor lines are also proposed within this district.

**County Summary for Lake Cumberland Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Adair | 18,656 | 8,568 | 20,052 | 8,151 | 1,920 | 22% | $ 3,915,000 |
| Casey | 15,955 | 7,487 | 16,433 | 6,791 | 1,058 | 14% | $ 400,000 |
| Clinton | 10,272 | 5,311 | 10,896 | 4,755 | 1,296 | 24% | $ 9,551,000 |
| Cumberland | 6,856 | 3,690 | 6,649 | 2,840 | 824 | 22% | $ 2,000,000 |
| Green | 11,258 | 5,324 | 11,112 | 4,660 | 1,456 | 27% | $ 1,290,000 |
| McCreary | 18,306 | 7,507 | 18,314 | 6,819 | 1,730 | 23% | $ 9,823,985 |
| Pulaski | 63,063 | 31,443 | 71,036 | 29,901 | 7,008 | 22% | $ 14,032,000 |
| Russell | 17,565 | 9,993 | 18,782 | 8,112 | 2,957 | 30% | $ 7,146,566 |
| Taylor | 24,512 | 10,864 | 26,079 | 10,663 | 5,189 | 48% | $ 9,252,100 |
| Wayne | 20,813 | 10,942 | 22,128 | 9,686 | 2,925 | 27% | $ 19,891,000 |
| **Totals** | **207,256** | **101,129** | **221,481** | **92,378** | **26,363** | **26%** | **$ 77,301,651** |

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## Public Sewer Systems in the Lake Cumberland Area Development District

Note: Serviceable counts include households outside the area development district.

| KPDES | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0024317 | Columbia/Adair Utilities District | Adair | 4,532 | 1,920 |
| KY0026352 | Liberty Water & Gas | Casey | | 1,058 |
| KY0024295 | Albany Municipal Water & Sewer | Clinton | 2,501 | 1,296 |
| KY0036854 | Burkesville Wastewater | Cumberland | 1,496 | 779 |
| KY0023841 | Greensburg Sewer Department | Green | 2,358 | 1,179 |
| KY0096881 | Sanitation District #1 of Green County | Green | 616 | 277 |
| KY0097837 | McCreary County Water District | McCreary | 3,884 | 1,730 |
| KYP000069 | Burnside Municipal Water Works | Pulaski | 523 | 278 |
| KY0094447 | Science Hill Sewer | Pulaski | 1,141 | 496 |
| KY0026611 | Somerset Utilities | Pulaski | 12,901 | 6,233 |
| KY0062995 | Jamestown Utilities | Russell | 1,885 | 913 |
| KYP000057 | Russell Springs Sewer & Water Works | Russell | 3,678 | 2,043 |
| KY0054437 | Campbellsville Municipal Water & Sewer System | Taylor | 11,563 | 5,189 |
| KY0033847 | Monticello Utility Commission | Wayne | 6,254 | 2,925 |
| | | **Totals:** | 55,391 | 26,316 |

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# Lake Cumberland Area Development District
# Regional Wastewater Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Extend Services to Unserved Areas**

**Discussion of Area Development District Needs:**

The Lake Cumberland Area Development District planning units are in need of repairing and replacing existing infrastructure. The systems in the Lake Cumberland Area need to repair and/or replace lift stations, sewer lines and manholes due to aging infrastructure. The some systems also need to upgrade the existing treatment plants with safer, more efficient methods of treatment.

The Lake Cumberland Area Development District planning units would like to provide service to more customers by extending service to unserved areas. Providing service to unserved areas will eliminate failing septic systems and straight pipe discharges allowing growth without the potential for health problems resulting from human exposure to untreated sewage.

The needs of the Lake Cumberland Regional Water Management Council are a very diverse collection. Other needs of the area include meeting regulatory requirements and sanitary sewer overflow correction.

**Description and Determination of Planning Units:**

The Lake Cumberland Area Development District is made up of thirteen planning units. The planning units were determined by the Lake Cumberland Regional Water Management Council based on local issues in the area such as location, size of area, number of customers, number of systems, and need and ability of systems to plan together. The planning units are Adair (Columbia/Adair Utilities District), Bronston/Burnside (Bronston Water Association and Burnside Municipal Water Works), Campbellsville (Campbellsville Municipal Water & Sewer System), Casey (Liberty Water & Gas), Clinton (Albany Municipal Water & Sewer), Cumberland (Burkesville Wastewater and Cumberland County Water District), Eubank/Science Hill (City of Eubank Water System and Science Hill Sewer), Greensburg (Greensburg Sewer Department), McCreary (McCreary County Water District), Russell (Jamestown Utilities and Russell Springs Sewer & Water Works), Somerset (Somerset Utilities), Summersville (Sanitation District #1 of Green County), and Wayne (Monticello Utility Commission).

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# Lake Cumberland Area Development District
# Project Ranking Methodology

The current needs in the Lake Cumberland ADD region are quite sizeable. While water service has been provided to most residents some are still in need of service, expanded treatment capacity and replacement of aging or undersized lines are becoming more and more necessary. For wastewater, the needs include system expansion, unserved areas, aging infrastructure, and expanded treatment capacity.

The Lake Cumberland Regional Water Management Council uses a point based ranking system to rank the needs of the area. Each local system was asked to submit their most needed projects to the Council for ranking. Projects were scored on a series of criteria including Type of Project, Regionalism, Shovel Readiness, Funding Status, Planning Assessment, and Local Need. Additional bonus points were assigned at the discretion of the Council for projects deemed most deserving. In the event of a tie, the project's Cost per Connection was used as the deciding factor.

The following point criteria will be submitted to the Lake Cumberland Regional Water Management Council on December 6, 2012 for approval:

Type of Project (up to 20 points assigned)

**Unserved** – Points based on number of households served per mile

| | |
|---|---|
| AVERAGE 9 OR GREATER HOUSEHOLDS PER MILE - | 20 |
| AVERAGE 7-8 HOUSEHOLDS PER MILE - | 19 |
| AVERAGE 5-6 HOUSEHOLDS PER MILE - | 18 |
| AVERAGE 3-4 HOUSEHOLDS PER MILE - | 15 |
| AVERAGE 1-2 HOUSEHOLDS PER MILE - | 10 |
| AVERAGE OF LESS THAN 1 HOUSEHOLDS PER MILE - | 5 |

**Underserved** – Points based on percentage of total customer base impacted

| | |
|---|---|
| 80-100% OF TOTAL CUSTOMER BASE IMPACTED BY PROJECT - | 20 |
| 60-79% OF TOTAL CUSTOMER BASE IMPACTED BY PROJECT - | 19 |
| 40-59% OF TOTAL CUSTOMER BASE IMPACTED BY PROJECT - | 18 |
| 20-39% OF TOTAL CUSTOMER BASE IMPACTED BY PROJECT - | 15 |
| 10-19% OF TOTAL CUSTOMER BASE IMPACTED BY PROJECT - | 10 |
| LESS THAN 10% OF TOTAL CUSTOMER BASE IMPACTED BY PROJECT – | 5 |

**Industrial/Commercial** – Points based on number of jobs created/retained

| | |
|---|---|
| 100 OR MORE NEW JOBS CREATED OR JOBS RETAINED - | 20 |
| 75-99 NEW JOBS CREATED OR JOBS RETAINED - | 19 |
| 50-74 NEW JOBS CREATED OR JOBS RETAINED - | 18 |
| 20-49 NEW JOBS CREATED OR JOBS RETAINED - | 15 |
| 10-19 NEW JOBS CREATED OR JOBS RETAINED - | 10 |
| LESS THAN 10 NEW JOBS CREATED OR JOBS RETAINED - | 5 |

**Other** – 3 points assigned for projects not meeting the above types

**Combination** – Most favorable listed category plus an additional 3 points

**Project Delivery** (up to 15 points assigned)

Regional - 15 points
Non-Regional – 5 points

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**Project Status** (up to 15 points assigned)

| | |
|---|---|
| Engineering Plans and specs submitted to DOW - | 15 points |
| Preliminary Engineering Report completed - | 10 points |
| Cost estimate by PE - | 5 points |

**Funding Status** (up to 15 points assigned)

Projects with estimated costs greater than $100,000

| | |
|---|---|
| Funding committed for 50% or more - | 15 points |
| Funding committed for 1-49% or more - | 10 points |
| Pending applications - | 5 points |
| Projects with estimated costs of $100,000 or less - | 10 points |

**Planning Unit Assessment** (up to 15 points assigned)

| | |
|---|---|
| Meets primary/secondary need - | 15 points |
| Does not meet primary/secondary need – | 5 points |

**Local Need** (up to 20 points assigned)

Points assigned based on the planning unit ranking

| | |
|---|---|
| 1ST – | 20 POINTS |
| 2ND – | 16 POINTS |
| 3RD – | 13 POINTS |
| 4TH – | 11 POINTS |
| 5TH – | 9 POINTS |
| 6TH – | 7 POINTS |
| 7TH – | 6 POINTS |
| 8TH – | 5 POINTS |
| 9TH – | 4 POINTS |
| 10TH – | 3 POINTS |
| 11TH – | 2 POINTS |
| 12TH – | 1 POINTS |

13TH OR HIGHER – 0 POINTS

**Council Input** (up to 10 points assigned)

Council assigns 10 bonus points to 15% of projects

**Tie Breaker** (no points assigned)

Cost per connection - only used to break point based ties

Lowest cost per connection is ranked highest

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## Project Rankings For Lake Cumberland Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21199001 | Midtown Sanitary Sewer Upgrade | 0-2 Years | Fully Funded | $3,000,000 | Pulaski | 1 | 1 |
| SX21217002 | Wastewater Treatment Plant Flood Mitigation Project | 3-5 Years | Not Funded | $2,855,000 | Taylor | 2 | 1 |
| SX21001004 | Downtown Sewer System Improvements - Phase 1 | 3-5 Years | Not Funded | $1,930,000 | Adair | 3 | 1 |
| SX21147020 | Sewer System Extensions – Revelo to Stearns Phase 1 | 3-5 Years | Not Funded | $930,000 | McCreary | 4 | 1 |
| SX21053006 | Albany Lift Station Renovation | 3-5 Years | Not Funded | $665,000 | Clinton | 5 | 1 |
| SX21217008 | Campbellsville Sewer System Renovation | 3-5 Years | Not Funded | $788,000 | Taylor | 6 | 2 |
| SX21199028 | Somerset/Bourne Ave Sanitary Sewer Upgrade | 0-2 Years | Fully Funded | $375,000 | Pulaski | 7 | 2 |
| SX21199029 | Somerset/South Central Ave Sanitary Sewer Upgrade | 3-5 Years | Fully Funded | $250,000 | Pulaski | 8 | 3 |
| SX21087014 | Green Co. SD#1 – Wastewater System Upgrades | 0-2 Years | Not Funded | $740,000 | Green | 9 | 1 |
| SX21053004 | Rowena - Lake Cumberland Sewer System Extension | 3-5 Years | Not Funded | $1,697,000 | Clinton | 10 | 2 |
| | | | **Total Cost:** | **$13,230,000** | | | |

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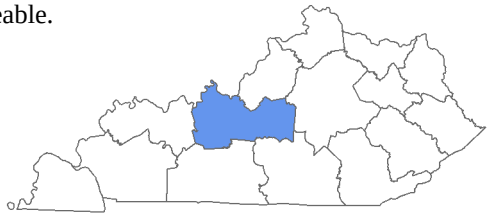
# Lincoln Trail Area Development District (LTADD)



- 2010 census population of 269,117 (116,687 households) with 40% serviceable.
- Projected 2020 population of 295,040 (change of 25,923).
- 865.54 miles of existing sewer lines.
- 65.00 miles of line extensions proposed in the next 10 years.
- 2.00 miles of line rehabilitation proposed in the next 10 years.
- 35.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $87,041,030.
- Estimated funding needs for projects from 6 to 10 years: $258,970.

Lincoln Trail Area Development District has a 2010 census population count of 269,117 (116,687 households) with a projected 2020 population count of 295,040 (117,392 households). Public sewer is currently available to approximately 40 percent of the district's households based on 2010 census counts. Over the next ten years approximately 1,968 serviceable households will be added through the construction of 65.00 miles of sewer line extensions and approximately 133 instances of improved service through the rehabilitation of 2.00 miles of existing sewer lines and other appurtenances. 35.00 miles of interceptor lines are also proposed within this district.

**County Summary for Lincoln Trail Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Breckinridge | 20,059 | 10,630 | 21,489 | 8,788 | 1,438 | 14% | $ 9,943,330 |
| Grayson | 25,746 | 13,561 | 27,048 | 11,007 | 3,414 | 25% | $ 1,077,500 |
| Hardin | 105,543 | 43,261 | 116,612 | 46,055 | 24,943 | 58% | $ 51,590,870 |
| Larue | 14,193 | 6,172 | 14,961 | 6,069 | 1,518 | 25% | $ 1,804,000 |
| Marion | 19,820 | 8,182 | 21,424 | 8,332 | 3,209 | 39% | $ 4,029,300 |
| Meade | 28,602 | 11,762 | 30,901 | 11,964 | 2,548 | 22% | $ 608,000 |
| Nelson | 43,437 | 18,075 | 50,119 | 20,219 | 8,262 | 46% | $ 11,929,000 |
| Washington | 11,717 | 5,044 | 12,486 | 4,958 | 1,305 | 26% | $ 6,318,000 |
| **Totals** | **269,117** | **116,687** | **295,040** | **117,392** | **46,637** | **40%** | **$ 87,300,000** |

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## Public Sewer Systems in the Lincoln Trail Area Development District

Note: Serviceable counts include households outside the area development district.

| KPDES | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0026701 | Cloverport Sewer System | Breckinridge | 935 | 454 |
| KY0028363 | Hardinsburg Sewer System | | 2,058 | 980 |
| KY0072044 | Caneyville Sewer System | Grayson | 611 | 300 |
| KY0090590 | Clarkson Sewer System | Grayson | 878 | 439 |
| KY0022934 | Leitchfield Utilities Commission | Grayson | 5,789 | 2,652 |
| KY0022039 | Elizabethtown Wastewater System | Hardin | 27,987 | 12,573 |
| KY0022390 | HCWD #1 Radcliff Sewer System | Hardin | 23,289 | 10,093 |
| KY0024988 | Vine Grove Sewer System | Hardin | 4,208 | 1,774 |
| KY0022152 | West Point Sewer System | Hardin | 878 | 464 |
| KY0026379 | Hodgenville Sewer System | Larue | 3,524 | 1,517 |
| KY0090719 | Bradfordsville Sewer System | Marion | 311 | 151 |
| KY0026549 | Lebanon Sewer System | Marion | 6,011 | 2,767 |
| KYP000073 | Loretto Wastewater System | Marion | 674 | 291 |
| KY0021474 | Brandenburg Sewer System | Meade | 2,748 | 1,196 |
| KYP000051 | Muldraugh Sewer System | Meade | 936 | 532 |
| KY0021237 | Bardstown Sewer System | Nelson | 17,181 | 7,437 |
| KY0034436 | Bloomfield Sewer System | Nelson | 913 | 415 |
| KY0034126 | New Haven Sewer System | Nelson | 936 | 406 |
| KY0020907 | Springfield Water & Sewer Commission | Washington | 2,699 | 1,305 |
| | | **Totals:** | 102,566 | 45,746 |

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# Lincoln Trail Area Development District
# Regional Wastewater Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Sanitary Sewer Overflow Correction**

**Discussion of Area Development District Needs:**

The Lincoln Trail Area has primary service within municipal boundaries. There are a few pockets of unserved areas within each city (where they have annexed new property or where force-main may be required). Many of the systems are approaching an age where lines and primary mechanical facilities will need replacement and upgrade. Most of the sewer facilities were constructed in the late 1950's, 60's and 70's. Clay tile pipe is still predominate in many communities. Deterioration of these lines, as well as old cast iron lines contribute to high rates of infiltration and inflow.

New developments on the fringes of the high density urban areas (Hardin County areas outside of Elizabethtown) have the need for sanitary sewer service extensions. Many of these areas have poor soil quality for on-site systems and higher densities than practical. The Hardin County Water Districts (primarily No. 2) have begun developing plans to provide sanitary service to the most densely populated areas of Glendale and Rineyville. In particular, Glendale has a need for service due to potential commercial /industrial development along I-65.

The presence of infiltration and inflow in most systems has led to periodic SSO's and less than ideal or efficient treatment conditions at the WWTP's. Many communities have begun studies to prioritize areas for repair and replacement to reduce I & I conditions where possible. The greatest current need will continue to be repair and upgrade of existing lines / manholes to improve flow conditions.

**Description and Determination of Planning Units:**

Planning units in the Lincoln Trail Region are primarily set by county boundaries. They generally compose a large enough geographic area and small enough grouping of utilities to provide reasonable interaction, feedback, and information to be a useful planning unit. The municipal entities within each county are the primary responsible utilities for provision of sewer service due to the density requirements for collection.

With the widespread availability of potable water, there is a need to constantly review the development appropriateness of sanitary service. Most unincorporated households utilize on-site septic systems which work in varying degrees of success. Poor soil suitability in some areas means less than adequate treatment and potential source water degradation. Unincorporated County areas have the potential to be included in new sanitary districts if formed.

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# Lincoln Trail Area Development District
# Project Ranking Methodology

The Lincoln Trail Area Water Management Planning Council uses the following guideline for prioritizing water and wastewater projects on a regional basis. The guideline was adapted from previous versions outlined by KIA which uses five criteria to assign a point value for each project. The process is hopefully inclusive and allows for discussion at the local level to improve understanding of a proposed project's intent and impact.

County Advisory Committees meet at least once locally. That meeting is hosted by the County Judge/Executive (as the Advisory chairperson) with each local utility, Mayor, and local Health Department invited to participate. All proposed projects are reviewed by the committee and given an initial score based upon how the project meets the five criteria (project type, regional connections, design status, funding status, and local need). Most of the discussion by the committees is centered on what projects address the greatest local needs. Since there can be diverse interests represented, this means the committee members must work together to determine what needs are most important in their community and what projects will meet them.

After all the County Advisory meetings have taken place the Area Water Management Council meets to finalize the priorities. Staff then does a summary tabulation of project points. The Council takes up the projects and scoring as presented by staff and County Advisory Committees. In the past two years, the Council has only included the top five projects from each County Advisory group for the regional prioritization list (meaning there is a maximum of 40 projects eligible to receive regional bonus points). The Council can assign bonus points to projects that they feel best represent the regional interest. The bonus points are assigned to the top 15% scoring projects. The following criteria are used for the overall scoring:

**Project type** [20 points max to 5 points min.]:

- Unserved (customers / mile): 7>/mile=20 pts, 5-6/mile=15 pts, 3-4/mile=10 pts, 2</mile=5 pts;
- Underserved/Improved Service (% of system improved): 75-100%=20 pts, 50-75%=15 pts, 25-49%=10 pts,
- <25% / maintenance = 5 pts;
- Economic Development (# of jobs assisted) 25+ committed= 20pts, 15-24 committed= 15pts, less than 15 committed= 10pts, no quantified jobs= 5 pts; Other (technical improvements, feasibility studies, etc. = 10 points)

**Regional Connection** [20 points max]:

- Regional project that connects or merges 2 or more systems for the sale or production of water or wastewater treatment (20 pts.)
- Increased connectivity: improved existing connection or emergency connection (10 pts.)
- Non-regional (5 pts.)

**Design Status**:

- Div. of Water approved plans (20 pts.)
- Preliminary Engineering Report completed (15 pts.)
- Engineer procured for final design (10 pts.)
- Engineer developed profile (5 pts.)

**Funding Status**: The percentage of cost committed from local sources (20 to 5 points)

- 50% or more from local sources (20pts.)
- 25-49% from local sources (15pts.)
- Less than 25% from local or submitted applications, i.e. CDBG, RD, KIA (10pts)
- Other (5pts)

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**Local Need**:

- Most important project within the planning unit (20 pts.)
- 2nd most important project (18 pts.)
- 3rd most important project (15 pts.)
- 4th most important project (11 pts.)
- 5th most important project (6 pts.)
- Only the top five in each planning unit are scored for local need.

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## Project Rankings For Lincoln Trail Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21093019 | HCWD#2 Rineyville Collector Sewers | 0-2 Years | Partially Funded | $24,000,000 | Hardin | 1 | 1 |
| SX21179020 | New Haven Phase I Sewer Extension to Gethsemani Monastery | 3-5 Years | Not Funded | $791,000 | Nelson | 2 | 3 |
| SX21179014 | BARDSTOWN COX | 3-5 Years | Not Funded | $1,960,000 | Nelson | 3 | 2 |
| SX21179013 | NEW HAVEN - WWTP IMPROVEMENTS PROJECTS | 3-5 Years | Not Funded | $1,136,000 | Nelson | 4 | 1 |
| SX21229008 | SPRINGFIELD HWY 150/KY55 BUSINESS PARK SEWER | 3-5 Years | Not Funded | $578,000 | Washington | 5 | 1 |
| SX21085009 | Clarkson Sewer / Lift Station Rehabilitation | 3-5 Years | Not Funded | $192,500 | Grayson | 6 | 1 |
| SX21229006 | Springfield - Washington County Regional Sewer Study | 3-5 Years | Not Funded | $150,000 | Washington | 7 | 3 |
| SX21085003 | Leitchfield Health Center Sewer Extension | 0-2 Years | Not Funded | $350,000 | Grayson | 8 | 2 |
| SX21179017 | City of New Haven I and I Sewer Rehab. Phase II | 3-5 Years | Not Funded | $646,000 | Nelson | 9 | 4 |
| SX21229003 | Springfield Wastewater Treatment Plant Upgrade | 3-5 Years | Not Funded | $1,190,000 | Washington | 10 | |
| SX21163006 | Brandenburg Main Lift Station Replacement / Upgrade | 0-2 Years | Not Funded | $368,000 | Meade | 11 | 1 |
| SX21155009 | Lebanon Wastewater System Rehabilitation and Improvements | 0-2 Years | Not Funded | $995,000 | Marion | 12 | 1 |
| SX21085008 | Leitchfield Fountain View Sewer Extensions Phase II | 3-5 Years | Not Funded | $535,000 | Grayson | 13 | 3 |
| SX21093022 | HCWD#1 BOONE TRACE SEWER IMPROVEMENTS | 0-2 Years | Not Funded | $2,000,000 | Hardin | 14 | 3 |
| SX21093014 | Elizabethtown Billy Creek / Valley Creek Interceptor | 0-2 Years | Not Funded | $7,800,000 | Hardin | 15 | 2 |
| SX21163005 | Muldraugh Sewer Improvements Phase 3 | 3-5 Years | Not Funded | $240,000 | Meade | 16 | 2 |
| SX21155005 | Crossroads Industrial Park Sewer Extension | 0-2 Years | Not Funded | $390,000 | Marion | 17 | 2 |
| SX21027015 | Cloverport Trailer Park Sewer Rehab | 0-2 Years | Not Funded | $146,040 | Breckinridge | 18 | 4 |
| SX21229005 | WILLISBURG WASTEWATER PROJECT | 3-5 Years | Not Funded | $3,400,000 | Washington | 19 | 4 |
| SX21027018 | Cloverport Sewer System Lift Station Rehabilitation | 0-2 Years | Not Funded | $122,100 | Breckinridge | 20 | 1 |
| SX21027010 | Irvington Sanitary Sewer Improvements | 3-5 Years | Not Funded | $3,000,000 | Breckinridge | 22 | 5 |
| SX21229004 | SPRINGFIELD, JIM TOWN PROJECT | 3-5 Years | Not Funded | $1,000,000 | Washington | 24 | 5 |
| SX21027013 | Hardinsburg Sewer System Rehabilitation Phase 2 | 0-2 Years | Not Funded | $827,240 | Breckinridge | 25 | 3 |
| SX21027020 | Irvington Manhole Rehabilitation Project | 0-2 Years | Not Funded | $91,390 | Breckinridge | 26 | 2 |
| SX21093021 | West Point Lift Station Upgrad | 3-5 Years | Not Funded | $343,350 | Hardin | 27 | 4 |
| SX21093011 | HCWD #1 Racliff Standby Generator Project | 0-2 Years | Not Funded | $1,597,200 | Hardin | 28 | 5 |
| SX21155001 | Lebanon Wastewater System Improvements | 3-5 Years | Not Funded | $293,000 | Marion | 29 | 3 |
| | | | **Total Cost:** | **$54,141,820** | | | |

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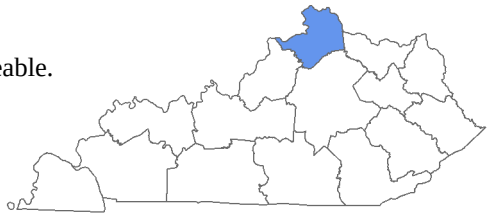
# Northern Kentucky Area Development District (NKADD)



- 2010 census population of 438,647 (185,049 households) with 81% serviceable.
- Projected 2020 population of 488,377 (change of 49,730).
- 2,076.84 miles of existing sewer lines.
- 45.00 miles of line extensions proposed in the next 10 years.
- 26.00 miles of line rehabilitation proposed in the next 10 years.
- 12.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $60,686,008.
- There are no projects planned from 6 to 10 years.

Northern Kentucky Area Development District has a 2010 census population count of 438,647 (185,049 households) with a projected 2020 population count of 488,377 (194,345 households). Public sewer is currently available to approximately 81 percent of the district's households based on 2010 census counts. Over the next ten years approximately 1,109 serviceable households will be added through the construction of 45.00 miles of sewer line extensions and approximately 4,168 instances of improved service through the rehabilitation of 26.00 miles of existing sewer lines and other appurtenances. 12.00 miles of interceptor lines are also proposed within this district.

**County Summary for Northern Kentucky Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Boone | 118,811 | 46,154 | 153,933 | 59,951 | 39,741 | 86% | $ 24,362,960 |
| Campbell | 90,336 | 39,523 | 91,642 | 37,713 | 34,652 | 88% | - |
| Carroll | 10,811 | 4,696 | 11,440 | 4,408 | 3,074 | 66% | $ 6,626,369 |
| Gallatin | 8,589 | 3,786 | 9,264 | 3,592 | 1,350 | 36% | $ 3,566,747 |
| Grant | 24,662 | 9,942 | 26,917 | 9,870 | 4,175 | 42% | $ 11,133,970 |
| Kenton | 159,720 | 68,975 | 168,458 | 68,111 | 64,468 | 94% | $ 5,102,456 |
| Owen | 10,841 | 5,634 | 11,336 | 4,713 | 933 | 17% | $ 792,079 |
| Pendleton | 14,877 | 6,339 | 15,387 | 5,987 | 1,584 | 25% | $ 9,101,427 |
| **Totals** | **438,647** | **185,049** | **488,377** | **194,345** | **149,977** | **81%** | **$ 60,686,008** |

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## Public Sewer Systems in the Northern Kentucky Area Development District

Note: Serviceable counts include households outside the area development district.

| KPDES | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KYP000015 | Florence Water & Sewer Commission | Boone | 27,925 | 12,250 |
| KY0094072 | SD1 - Rivershore Farms Subdivision | Boone | 662 | 223 |
| KY0093025 | SD1 - Verona Commons Subdivision | Boone | 87 | 27 |
| KY0039756 | Walton Wastewater System | | 3,236 | 1,272 |
| KY0105031 | SD1 - Eastern Regional STP | Campbell | 11,854 | 4,477 |
| KY0104931 | Carrollton Utilities | Carroll | 7,945 | 3,554 |
| KYP000056 | Carrollton Utilities - Prestonville | Carroll | 227 | 97 |
| KY0028118 | Warsaw Wastewater System | Gallatin | 2,104 | 996 |
| KY0098027 | Corinth Sewer Department | Grant | 405 | 176 |
| KYP000041 | Dry Ridge Sewer Department | Grant | 2,031 | 814 |
| KY0091634 | Grant County Sanitary Sewer District | Grant | 5,253 | 1,985 |
| KY0109991 | Williamstown Regional WRF | Grant | 3,229 | 1,205 |
| KYP000070 | Carrollton Utilities - Campbellsburg | Henry | 762 | 340 |
| KY0021466 | SD1 - Dry Creek | Kenton | 284,020 | 120,250 |
| KY0102164 | Walton Industrial Park STP | Kenton | 397 | 153 |
| KY0028312 | Kentucky-American Water Company - Northern Division | Owen | 1,417 | 707 |
| KY0021041 | Butler Water & Sewer Department | Pendleton | 761 | 350 |
| KY0106267 | Falmouth STP (New) | Pendleton | 2,661 | 1,218 |
| | | **Totals:** | 354,976 | 150,094 |

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# Northern Kentucky Area Development District
# Regional Wastewater Needs Assessment

Primary Need: **Extend Services to Unserved Areas**
Secondary Need: **Combined Sewer Overflow Correction**

**Discussion of Area Development District Needs:**

The Northern Kentucky Area Development District is one of fifteen regional planning agencies created by the Kentucky General Assembly to provide a mechanism for cooperative planning and development between the various local governments within the region. The Northern Kentucky Area Development District region is comprised of Boone, Campbell, Carroll, Gallatin, Grant, Kenton, Owen and Pendleton Counties. Development patterns in the region range from highly developed urbanized areas to rural farmland with sparse development. The entire eight-county region had a population of 438,647 people according to the 2010 Census. The regional population is projected to increase to over 565,200 people (221,400 households) by 2030. Boone, Grant and Gallatin counties are expected to experience the greatest growth over the next 25 years.

Public wastewater systems serve approximately 74% of the regional population, with the remainder being served by private on-site systems. Campbell and Kenton counties have the highest percentage of residents on public sewers at 85% and 90%, respectively; while in Gallatin, Grant and Owen counties less than one-third to one-fifth of all people have access to public sewers.

The rate of population growth will increase the need for public sewer capacity and availability. Plans are currently underway to accommodate the demands of the projected growth both locally and regionally.
A majority of systems in the eight counties are looking to the future with plans to expand to serve the growing population through a regional approach. Northern Kentucky Sanitation District #1 was formed in 1995 when most municipal jurisdictions in Campbell and Kenton counties merged into a regional system. The District has built two new wastewater treatment plants, one in Boone County, to expand service and protect public health in the fastest growing county in the region and one in Campbell County to replace several smaller treatment facilities that have exceeded capacity.

Carrollton Utilities operates a regional network that is responsible for the systems in the neighboring cities of Campbellsburg, Glencoe, Prestonville, Sanders, Sparta, Ghent and Worthville.
In Grant County, the Grant County Sanitary Sewer District serves the City of Crittenden and northern part of the county. The City of Corinth operates a system in the southern part of the county. There is an interconnect between the cities of Williamstown, which operates the plant, and Dry Ridge. Officials in Pendleton County are also considering a similar regional system.

**Description and Determination of Planning Units:**

The NKADD Water Management Council reviewed the wastewater systems and their service areas located within the Northern Kentucky Area Development District. The Council designated the Northern Kentucky Area Development District boundary as the regional management area. Within NKADD, the following water systems and their respective water management planning areas were designated by the Council:

<u>BOONE COUNTY</u>
Boone County is the fastest growing county in Northern Kentucky, and was the second fastest growing county in the state between 1990 and 2000, during which time its population increased by 49.3 percent. This growth is expected to continue. With such rapid growth, planning for future infrastructure is essential. There are three publicly-owned wastewater systems in Boone County and 17 PTPs. The cities of Florence and Walton operate municipal wastewater systems and the Northern Kentucky Sanitation District provides sewer service to a small portion of the County as well as Campbell and Kenton counties. The Sanitation District is planning the construction of a new wastewater treatment plant in Boone County. Currently 65% of the population relies on public sewers.

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CAMPBELL COUNTY

Campbell County is served by one public utility and 33 PTPs. The Northern Kentucky Sanitation District #1 (SD1) is responsible for the management of wastewater and stormwater in Campbell and Kenton counties as well as portions of Boone County. Campbell County is served by the Eastern Regional STP. Overall the district serves over 325,000 people, approximately 80% of the total population of the three counties.

CARROLL COUNTY

Carroll County is located on the Ohio River, approximately halfway between Cincinnati and Louisville. The County is not expected to see considerable growth in the near future. The topography of the County is rugged and much of the terrain is unsuitable for development. The County is served by 2 public utility and 3 PTPs. The city of Ghent operates a municipal system and Carrolton Utilities serves the cities of Carrollton, Campbellsburg, Ghent, Prestonville, Worthville, and Sanders.

GALLATIN COUNTY

Gallatin County is the smallest county in Kentucky by area but it was the 3rd fastest growing county in the state from 1990 to 2000 when its population increased by nearly 46 percent. Gallatin County has good transportation access via Interstate 71, which connects Louisville and Cincinnati, Ohio; and US 36, which connects Kentucky and Indiana, utilizing the Markland Dam to cross the Ohio River southwest of Warsaw. There are 2 public systems and 2 PTPs in Gallatin County. The city of Warsaw operates a municipal wastewater systems and Carrollton Utilities serves Sparta and Glencoe.

GRANT COUNTY

Grant County was the fourth fastest growing county in the state between 1990 and 2000. That growth rate is expected to continue. The Interstate 75 / U.S. 25 corridor provides convenient transportation and access for future development. Grant County is served by 3 public systems and 10 PTPs. The Grant County Sanitary Sewer District serves the city of Crittenden. The city of Williamstown operates a municipal system and treats the city of Dry Ridge as well. The city of Corinth operates a municipal system.

KENTON COUNTY

Kenton County is the third most populous county in the state. Ninety percent of the population has access to public sanitary sewers. Public sewer service is provided to most of these residents by the Northern Kentucky Sanitation District #1. The City of Walton, which sits on the border of southern Boone and Kenton Counties, provides service within its city limits. The Grant County Sanitary Sewer District may extend service into a small portion of southern Kenton County in the future. Additionally, there are 11 PTPs in the county.

Owen County is more sparsely populated than many other surrounding counties. The total population of 10,547 as of the 2000 Census was dispersed throughout the 352 square mile area the County encompasses resulting in an average population density of 30 persons per square mile. Because of the wide population distribution, only 20% of residents have access to public sewers. In addition to service from the city of Owenton, Carrollton Utilities is planning to extend sewer service into northern Owen County to serve communities along Eagle Creek. Additionally, there are 4 PTPs in the county.

PENDLETON COUNTY

Pendleton County has seen moderate growth over the past decade. The terrain is made up of rolling hills and fertile river valleys. The County is bordered by the Ohio River, which flows for 3.5 miles along its northeast border. The Licking River meanders through the County. The South Fork and main branch meet in Falmouth and flow north past Butler, into Campbell County toward the Ohio River. The county is served by 2 public systems and 9 PTPs. The cities of Butler and Falmouth operate municipal systems.

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# Northern Kentucky Area Development District
# Project Ranking Methodology

The Water Management Council created a subcommittee to develop a ranking methodology for NKADD. This was based on the methodology created by KIA along with modifications instituted by other ADDs. A point system was developed that looked at several aspects of the projects based on the following criteria:

- Consolidation or regionalization of systems
- Local rankings
- Number of unserved/underserved customers affected
- Cost per household
- Amount of planning and development work completed
- Capacity to provide wastewater service (for waterline extensions)
- Local funding

A meeting is held with each Planning Unit to rank their projects. The projects are scored using a matrix developed from the established criteria. At the Water Management Council meeting, these scores are used the rank the projects for the whole ADD. NKADD uses a tiered system so that each Planning Units number one project is in the top 8: the highest number one project is first, the second highest number one project is second, the third highest number one project is third … until all of the projects ranked by the Planning Units are ranked for the whole ADD.

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## Project Rankings For Northern Kentucky Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21081305 | GCSSD - Wastewater Treatment Plant Improvements | 0-2 Years | Not Funded | $913,300 | Grant | 1 | 1 |
| SX21041111 | Carrollton Utilities - Regional SCADA System | 0-2 Years | Not Funded | $96,000 | Carroll | 2 | 1 |
| SX21191102 | Oak Haven Pump Station and Force Main | 0-2 Years | Not Funded | $646,034 | Pendleton | 3 | 1 |
| SX21015105 | City of Union - Gunpowder Greens Sanitary Sewer Extension | 0-2 Years | Not Funded | $500,000 | Boone | 4 | 1 |
| SX21117001 | SD1 - Highland Pike Sewer Replacement | 0-2 Years | Partially Funded | $3,185,000 | Kenton | 5 | 1 |
| SX21187101 | Carrollton Utilities - Obie Cook Road Sanitary Sewer Project | 0-2 Years | Not Funded | $337,804 | Owen | 6 | 1 |
| SX21077001 | Willow Pointe Lift Station and Force Main | 0-2 Years | Not Funded | $1,300,000 | Gallatin | 7 | 1 |
| SX21191004 | WWTP Lagoon Aerator Augmentation | 0-2 Years | Not Funded | $464,083 | Pendleton | 8 | 2 |
| SX21081307 | Grant County Sanitary Sewer District - Bingham Pump Station Replacement | 0-2 Years | Not Funded | $348,100 | Grant | 9 | 2 |
| SX21015516 | City of Walton - Loreco Avenue Sewer Liftstation | 0-2 Years | Not Funded | $156,400 | Boone | 10 | 3 |
| SX21041104 | Carrollton Utilities - Harbor Point Sewer Extensions | 3-5 Years | Not Funded | $975,007 | Carroll | 11 | 2 |
| SX21191005 | Sanitary Sewer and Stormwater Improvements | 0-2 Years | Not Funded | $1,919,494 | Pendleton | 12 | 3 |
| SX21041002 | Carrollton Utilities - 2011 Carroll County Sewer Project | 0-2 Years | Not Funded | $2,622,435 | Carroll | 14 | 3 |
| SX21015003 | SD1 - Sand Run PS Influent Sewer Improvements | 0-2 Years | Partially Funded | $1,137,020 | Boone | 15 | 4 |
| SX21041102 | Carrollton Utilities - Easterday/Lock Road Sanitary Sewer Project | 0-2 Years | Not Funded | $2,308,505 | Carroll | 16 | 4 |
| SX21015301 | Boone County - Twin Lakes Sanitary Sewer Project | 0-2 Years | Not Funded | $2,093,280 | Boone | 17 | 5 |
| | | | **Total Cost:** | **$19,002,462** | | | |

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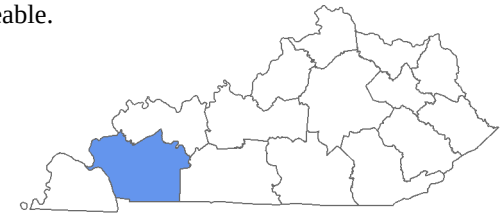
# Pennyrile Area Development District (PEADD)

- 2010 census population of 219,305 (97,910 households) with 51% serviceable.
- Projected 2020 population of 226,580 (change of 7,275).
- 998.35 miles of existing sewer lines.
- 33.00 miles of line extensions proposed in the next 10 years.
- 10.00 miles of line rehabilitation proposed in the next 10 years.
- 41.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $109,505,310.
- Estimated funding needs for projects from 6 to 10 years: $2,492,700.



Pennyrile Area Development District has a 2010 census population count of 219,305 (97,910 households) with a projected 2020 population count of 226,580 (89,133 households). Public sewer is currently available to approximately 51 percent of the district's households based on 2010 census counts. Over the next ten years approximately 1,344 serviceable households will be added through the construction of 33.00 miles of sewer line extensions and approximately 1,321 instances of improved service through the rehabilitation of 10.00 miles of existing sewer lines and other appurtenances. 41.00 miles of interceptor lines are also proposed within this district.

**County Summary for Pennyrile Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Caldwell | 12,984 | 6,292 | 12,948 | 5,518 | 3,236 | 51% | $ 2,470,000 |
| Christian | 73,955 | 29,459 | 77,840 | 28,340 | 19,450 | 66% | $ 53,113,550 |
| Crittenden | 9,315 | 4,569 | 9,156 | 3,775 | 1,542 | 34% | $ 750,000 |
| Hopkins | 46,920 | 21,180 | 48,007 | 19,684 | 13,477 | 64% | $ 20,659,746 |
| Livingston | 9,519 | 4,824 | 9,438 | 4,074 | 2,022 | 42% | $ 16,443,319 |
| Lyon | 8,314 | 4,791 | 8,523 | 3,430 | 1,564 | 33% | $ 1,500,000 |
| Muhlenberg | 31,499 | 13,699 | 31,466 | 12,337 | 5,251 | 38% | $ 6,364,395 |
| Todd | 12,460 | 5,286 | 12,958 | 4,989 | 1,700 | 32% | $ 10,697,000 |
| Trigg | 14,339 | 7,810 | 16,244 | 6,986 | 1,441 | 19% | - |
| **Totals** | **219,305** | **97,910** | **226,580** | **89,133** | **49,683** | **51%** | **$ 111,998,010** |

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## Public Sewer Systems in the Pennyrile Area Development District

Note: Serviceable counts include households outside the area development district.

| KPDES | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KYP000048 | Fredonia Water Department | Caldwell | 417 | 204 |
| | Princeton Water & Wastewater Commission | Caldwell | 6,148 | 3,032 |
| KY0066591 | Hopkinsville Water Environment Authority - Crofton | Christian | 975 | 476 |
| KY0066532 | Hopkinsville Water Environment Authority - Hammond Wood | Christian | 20,886 | 9,651 |
| KY0094056 | Hopkinsville Water Environment Authority - Oak Grove | Christian | 7,317 | 3,274 |
| KY0020061 | Marion Water Department | Crittenden | 3,131 | 1,542 |
| KY0023868 | Dawson Springs Water & Sewer System | Hopkins | 2,702 | 1,286 |
| KYP000043 | Earlington Water & Sewer Department | Hopkins | 1,394 | 706 |
| KYP000047 | Hanson Water System | Hopkins | 874 | 357 |
| KY0098043 | Madisonville Municipal Utilities | Hopkins | 20,808 | 9,663 |
| KYP000050 | Mortons Gap Water Department | Hopkins | 908 | 418 |
| KY0066583 | Nortonville Sewer Department | Hopkins | 1,568 | 704 |
| KYP000062 | White Plains Sewer Department | Hopkins | 796 | 347 |
| KY0027227 | Grand Rivers Water System | Livingston | 864 | 600 |
| KY0100251 | Ledbetter Water District | Livingston | 1,882 | 850 |
| KY0066541 | Salem Municipal Water System | Livingston | 787 | 385 |
| KY0025836 | Smithland Water & Sewer System | Livingston | 333 | 187 |
| KY0027979 | Eddyville Water Department | Lyon | 2,197 | 907 |
| KY0020419 | Kuttawa Water Department | Lyon | 896 | 593 |
| KYP000079 | Lyon County Water District | Lyon | 82 | 64 |
| KY0023540 | Central City Municipal Water & Sewer System | Muhlenberg | 4,799 | 2,232 |
| KY0066575 | Drakesboro Water & Sewer | Muhlenberg | 898 | 413 |
| KY0020010 | Greenville Utilities Commission | Muhlenberg | 5,445 | 2,260 |
| KYP000064 | Powderly Sewer System | Muhlenberg | 718 | 346 |
| KY0023442 | Elkton Utilities | Todd | 2,060 | 910 |
| KY0063649 | Guthrie Water Works | Todd | 1,334 | 603 |
| KY0020982 | Trenton Water Works | Todd | 387 | 187 |
| KY0026891 | Cadiz Water & Sewer Commission | Trigg | 2,979 | 1,423 |
| | | **Totals:** | 93,585 | 43,620 |

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# Pennyrile Area Development District
# Regional Wastewater Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Extend Services to Unserved Areas**

**Discussion of Area Development District Needs:**

The Pennyrile region has lot varied needs but at this time the majority of our needs fall under the heading of repairing and replacing aging infrastructure. This category covers the replacement of individual lines, system wide rehabilitation, to replacing aging or undersized lift stations and finally the replacement of aging or undersized wastewater treatment plants. At this time the majority of the systems in the Pennyrile area are approaching or have passed the designed lifespan of their collection systems and treatment plants. Each system is unique and has different needs but overall problem is the same. Each system has some portion of its collection system that needs to be slip lined, pipe burst, or replaced in its entirety. As the cost of treatment increases it becomes more of a priority for the systems to address the portions of their systems that are allowing I & I (inflow and infiltration). The I & I that is treated by the system is unwanted water that has made it into the collection system. It cost just as much for a system to treat rain or ground water as it does to treat household waste. The addition of I & I drives up the treatment costs for the system which in turn drives up the customer rates.

The secondary need in the Pennyrile region is the extension of services to unserved areas. These projects have a twofold effect. First they provide sewer service to an unserved area which removes septic tanks and straight pipes and improved ground water quality. The second effect is that it increases the systems customer base which in turn increases system revenues. These increased revenues can be used to address system upgrades and maintenance.

**Description and Determination of Planning Units:**

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# Pennyrile Area Development District
# Project Ranking Methodology

Each year, the Water Management Council of the Pennyrile Area Development District (PADD) completes a ranking process of water and wastewater projects in the region. This is a "grassroots" process as it begins at the local (system) level and ends with all projects being ranked on a regional basis.

We begin the process with county-wide ranking meetings during which all water/wastewater systems meet with the PADD Water Management Coordinator and their respective County Judge Executive. We discuss the individual projects from each system and rank them according to the priorities within the county. These rankings are then used in the overall regional ranking process.

The PADD Water Management Council has elected to use a point system to determine the overall regional ranking of each project. Projects are ranked based on five categories; Project Type (Unserved Customers, Underserved Customers, and Aging Infrastructure), Regionalization, Level of Engineering/Project Status, Funding Status, and Local Importance. Projects may receive up 20 points in each category except for regionalization. The Water Management Council recognizes the increasing importance of regionalization and has weighted this category heavier. Overall, a project can achieve 110 points. In the instances where two project score the same numerical value the Water Council has elected to use a simple cost analysis to break the tie. The system that is serving the most people with the least amount of money receives the higher ranking (cost of the project/number of customers served).

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## Project Rankings For Pennyrile Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21107017 | Earlington - Sewer System Improvements | 0-2 Years | Partially Funded | $1,650,000 | Hopkins | 1 | 7 |
| SX21143003 | Lyon County WD Sewerline Extensions | 3-5 Years | Partially Funded | $1,250,000 | Lyon | 2 | 1 |
| SX21107021 | Madisonville - WWTP Expansion and Improvements | 3-5 Years | Not Funded | $5,955,366 | Hopkins | 3 | 4 |
| SX21221002 | Cadiz Sewer Main Replacement | 3-5 Years | Partially Funded | $900,000 | Trigg | 4 | 1 |
| SX21139003 | Smithland WWTP Improvements | 3-5 Years | Partially Funded | $300,000 | Livingston | 5 | 1 |
| SX21219007 | Trenton - Sewer System Improvements | 0-2 Years | Partially Funded | $535,000 | Todd | 6 | 1 |
| SX21177012 | Central City - Bremen and South Carrollton Sewer Extension | 3-5 Years | Partially Funded | $3,500,000 | Muhlenberg | 7 | 3 |
| SX21143004 | Eddyville Sewer Lift Station and Sewer Line | 3-5 Years | Partially Funded | $1,030,000 | Lyon | 8 | 2 |
| SX21139006 | Salem - Lift Station Upgrade | 3-5 Years | Partially Funded | $618,000 | Livingston | 9 | 2 |
| SX21055005 | Marion - WWTP Replacement | 3-5 Years | Not Funded | $750,000 | Crittenden | 10 | 1 |
| SX21107022 | Madisonville - Hanson Relief Interceptor | 3-5 Years | Not Funded | $5,433,001 | Hopkins | 11 | 1 |
| SX21047009 | HWEA - Oak Grove Spring Meadows Sewer | 3-5 Years | Not Funded | $2,875,000 | Christian | 12 | 1 |
| SX21033009 | Princeton-Wastewater Treatment Plant Phosphorus Upgrade | 3-5 Years | Not Funded | $870,000 | Caldwell | 13 | 2 |
| SX21143007 | City of Eddyville - Wastewater System Evaluation and Rehabilitation | 0-2 Years | Not Funded | $1,000,000 | Lyon | 14 | 3 |
| SX21177008 | McFc/Drakesboro - WWTP & Pumpstation Improvements | 0-2 Years | Partially Funded | $533,000 | Muhlenberg | 15 | 7 |
| SX21047011 | HWEA - Oak Grove Wastewater Treatment Plant Expansion - Construction | 3-5 Years | Not Funded | $8,200,000 | Christian | 16 | 2 |
| SX21177007 | Greenville - Sewer Pump Station Improvements | 0-2 Years | Not Funded | $500,000 | Muhlenberg | 17 | 1 |
| SX21033006 | Fredonia - Lift Station Improvements | 3-5 Years | Not Funded | $150,000 | Caldwell | 18 | 1 |
| SX21139012 | City of Smithland - Ledbetter Interceptor | 0-2 Years | Not Funded | $3,551,000 | Livingston | 19 | 8 |
| SX21107014 | St. Charles Sanitary Sewer System - Construction | 3-5 Years | Not Funded | $3,400,000 | Hopkins | 20 | 6 |
| SX21177013 | Greenville Sewer Main Replacement - MH 2.31 - MH 5.24 | 0-2 Years | Not Funded | $644,272 | Muhlenberg | 21 | 2 |
| SX21143008 | City of Kuttawa - Wastewater System Rehabilitation | 3-5 Years | Not Funded | $200,000 | Lyon | 22 | 4 |
| SX21047023 | HWEA Oak Grove Village Sewer Project | 0-2 Years | Not Funded | $7,500,000 | Christian | 23 | 3 |
| SX21047028 | HWEA SRF Phase VIII - Expand Hammond-Wood WWTP & Interceptor | 0-2 Years | Not Funded | $21,000,000 | Christian | 24 | 6 |
| SX21219013 | Todd County Fiscal Court - Lake Malone Sewer Study | 3-5 Years | Not Funded | $100,000 | Todd | 25 | 7 |
| SX21219014 | Elkton - Sewer Collection System Rehabilitation | 3-5 Years | Not Funded | $500,000 | Todd | 26 | 2 |
| SX21033007 | Princeton Sewer Rehabilitation Phase II Basins 7 & 8 | 3-5 Years | Partially Funded | $1,450,000 | Caldwell | 27 | 3 |
| SX21139008 | Grand Rivers - Wastewater Treatment Plant Replacement | 0-2 Years | Not Funded | $6,925,319 | Livingston | 28 | 4 |
| SX21177015 | Central City-Wastewater Collection System Upgrade | 0-2 Years | Not Funded | $2,600,000 | Muhlenberg | 29 | 5 |
| SX21139010 | Smithland Sewer Rehabilitation | 3-5 Years | Not Funded | $1,517,000 | Livingston | 30 | 3 |
| SX21219012 | Elkton - Hwy 181 North Sewer Main Extension | 6-10 Years | Not Funded | $750,000 | Todd | 31 | 6 |
| SX21219018 | Elkton - Winding Oaks Sewer Project | 3-5 Years | Not Funded | $360,000 | Todd | 32 | 3 |
| SX21177017 | Greenville - Lift Station Upgrades and Sewer Camera | 0-2 Years | Not Funded | $150,000 | Muhlenberg | 33 | 4 |

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## Project Rankings For Pennyrile Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21219011 | Trenton - Wastewater Treatment Plant Expansion | 3-5 Years | Not Funded | $1,500,000 | Todd | 34 | 4 |
| SX21143009 | City of Kuttawa - Old Kuttawa Pump Station and System Rehab. | 3-5 Years | Not Funded | $300,000 | Lyon | 35 | 5 |
| SX21107009 | Madisonville South Main Sewer Interceptor Phase 2 | 3-5 Years | Not Funded | $1,443,200 | Hopkins | 36 | 5 |
| SX21219009 | Guthrie - WWTP Expansion | 3-5 Years | Not Funded | $7,000,000 | Todd | 37 | 5 |
| SX21177010 | Central City - WWTP Expansion | 3-5 Years | Not Funded | $2,800,000 | Muhlenberg | 38 | 6 |
| SX21139009 | Grand Rivers - Sewer Line Extension | 3-5 Years | Not Funded | $1,450,000 | Livingston | 39 | 6 |
| SX21107019 | Mortons Gap - Sewer Pump Replacement Project | 3-5 Years | Not Funded | $220,000 | Hopkins | 40 | 2 |
| SX21139011 | Grand Rivers - Wastewater System Rehabilitation | 0-2 Years | Not Funded | $1,000,000 | Livingston | 41 | 7 |
| SX21047029 | HWEA SRF Phase VIII - Rockbridge Interceptor | 0-2 Years | Not Funded | $12,328,550 | Christian | 42 | 7 |
| SX21107010 | Madisonville South Main Sewer Interceptor Phase 3 | 6-10 Years | Not Funded | $1,742,700 | Hopkins | 43 | 9 |
| SX21047006 | HWEA Oak Grove Industrial Park Sewer Line Extension | 3-5 Years | Not Funded | $490,000 | Christian | 44 | 4 |
| SX21177018 | Greenville - Lift Station Elimination Project | 3-5 Years | Not Funded | $450,000 | Muhlenberg | 45 | 8 |
| SX21047007 | HWEA - Oak Grove Interconnection/Cross Country Sewer Line | 0-2 Years | Not Funded | $720,000 | Christian | 46 | 5 |
| SX21107013 | Hanson - Hopkins County Industrial Park Sewer Main | 3-5 Years | Not Funded | $298,856 | Hopkins | 47 | 3 |
| | | | **Total Cost:** | **$118,440,264** | | | |

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# Purchase Area Development District (PUADD)

- 2010 census population of 196,393 (93,709 households) with 49% serviceable.
- Projected 2020 population of 201,697 (change of 5,304).
- 918.63 miles of existing sewer lines.
- 138.00 miles of line extensions proposed in the next 10 years.
- 135.00 miles of line rehabilitation proposed in the next 10 years.
- 17.00 miles of interceptor lines proposed in the next 10 years.
- Estimated funding needs for projects from 0 to 5 years: $141,211,740.
- Estimated funding needs for projects from 6 to 10 years: $26,093,690.

Purchase Area Development District has a 2010 census population count of 196,393 (93,709 households) with a projected 2020 population count of 201,697 (86,121 households). Public sewer is currently available to approximately 49 percent of the district's households based on 2010 census counts. Over the next ten years approximately 4,291 serviceable households will be added through the construction of 138.00 miles of sewer line extensions and approximately 18,929 instances of improved service through the rehabilitation of 135.00 miles of existing sewer lines and other appurtenances. 17.00 miles of interceptor lines are also proposed within this district.

**County Summary for Purchase Area Development District**

| County Name | 2010 Population | 2010 Households | 2020 Population | 2020 Households | Serviceable Households | Percent Serviceable | Planned Cost 0 to 10 Years |
|---|---|---|---|---|---|---|---|
| Ballard | 8,249 | 3,885 | 8,217 | 3,484 | 1,557 | 40% | $ 14,426,257 |
| Calloway | 37,191 | 18,065 | 40,411 | 17,019 | 9,208 | 51% | $ 50,005,000 |
| Carlisle | 5,104 | 2,441 | 4,947 | 2,093 | 595 | 24% | $ 9,787,095 |
| Fulton | 6,813 | 3,372 | 6,223 | 2,728 | 2,373 | 70% | $ 6,301,635 |
| Graves | 37,121 | 16,777 | 37,630 | 15,459 | 5,882 | 35% | $ 35,973,309 |
| Hickman | 4,902 | 2,342 | 4,625 | 1,938 | 627 | 27% | $ 850,000 |
| McCracken | 65,565 | 31,079 | 66,621 | 29,278 | 21,640 | 70% | $ 38,032,659 |
| Marshall | 31,448 | 15,748 | 33,023 | 14,122 | 3,884 | 25% | $ 11,929,475 |
| **Totals** | **196,393** | **93,709** | **201,697** | **86,121** | **45,766** | **49%** | **$ 167,305,430** |

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## Public Sewer Systems in the Purchase Area Development District

Note: Serviceable counts include households outside the area development district.

| KPDES | System Name | Primary County | Serviceable Counts | |
|---|---|---|---|---|
| | | | Population | Households |
| KY0025747 | Barlow Sewer System | Ballard | 700 | 368 |
| KY0033791 | Kevil Water & Sewer System | Ballard | 711 | 345 |
| KY0020893 | LaCenter Water System | Ballard | 1,043 | 487 |
| KY0025933 | Wickliffe Sewer System | Ballard | 772 | 365 |
| | Murray Water & Wastewater System | Calloway | 19,390 | 8,983 |
| KY0028371 | South 641 Water District | Calloway | 417 | 225 |
| KYP000065 | Arlington Water and Sewer Department | Carlisle | 356 | 182 |
| KYP000066 | Bardwell City Utilities | Carlisle | 777 | 413 |
| KY0026913 | Fulton Municipal Water System | Fulton | 2,448 | 1,330 |
| KY0028436 | Hickman Municipal Sewer System | Fulton | 2,385 | 1,043 |
| KY0053562 | Graves County Water District (Fancy Farm) | Graves | 563 | 255 |
| KY0021211 | Mayfield Electric & Water System | Graves | 10,456 | 4,902 |
| KY0055221 | Mayfield Electric & Water Systems (Highland Club) | Graves | 27 | 12 |
| KY0053520 | Mayfield Electric & Water Systems (Thomas Country) | Graves | 333 | 134 |
| KY0055271 | Symsonia Water District | Graves | 594 | 314 |
| KY0025852 | Wingo Water & Sewer System | Graves | 596 | 265 |
| KY0025275 | Clinton Sewer | Hickman | 1,274 | 626 |
| KY0021172 | Benton Water & Sewer System | Marshall | 4,765 | 2,211 |
| KY0021130 | Calvert City Municipal Water & Sewer | Marshall | 2,424 | 1,100 |
| KY0021016 | Hardin Sewer System | Marshall | 681 | 317 |
| KY0024546 | Marshall County Sanitation District #1 | Marshall | 98 | 70 |
| KY0044181 | Marshall County Sanitation District #2 | Marshall | 287 | 131 |
| KY0044164 | Purchase Public Service Corporation (Golden Acres) | Marshall | 69 | 34 |
| KY0022799 | Paducah McCracken County Joint Sewer Agency (Paducah) | McCracken | 34,291 | 17,253 |
| KY0025810 | Paducah McCracken County Joint Sewer Agency (Reidland) | McCracken | 4,635 | 2,048 |
| KY0025828 | Paducah McCracken County Joint Sewer Agency (Woodlawn) | McCracken | 4,467 | 2,091 |
| KY0044156 | Purchase Public Service Corporation (Blandville) | McCracken | 142 | 62 |
| KY0080845 | Purchase Public Service Corporation (Great Oaks) | McCracken | 522 | 178 |
| | | **Totals:** | 95,223 | 45,744 |

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# Purchase Area Development District
# Regional Wastewater Needs Assessment

Primary Need: **Repair and Replace Existing Infrastructure**
Secondary Need: **Meet Regulatory Requirements**

Based on the project profiles developed for the region the primary wastewater treatment need for the Purchase Area Development District is for the repair or replacement of existing infrastructure. The majority of the utilities in the Purchase Area are operating systems that are more than 30 years old and standards have evolved to become more stringent during this period. Many of the collection lines, manholes, and lift stations are beyond their useful life which results in wastewater systems that do not operate on a high efficiency level. Additionally, inflow and infiltration are a major issue in the region. This problem is caused by breaks in the collection system that allow surface or groundwater to penetrate the lines and forces the system to treat an increased volume resulting from major rain events.

With the primary need being replacement of existing infrastructure, the Purchase Area sees the secondary need as meeting regulatory requirements as established by the Kentucky Division of Water. Based on the existing condition of the systems it can be difficult to meet current discharge standards much less future regulations. Getting the current systems to operate on a consistent, efficient level is a high priority to these utilities, so that they can meet current and future Kentucky Pollution Discharge Elimination System (KPDES) standards.

**Description and Determination of Planning Units:**

The Purchase Area Development District is divided into eight separate planning units, that are based on the eight counties in the Purchase Area. The planning units are: Ballard County planning unit, Calloway County planning unit, Carlisle County planning unit, Fulton County planning unit, Graves County planning unit, Hickman County planning unit, Marshall County planning unit, and McCracken County planning unit.

In the Ballard County planning unit there are four wastewater utilities (City of Barlow, City of Kevil, City of Lacenter, and City of Wickliffe) that serve approximately 1,467 service connections in Ballard County.

The City of Murray and the South 641 Water District make up the two wastewater utilities in the Calloway County planning unit and serve approximately 7,865 service connections.

The Carlisle County planning unit is comprised of two utilities (City of Arlington and City of Bardwell) that collect wastewater but send the wastewater to another utility to be treated. The Carlisle County Sanitation District is the utility that receives wastewater from these two municipalities and also the Carlisle County High School. The City of Arlington and the City of Bardwell serve approximately 577 service connections.

The Fulton County planning unit has two wastewater utilities (City of Fulton and City of Hickman) that serve approximately 2,246 service connections.

The Graves County planning unit also has four wastewater utilities (Graves County Water District, Mayfield Electric & Water System, Symsonia Water District, and the City of Wingo) that serve approximately 5,444 service connections in Graves County.

The City of Clinton is the lone wastewater utility in the Hickman County planning unit and serves approximately 626 service connections.

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The Marshall County planning unit has the largest amount of wastewater utilities, which has six wastewater utilities. With those utilities being the City of Benton, Calvert City, City of Hardin, Marshall County Sanitation District #1, Marshall County Sanitation District #2, and the Purchase Public Service Corporation plant at the Golden Acres Subdivision. Together these utilities serve approximately 3,521 service connections.

Paducah-McCracken Joint Sewer Agency along with two Purchase Public Service Corporation plants at the Blandville West Subdivision and Great Oaks Subdivision make up the McCracken County planning unit. These three utilities serve approximately 17,902 service connections of McCracken County.

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# Purchase Area Development District
# Project Ranking Methodology

The Purchase Area Water Management Council uses a clean water ranking criteria to establish a regional priority list for water projects in the Purchase Area.

The clean water ranking criteria consists of five separate categories.

Project Type:

1. Regionalizing- projects receive 25 points if there is a merger of utilities and elimination of permitted discharges.
2. Elimination of sewage treatment plant through interconnection- projects receive 23 points if there is an utility that is eliminating a sewage treatment plant and sending the wastewater to another utility to be treated.
3. New treatment plant/expansion- projects receive 20 points if the utility is building a new sewage treatment plant or expanded the existing capacity of the existing sewage treatment plant.
4. Replacement or rehabilitation of aging infrastructure- project will receive 17 points if the utility is rehabbing out-dated collection lines or out-dated equipment.
5. Extension of sewer service to unserved households- project will receive 20 points if the proposed project will add an average of 9 or more new customers per mile, 19 points for an average of 7-8 new customers per mile, 18 points for an average of 5-6 new customers per mile, 15 points for an average of 3-4 new customers per mile, and 10 points for an average of 1-2 new customers per mile.

Compliance and Enforcement:

A project will receive 5 points if the utility is using this project to achieve full or partial compliance with a court or agreed order.

Funding Status

Projects that are 50%-99% funded and they receive 10 points, the second section is for projects that are 1%-49% funded and they receive 5 points. Any projects that are not funded receive zero points for this category.

Project Status

This category has three sections and a project can receive points in all sections if the utility has completed them. The first section is Engineering plans and specs submitted to DOW, a project will receive 15 points if this step has been completed. The second section is Preliminary engineering report complete, a project will receive 10 points if this step is completed. The third section is Estimated engineer's budget complete, a project will receive 5 points if this step is complete.

County Ranking

In this category, projects will receive points based on their county ranking. A number one ranked project in the county will receive 24 points, a number two ranked project in the county will receive 20 points, a number three ranked project in the county will receive 16 points, a number four ranked project in the county will receive 14 points, and a number five ranked project in the county will receive 12 points. Only the top 5 projects in each county will be ranked regionally. In the event of a tie-breaker between projects, the cost per household will be used to break the tie.

In the event of a tie-breaker between projects, the cost per household will be used to break the tie.

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## Project Rankings For Purchase Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21157035 | Marshall Co. Sanitation District #2 - Ext. to Marshall Co. High | 3-5 Years | Not Funded | $3,312,000 | Marshall | 1 | 2 |
| SX21157030 | Marshall SD 1-Liftstation Repair/Replacement & WWTP Upgrades | 0-2 Years | Partially Funded | $550,000 | Marshall | 2 | 1 |
| SX21007016 | LaCenter - Sanitary Sewer Improvements Phase III | 3-5 Years | Not Funded | $4,000,000 | Ballard | 3 | 1 |
| SX21145169 | Paducah-Mccracken JSA-Paducah Collection System Improvements | 0-2 Years | Partially Funded | $4,214,000 | McCracken | 4 | 1 |
| SX21145170 | Paducah-Mccracken JSA-Reidland Collection System Improvements | 0-2 Years | Partially Funded | $600,000 | McCracken | 5 | 2 |
| SX21075001 | Fulton Mun Water System - Rehab Phase II | 3-5 Years | Not Funded | $523,635 | Fulton | 6 | 1 |
| SX21039001 | Carlisle SD #1-WWTP Surge Basin | 0-2 Years | Partially Funded | $1,580,322 | Carlisle | 7 | 1 |
| SX21145171 | Paducah-Mccracken JSA-Woodlawn Collection System Improvements | 0-2 Years | Partially Funded | $3,590,000 | McCracken | 8 | 3 |
| SX21035013 | Murray-Phase VI Rehab Project South of Murray | 3-5 Years | Partially Funded | $270,000 | Calloway | 9 | 1 |
| SX21083031 | Symsonia-KY 534 Extension | 3-5 Years | Not Funded | $135,000 | Graves | 10 | 1 |
| SX21145172 | Paducah-Mccracken JSA-Massac Creek Pump Station and Force Main | 0-2 Years | Partially Funded | $9,824,000 | McCracken | 11 | 4 |
| SX21007012 | City of Wickliffe Sewer Rehabilitation Project Phase I | 3-5 Years | Partially Funded | $1,589,920 | Ballard | 12 | 2 |
| SX21083004 | Mayfield Electric & Water-KY 303, Cuba | 3-5 Years | Not Funded | $5,873,200 | Graves | 13 | 3 |
| SX21105005 | City of Clinton- Hwy 58 Line Replacement | 3-5 Years | Not Funded | $250,000 | Hickman | 14 | 1 |
| SX21075003 | Fulton Municipal Sewer-Wetlands Addition to Lagoon | 3-5 Years | Not Funded | $564,000 | Fulton | 15 | 4 |
| SX21083018 | Mayfield-WWTP Upgrade | 0-2 Years | Partially Funded | $2,050,000 | Graves | 16 | 4 |
| SX21007014 | LaCenter - WWTP Creek Flow Monitoring | 3-5 Years | Not Funded | $546,800 | Ballard | 17 | 5 |
| SX21039002 | Carlisle SD #1-Phase III- Milburn Force Main/Collector System | 6-10 Years | Not Funded | $2,964,030 | Carlisle | 18 | 4 |
| SX21035004 | City of Murray- Sewer Extension to North Elementary | 3-5 Years | Not Funded | | Calloway | 19 | 4 |
| SX21039018 | City of Arlington- Collection System Rehab Phase III | 3-5 Years | Not Funded | $582,660 | Carlisle | 20 | 3 |
| SX21083027 | Mayfield Electric & Water - Telemetry for WWTP & North Industrial | 3-5 Years | Not Funded | $125,000 | Graves | 21 | 2 |
| SX21105006 | City of Clinton- Replace Force Main to Lagoon | 3-5 Years | Not Funded | $600,000 | Hickman | 22 | 2 |
| SX21035023 | South 641 - System Rehab Phase II | 3-5 Years | Not Funded | $500,000 | Calloway | 23 | 2 |
| SX21075004 | Hickman Mun Sewer System - Sewer Rehab | 3-5 Years | Not Funded | $3,714,000 | Fulton | 24 | 2 |
| SX21039017 | Bardwell City Utilities- Phase III I&I Reduction | 3-5 Years | Not Funded | $300,000 | Carlisle | 25 | 2 |
| SX21039004 | Carlisle County Sanitation District #1 - Cunningham Force Main and WWTP Upgrades | 3-5 Years | Not Funded | $5,500,000 | Carlisle | 26 | 5 |
| SX21157001 | City of Calvert City-Phase II Colorado Street Sewers | 3-5 Years | Not Funded | $195,000 | Marshall | 27 | 3 |
| SX21157034 | Hardin - Wastewater Rehabilitation Phase II | 3-5 Years | Partially Funded | $1,001,000 | Marshall | 28 | 4 |
| SX21145168 | Paducah-Mccracken JSA-Flow Modeling/Classification | 3-5 Years | Not Funded | $300,000 | McCracken | 29 | 5 |
| SX21007006 | City of Barlow- Demolition of Old WWTP | 3-5 Years | Not Funded | $250,000 | Ballard | 30 | 3 |
| SX21075005 | City of Hickman- CSO Removal Project | 3-5 Years | Not Funded | $1,000,000 | Fulton | 31 | 3 |
| SX21157027 | City of Calvert City-Phase I Ext. With Low Pressure Grinder Pump | 3-5 Years | Not Funded | $100,000 | Marshall | 32 | 5 |

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## Project Rankings For Purchase Area Development District

| PNUM | Project Title | Schedule | Funding Status | Project Cost | Primary County | Regional Ranking | Local Ranking |
|---|---|---|---|---|---|---|---|
| SX21007010 | City of Wickliffe- Lagoon Levee Repair | 3-5 Years | Not Funded | $200,000 | Ballard | 33 | 4 |
| SX21075008 | Fulton Municipal Sewer-Interceptor Project | 3-5 Years | Not Funded | $500,000 | Fulton | 34 | 5 |
| SX21083016 | Mayfield-10th Street Lift Station and Sewer Line Rehab | 3-5 Years | Not Funded | $515,000 | Graves | 35 | 5 |
| SX21035018 | Murray - Industrial Park Lift Station Upgrade | 3-5 Years | Not Funded | $500,000 | Calloway | 36 | 5 |
| SX21035003 | City of Murray- Melvin Henley Dr. Extension | 3-5 Years | Not Funded | $160,000 | Calloway | 37 | 3 |
| | | | **Total Cost:** | **$58,829,567** | | | |

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## Appendix A - Counties by Area Development District

| County | ADD |
|---|---|
| Adair | LCADD |
| Allen | BRADD |
| Anderson | BGADD |
| Ballard | PUADD |
| Barren | BRADD |
| Bath | GWADD |
| Bell | CVADD |
| Boone | NKADD |
| Bourbon | BGADD |
| Boyd | FIVCO |
| Boyle | BGADD |
| Bracken | BTADD |
| Breathitt | KRADD |
| Breckinridge | LTADD |
| Bullitt | KIPDA |
| Butler | BRADD |
| Caldwell | PEADD |
| Calloway | PUADD |
| Campbell | NKADD |
| Carlisle | PUADD |
| Carroll | NKADD |
| Carter | FIVCO |
| Casey | LCADD |
| Christian | PEADD |
| Clark | BGADD |
| Clay | CVADD |
| Clinton | LCADD |
| Crittenden | PEADD |
| Cumberland | LCADD |
| Daviess | GRADD |
| Edmonson | BRADD |
| Elliott | FIVCO |
| Estill | BGADD |
| Fayette | BGADD |
| Fleming | BTADD |
| Floyd | BSADD |
| Franklin | BGADD |
| Fulton | PUADD |
| Gallatin | NKADD |
| Garrard | BGADD |

| County | ADD |
|---|---|
| Grant | NKADD |
| Graves | PUADD |
| Grayson | LTADD |
| Green | LCADD |
| Greenup | FIVCO |
| Hancock | GRADD |
| Hardin | LTADD |
| Harlan | CVADD |
| Harrison | BGADD |
| Hart | BRADD |
| Henderson | GRADD |
| Henry | KIPDA |
| Hickman | PUADD |
| Hopkins | PEADD |
| Jackson | CVADD |
| Jefferson | KIPDA |
| Jessamine | BGADD |
| Johnson | BSADD |
| Kenton | NKADD |
| Knott | KRADD |
| Knox | CVADD |
| Larue | LTADD |
| Laurel | CVADD |
| Lawrence | FIVCO |
| Lee | KRADD |
| Leslie | KRADD |
| Letcher | KRADD |
| Lewis | BTADD |
| Lincoln | BGADD |
| Livingston | PEADD |
| Logan | BRADD |
| Lyon | PEADD |
| McCracken | PUADD |
| McCreary | LCADD |
| McLean | GRADD |
| Madison | BGADD |
| Magoffin | BSADD |
| Marion | LTADD |
| Marshall | PUADD |
| Martin | BSADD |

| County | ADD |
|---|---|
| Mason | BTADD |
| Meade | LTADD |
| Menifee | GWADD |
| Mercer | BGADD |
| Metcalfe | BRADD |
| Monroe | BRADD |
| Montgomery | GWADD |
| Morgan | GWADD |
| Muhlenberg | PEADD |
| Nelson | LTADD |
| Nicholas | BGADD |
| Ohio | GRADD |
| Oldham | KIPDA |
| Owen | NKADD |
| Owsley | KRADD |
| Pendleton | NKADD |
| Perry | KRADD |
| Pike | BSADD |
| Powell | BGADD |
| Pulaski | LCADD |
| Robertson | BTADD |
| Rockcastle | CVADD |
| Rowan | GWADD |
| Russell | LCADD |
| Scott | BGADD |
| Shelby | KIPDA |
| Simpson | BRADD |
| Spencer | KIPDA |
| Taylor | LCADD |
| Todd | PEADD |
| Trigg | PEADD |
| Trimble | KIPDA |
| Union | GRADD |
| Warren | BRADD |
| Washington | LTADD |
| Wayne | LCADD |
| Webster | GRADD |
| Whitley | CVADD |
| Wolfe | KRADD |
| Woodford | BGADD |

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