PRELIMINARY ENGINEERING REPORT

FOR

SOUTH EASTERN WATER ASSOCIATION

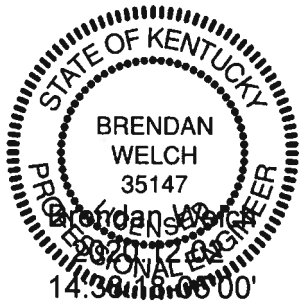
DIXIE BEND TANK REPLACEMENT

PREPARED BY

KENVIRONS, INC.
770 WILKINSON BLVD.
FRANKFORT, KY 40601

PROJECT NO. 2020007

OCTOBER 2020



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INTRODUCTION

The potable water supply for the eastern half of Pulaski County was initially provided by four water utilities beginning in the latter part of the 1960s. The water providers were Nelson Valley, Elihu-Rush Branch, Tateville and Barnesburg Water Associations. Customer growth and system expansion has been significant over the years for all four utilities. The Public Service Commission, in recognition of the advantages of consolidated operation, sought a merger of these four entities into one water association. The merger was accomplished in 1997, combining the four utilities into the South Eastern Water Association (SEWA). The service rates were revised and consolidated to one system-wide rate. SEWA now operates from an office location at 147 East Somerset Church Road, Somerset, KY in Pulaski County, KY.

The City of Somerset is the regional provider of treated water in Pulaski County. The raw water is sourced from Lake Cumberland which has essentially unlimited quantity along with excellent quality. SEWA purchases all its treated water from the City of Somerset at a wholesale rate for distribution in their system through eight (8) separate interconnects around the eastern border of the City. South Eastern Water Association serves a majority of eastern Pulaski County, along with a small portion of southeastern Lincoln County. The existing standpipe water storage tank along Dixie Bend Road is leaking and over time could cause the tank's foundation to settle or other structural issues if allowed to continue. The Association is aiming to replace the standpipe water storage tank with a new 100,000-gallon elevated water storage tank. This project will be an essential step in supporting the growth of the SEWA system.

1.0 PROJECT PLANNING

1.1 Location

Founded in 1798, Pulaski County is one of the oldest counties in the Commonwealth. It is situated in the south-central region of Kentucky. Somerset serves as the County Seat for Pulaski County, and is near the geographic center of the County. As stated previously, South Eastern Water Association is a rural water utility system. The purpose of the SEWA is to establish, develop, and operate a distribution system for its customers in eastern Pulaski County as well as a small portion of southeastern Lincoln County. Since the inception of the SEWA, there has been a steady rise in demand for clean, potable drinking water. This project will help South Eastern Water Association support this increase in demand. A location map of the system with the proposed project site is shown in Figure 1 in the Appendix.

1.2 Environmental Resources Present

The proposed project is located across the eastern portion of Pulaski County. According to the Soil Survey of Pulaski County, Kentucky, prepared by the USDA Soil Conservation Service, the major natural resources in the area are soil, water, and timber. The largest and most important of these resources is the soil, as it is the main resource used for the area's largest industries, farming and raising livestock. Pulaski County has an approximate land area of 653 square miles. Of that, 13 square miles is covered by Lake

Cumberland, and approximately 372 square miles is designated as farmland. The farms are primarily family owned, and the primary crops consist of tobacco, beans, cucumbers, and bell peppers. Approximately 50 percent of farm income is derived from the sale of crops, principally tobacco, while the remaining 50 percent is obtained from livestock and livestock products. Cattle and dairy products account for 94 percent of the livestock income in the county. This project will replace a leaking water storage tank that will increase pressure in the area, so that Pulaski County farmers and residents can continue to grow and maintain their production of products that are essential to the Commonwealth of Kentucky. A more detailed Environmental Report will be completed at a later date and will focus closely on many more aspects of the environment, and how each respective resource will be affected by the project.

1.3 Population Trends

The population of Pulaski County according to the 2010 Census conducted by the United States Census Bureau was 63,063. The South Eastern Water Association currently services 7,451 customers or approximately 15,000 people. This is roughly 24 percent of the Pulaski County population. Pulaski County has seen a growth in population since 1970 at a rate of approximately 1.32 percent per year. A population and water usage projection graph is attached as Figure 2 in the Appendix. Assuming the same trend will continue, the current water storage tank will not be able to withstand the growth. This project will allow Pulaski County to grow at its current rate and provide users with a sufficient potable water supply.

2.0 EXISTING FACILITIES

2.1 Location Map

A Location Map for the South Eastern Water Association distribution system is attached in the Appendix as Figure 1.

2.2 History

As stated previously, Pulaski County is one of the oldest counties in the Commonwealth of Kentucky. As such, clean drinking water has been supplied to both residential and commercial customers across Pulaski County for many years, with some connections dating back to the 1950's. A potable water supply for the eastern half of Pulaski County was initially provided by four water utilities beginning in the latter part of the 1960s. The four water utilities were Nelson Valley, Elihu-Rush Branch, Tateville and Barnesburg Water Associations. Due to the advantages of consolidated operation among water utilities, the Public Service Commission sought a merger of these four water associations. The merger was accomplished in 1997 and combined these four utilities into the South Eastern Water Association. The water storage tank to be replaced as part of this project has been in place since prior to the merger and the demand for more pressure has outgrown what the existing tank can efficiently deliver. This project will replace this tank to help SEWA run a more efficient, cost effective system.

2.3 Condition of Existing Facilities

As stated in previous sections, a majority of the existing distribution system was constructed prior to the merger that created South Eastern Water Association. Since then, only a select few of the distribution system lines and components have been replaced. Several waterlines have been extended to the outskirts of eastern Pulaski County, which puts more stress on these existing lines due to the increased demand throughout the system. The existing tank that is to be replaced in this project was constructed in 1992 and is leaking at the base of the standpipe. This tank needs to be replaced to avoid settlement in the tank's foundation or other structural issues and to increase pressure to customers in the surrounding area. With this tank replacement, South Eastern Water Association will be improving their system for future demand needs and growth.

The following description is an overview of the current system components and operating conditions:

2.3.1 Water Supply and Treatment: The City of Somerset is the regional provider of treated water in Pulaski County. The raw water is sourced from Lake Cumberland, has essentially unlimited quantity along with excellent quality. SEWA purchases all its treated water from Somerset at a wholesale rate for distribution in their system through eight (8) separate interconnects around the eastern border of the City.

The Somerset Water Treatment Plant (WTP) is located along the banks of Lake Cumberland between U.S. 27 and Old Monticello Road. The plant was originally constructed in 1957 with the first major expansion occurring in 1996 that increased the rated capacity to 10.0 Million Gallons per Day (MGD). The WTP is currently undergoing a second major expansion that will increase the rated treatment capacity to 16.0 MGD, with the ability to easily expand to 20.0 MGD in the future. The current average daily production is approximately 7.25 MGD. As an aside, the WTP also produces water for three other water utilities in the area, Eubanks Water System, Science Hill Water Works and Western Pulaski County Water District, which collectively use approximately 2.2 MGD, or about 30 percent of the daily production volumes. Using data gathered from the South Eastern Water Association's PSC annual report for 2019, the treated water sold to SEWA was:

Total Annual Volume (approx.): 583,095,000 Gallons
Daily Average Volume: 1,597,500 Gallons per Day
Daily Average during Maximum Month (July): 1,904,700 Gallons per Day
Maximum Day (05/25/19): 2,057,300 Gallons

2.3.2 Storage: South Eastern Water Association currently has twelve (12) water storage tanks that serve as finished water storage facilities. All finished water is supplied by the City of Somerset through various interconnects and is pumped to each of the water storage tanks in the system. The construction dates for these tanks range from 1970-2014 and are regularly inspected to ensure that they are up to code. The volumes of the

twelve tanks across the system vary from 50,000 to 400,000 gallons and have overflow elevations ranging from 1,290'-1,420' above mean sea level.

2.3.3 Pumping Stations: The South Eastern Water Association system has eleven (11) pumping stations located in their distribution system. These pumps are located throughout the system and range in performance from 80 gallons per minute (GPM) to 550 GPM. These pumps maintain the water level in the water storage tanks, which sets the hydraulic grade line that drives the water throughout the extents of the system.

2.3.4 Distribution System: As seen by the information shown in Section 2.3.1, the SEWA water distribution system carries a large volume of water. The current distribution system network totals around 440 miles of water distribution lines with nearly 70 percent being diameters 4" and less. The Association can provide existing customers with safe, clean drinking water in the quantities they desire through this network of pipes.

2.4 Financial Status of Existing Facilities

The financial status of the South Eastern Water Association is summarized in the budget sheet attached in Figure 3 in the Appendix. The sheet shows the income generated, current operation and maintenance costs, and the existing debts of the utility from 2019.

A Summary Addendum to Preliminary Engineering Report will be completed at a later date and will outline the project's feasibility and determine the final rate increase needed based on more in-depth analysis of the utilities most recent financial statements.

3.0 NEED FOR PROJECT

3.1 Health, Sanitation, and Security

This project will replace the existing standpipe water storage tank along Dixie Bend Road. As mentioned in previous sections, the existing tank was constructed prior to the merger that created South Eastern Water Association and is leaking at the base of the tank. This leaking tank can affect the customers' health throughout the SEWA service area. The replacement of this aging tank will ensure that the Association will remain in compliance with federal regulations, and that end users are provided with clean, safe drinking water. After project construction, there are no other known health, sanitation, or security issues faced by the South Eastern water system.

3.2 Aging Infrastructure

The existing Dixie Bend water storage tank has been in place prior to the merger that formed South Eastern Water Association. While the tank has performed well over the years, it has reached the end of its usable life due to the leak at the base of the standpipe. The existing Dixie Bend water storage tank was built in 1992. With the Dixie Bend Tank feeding the Dixie Bend service area, the South Eastern Water Association would like to increase pressure in this area. Dixie Bend Tank does not have the capability to meet these demands without replacement. This project will replace one water storage tank to give SEWA a more efficient and reliable system that can easily sustain future growth throughout Pulaski County.

3.3 Reasonable Growth

A detailed computer based hydraulic model has been developed for the South Eastern Water Association and has been updated over several years to reflect current system conditions. The replacement of the water storage tank would allow for the area of eastern Pulaski County to accommodate future growth.

In order to predict potential usage in the future, past population growth rates were analyzed, and this data was expanded using linear regression to develop an estimated future demand based upon the population growth. The future forecast period and hydraulic design basis will be a 20-year period, (although the design life of the tank is much greater) providing an approximation to the year 2040. The population and water usage growth pattern were graphed and is shown in Figure 2 in the Appendix. According to the graph, the population of Pulaski County will be nearly 78,000 people by the year 2040. The South Eastern Water Association has a current customer base of approximately 7,450 with an average usage of about 1.36 MGD. Assuming the same population growth pattern of approximately 0.90 percent per year applies, a customer base of approximately 9,400 would require roughly 1.72 MGD by the year 2040. This is an increase of approximately 26 percent over the current demand. Without this project, the South Eastern Water Association will be unable to support this increase in demand with the existing distribution system.

4.0 ALTERNATIVES CONSIDERED

4.1 Description

After consulting with the client, and discussing multiple alternatives, there were three alternatives that were ultimately to be considered. There is one technically feasible alternative and two technically infeasible alternatives to be considered. The alternative considered to be technically feasible is (1) the proposed plan outlined in this report (water storage tank replacement). The other two alternatives that could be chosen are not technical in nature but are options the client is facing. These alternatives are to (2) continue to fix leaks at the tank as they occur to give the Association more time to acquire funds to fully replace the tank (reactive maintenance) or (3) do nothing until the Association until tank replacement is absolutely necessary. Alternative 2 has been a substantial cost for the client due in part to both the intense labor needed to repair the tank, as well as in the physical water losses, which also applies to Alternative 3. These options also do not allow for the community to grow and maximize its potential. Since the last two options are technically infeasible, only the first option of replacement will be analyzed.

4.2 Design Criteria

The technically feasible design must be able to supply the current customer load of approximately 7,450 with the ability to withstand the growth determined in section 3.3 of this report. The current average daily demand for water through the entire system is approximately 1.6 MGD, with a total of 41,000 gallons passing through the water storage tank being replaced in this project. With a growth rate of approximately 0.90 percent per

year, the average daily demand is estimated to grow to 1.72 MGD, with approximately 50,000 gallons passing through the water storage tank in this project.

With the future project planned, the Dixie Bend Tank will be sized based off feeding only its own service area. After the project is complete, the Dixie Bend service area will have an estimated maximum daily demand of 65,000 gallons.

4.3 Map

Figure 4 in the Appendix shows the layout of the water storage tank site that will be replaced if Alternative 1 (water storage tank replacement) is implemented.

4.4 Environmental Impacts

The environmental impacts of this project are minimal, as the area has been previously disturbed and the right-of-way for the tank has been previously cleared. Alternative 1 will replace the tank in a single construction location. In this way, the impacts to the environment will be limited to the location of construction. Alternative 1 was assessed, and the resources that may be potentially affected are streams and local waterways, and the soils surrounding the tank right-of-way.

4.5 Land Requirements

The land where the tank replacement will be executed is on an existing easement from the existing Dixie Bend Tank. Location for the water storage tank site is to be on an easement that will be acquired by the Association prior to construction if additional land needs to be obtained.

4.6 Potential Construction Problems

The tank that is to be replaced may cause minimal traffic concerns depending on workspace in the right-of-way. Another concern that was considered while evaluating potential construction problems that Alternative 1 might face is the severity of tree removal. The land area where the new tank is to be constructed will be minimal and due to the construction on an existing, well maintained easement, tree removal is not a likely concern. Alternative 1 has been analyzed and there are no other foreseeable construction issues beyond these which have been addressed.

4.7 Sustainability Considerations

For sustainability considerations, the new elevated water storage tank will be able to utilize the entirety of its storage capacity compared to the existing standpipe that is only able to use the top of its water supply. This will increase water quality throughout this portion of the system. The ability to use the entire capacity of the tank will also save energy. The tank will need to be filled less frequently, therefore the pump station feeding this tank will kick on fewer times a day. The new tank will also conserve water, since there will no longer be a leak. With this product's performance, advantages, and useful design life of at least 50 years, SEWA and its potable water customers will be well served for many years to come.

4.8 Cost Estimate

Table 1 on the following page shows the following breakdown of costs associated with the project if Alternative 1 (water storage tank replacement) is chosen. The primary costs considered were legal and administrative fees, engineering fees, project construction, contingency, environmental, as well as other miscellaneous costs. Figure 5 in the Appendix shows a detailed Engineer's Opinion of Probable Cost & Estimated User Rate Impact for Alternative 1.

Table 1: Cost Estimate of Alternative 1

Category	Cost
Construction	$462,000
Contingency	45,900
Engineering Design Fee	48,300
Construction Observation	35,300
Preliminary Engineering Report	8,000
Legal & Administrative	3,500
Environmental	2,000
Geotechnical Report	10,000
Interim Interest	7,000
Total Project Cost	**$622,000**

5.0 SELECTION OF AN ALTERNATIVE

5.1 Life Cycle Cost Analysis

Table 2 on the following page shows the Life Cycle Cost Analysis for Alternative 1, as well as the values for planning period and discount rate that were used when performing the calculations. To interpret the results of the Life Cycle Cost Analysis, it is important to understand the contextual situation of the analysis. Alternative 1 is considered to be a fixed output analysis.

The Annual Operation and Maintenance (O&M) values used in the analysis were obtained by increasing the 2019 O&M values by 5 percent per year for 3 years to follow similar trends from the last 4 years of audit reports of SEWA. The same formula was used for the maintenance category with a slight change. For Alternative 1, the maintenance was reduced by 20 percent in 2022 due to the full project completion. Table 2 is the expected value for the first year of operation (2022) for Alternative 1.

Table 2
Alternative 1
Dixie Bend Tank Replacement
Life Cycle Cost Analysis

Capital Expense			$622,000
Annual O&M			
Wages		$520,376	
Maintenance		$158,813	
Supplies		$114,158	
Insurance		$305,230	
Other General and Administrative		$37,698	
Auto and Truck		$56,298	
Pension Plan Expense		$16,142	
Bank Charges		$1,345	
PSC Fees		$18,931	
Utilities		$106,117	
Telephone		$7,062	
Testing & Analysis		$17,522	
Meter Reading		$125,050	
Customer billing		$40,585	
Directors' Fees		$48,041	
Office Expenses		$29,173	
Bad Debts		$20,912	
Professional Services		$59,114	
Tax and License		$46,579	
Total O & M Cost		$1,729,146	
USPW Factor	x	18.99	
Present Worth; Annual O&M			$32,836,488
Salvage Value			
Existing Facilities		$14,221,077	
Proposed Improvements		277,200	
Total Salvage Value		$14,498,277	
SPPW Factor	x	0.91	
Present Worth; Salvage			$13,193,432
Net Present Value:			**$20,265,056**

Notes and Equations Used in Life Cycle Cost Analysis:

Interest Rate (i) = 0.5%
Planning Period (n) = 20 years
Estimated Maintenance for Alternative 1 = (Existing Maintenance x 1.05^2) x 0.80

Salvage Value; Existing Facilities = Straight Line Depreciation value from utility's financial statement
Salvage Value; Proposed Improvements = Straight Line Depreciation of construction cost from PER. Assumed life of 50 years, depreciated over 20 years.

$$Net\ Present\ Value = \text{Capital} + (\text{USPW} * \text{Total O\&M}) - (\text{SPPW} * \text{Total Salvage Value})$$

$$Uniform\ Series\ Present\ Worth\ Factor\ (USPW) = \frac{(1+\mathrm{i})^{\mathrm{n}} - 1}{\mathrm{i}(1+\mathrm{i})^{\mathrm{n}}}$$

$$Example\ USPW = \frac{((1+.005)^{20} - 1)}{(.005(1+.005)^{20})} = 18.99$$

$$Single\ Payment\ Present\ Worth\ Factor\ (SPPW) = (1+\mathrm{i})^{-\mathrm{n}}$$

$$Example\ SPPW = (1+.005)^{-20} = 0.91$$

5.2 Non-Monetary Factors

There was one technically feasible alternative being considered, and there were no foreseeable non-monetary factors that would play a role in this project if the project alternative was chosen.

6.0 PROPOSED PROJECT

6.1 Preliminary Project Design

It is upon recommendation of the project engineer that Alternative 1 (water storage tank replacement) be constructed. Based upon current conditions, client budget, environmental impacts, and future forecasting, Alternative 1 will be most effective in meeting the needs of the client. As this project is a drinking water project, the following items need to be addressed:

6.1.1 Project Layout: The primary focus of this project is to replace the existing standpipe water storage tank along Dixie Bend Road with a new 100,000-gallon elevated water storage tank. Replacement of the tank is needed in this project due to leaking at the base of the standpipe. Over time, the leak could cause the tank's foundation to settle or other structural issues if allowed to continue. The new tank will also provide increased hydraulic head to increase the pressure to surrounding customers of SEWA's system for many years to come.

6.2 Project Schedule

Table 3 shown on the following page contains the proposed completion dates for the major project components. This list is not exhaustive of all project tasks, and the dates shown are tentative.

Table 3: Estimated Project Schedule	
Task	**Estimated Date**
Environmental Review Submittal	October 15, 2020
Bid Opening	February 1, 2020
Construction Start	April 1, 2021
Construction Completion	July 1, 2021

6.3 Permit Requirements

Table 4 shown below is a tentative list of permits and approvals that will need to be obtained before project construction can begin. This list is preliminary and is subject to change following the review process of the required agencies.

Table 4: Permits & Approvals Needed	
Agency	**Permit or Approval**
KY Division of Water	Approval of Plans & Specifications
KY Division of Water	KPDES Permit

6.4 Total Project Cost Estimate

Table 5 shown below is a summarized version of the Engineer's Opinion of Probable Cost for the recommended alternative as described above. A detailed Opinion of Probable Cost is included in the Appendix as Figure 5.

Table 5: Total Project Cost Estimate	
Category	**Cost**
Construction	$462,000
Contingency	45,900
Engineering Design Fee	48,300
Construction Observation	35,300
Preliminary Engineering Report	8,000
Legal Fees	3,500
Environmental	2,000
Geotechnical Report	10,000
Interim Interest	7,000
Total Project Cost	**$622,000**

6.5 Excess Funding Disbursement

Any remaining funds leftover after the project has been substantially completed will be used to fund new meters for the South Eastern Water Association.

6.6 Annual Operating Budget

Table 6 shown on the following page is a summarized version of the Existing Operating Budget for Year Ending 2019 and proposed operation and maintenance costs upon

project completion. The full Existing Operating Budget for Year Ending 2019 is included in the Appendix as Figure 3.

Table 6: Annual Operation & Maintenance Cost

Category	Existing	Proposed
Wages	$449,520	$520,376
Maintenance	$180,060	$158,813
Supplies	$98,614	$114,158
Insurance	$263,669	$305,230
Other General and Administrative	$32,565	$37,698
Auto and Truck	$48,632	$56,298
Pension Plan Expense	$13,944	$16,142
Bank Charges	$1,162	$1,345
PSC Fees	$16,353	$18,931
Utilities	$91,668	$106,117
Telephone	$6,100	$7,062
Testing & Analysis	$15,136	$17,522
Meter Reading	$108,023	$125,050
Customer billing	$35,059	$40,585
Directors' Fees	$41,500	$48,041
Office Expenses	$25,201	$29,173
Bad Debts	$18,065	$20,912
Professional Services	$51,065	$59,114
Tax and License	$40,237	$46,579
Total Operation & Maintenance Cost	**$1,536,573**	**$1,729,146**

7.0 CONCLUSIONS AND RECOMMENDATIONS

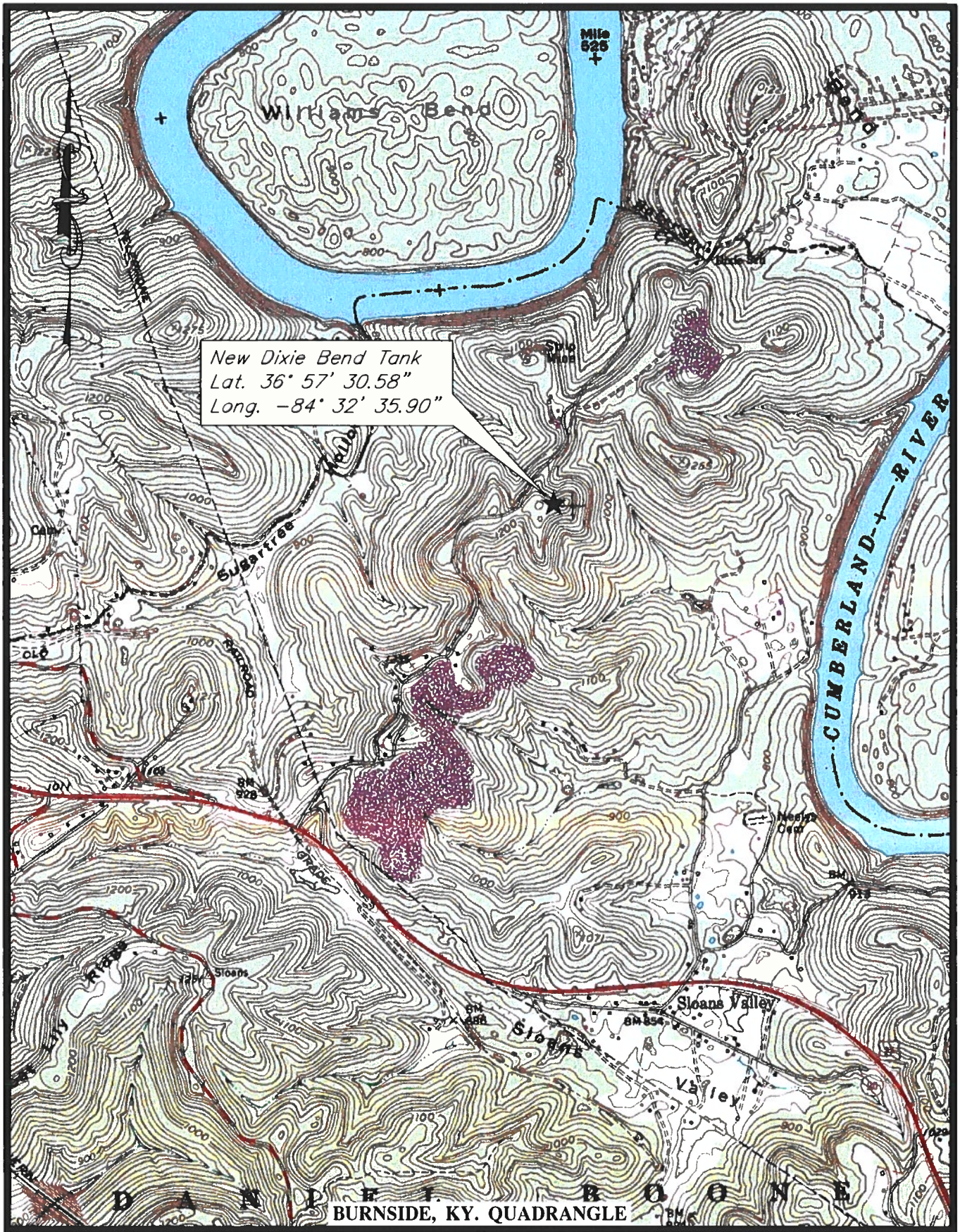
It is the conclusion and recommendation of this report that the South Eastern Water Association implement the project as described in the Proposed Project section of this report. It is further recommended that SEWA proceed with its applications for project funding assistance.

An evaluation of the revenue needed for the proposed project was conducted to determine the project's impact on the water rates. The evaluation of estimated user rate impact can be found in Figure 6 of the Appendix. Based on the evaluation of the revenue needed for debt repayment from the proposed project, the user rates will need to be increased 0.65% to finance the proposed project.

As mentioned in a previous section of this Report, a Summary Addendum to Preliminary Engineering Report will be completed and will outline the project feasibility and determine the final rate increase needed based on more in-depth analysis of the utility's most recent financial statements.

APPENDIX

FIGURE 1



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SOUTH EASTERN WATER ASSOCIATION
NEW DIXIE BEND TANK
PULASKI COUNTY, KENTUCKY

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FIGURE 2

Figure 2
Pulaski County, KY - Projections for Population & Water Usage

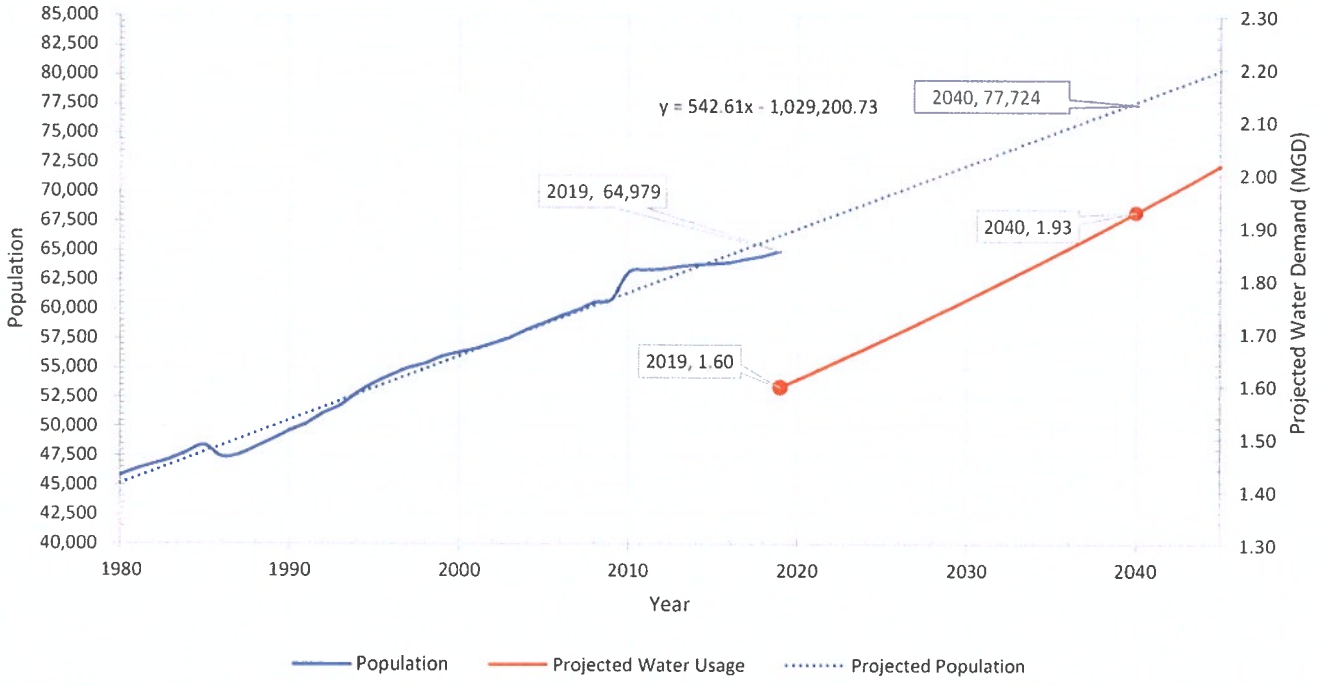
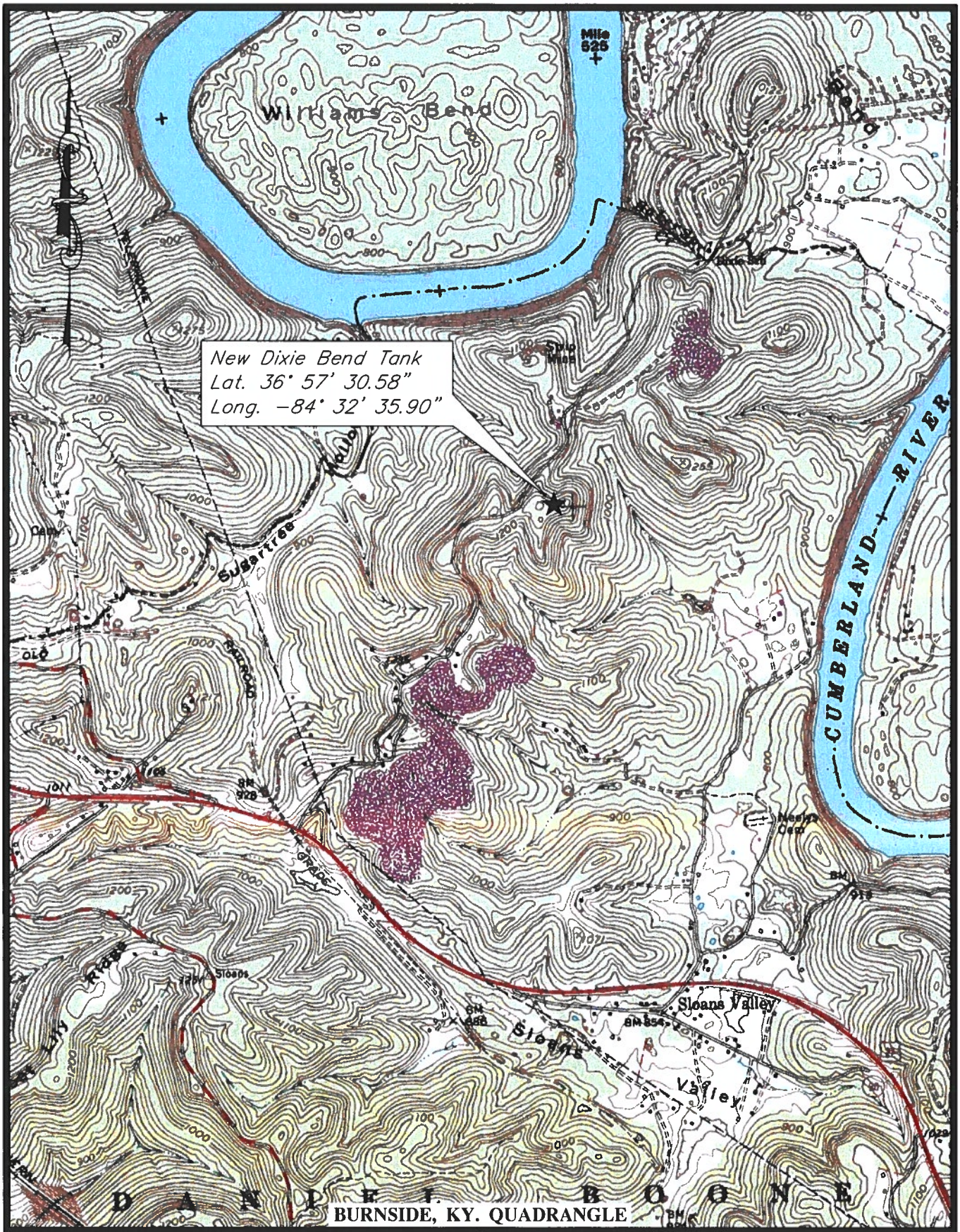


FIGURE 3

SOUTHEASTERN WATER ASSOCIATION
Existing Operating Budget
For Year Ending 2019

REVENUE REQUIREMENTS		
Operation & Maintenance Expenses		
Wages	$ 449,520.00	
Maintenance	$ 180,060.00	
Supplies	$ 98,614.00	
Insurance	$ 263,669.00	
Other General and Administrative	$ 32,565.00	
Auto and Truck	$ 48,632.00	
Pension Plan Expense	$ 13,944.00	
Bank Charges	$ 1,162.00	
PSC Fees	$ 16,353.00	
Utilities	$ 91,668.00	
Telephone	$ 6,100.00	
Testing & Analysis	$ 15,136.00	
Meter Reading	$ 108,023.00	
Customer billing	$ 35,059.00	
Directors' Fees	$ 41,500.00	
Office Expenses	$ 25,201.00	
Bad Debts	$ 18,065.00	
Professional Services	$ 51,065.00	
Tax and License	$ 40,237.00	
		$ 1,536,573.00
Debt Service		
Annual Principal & Interest	$ 683,143.00	
		$ 683,143.00
Debt Service Coverage, Reserve, & Service Fees		
RD	$ 45,618.00	
KRWA Administrative Fees	$ 7,293.75	
		$ 52,911.75
Other		
Short-Term Assets	$ 179,866.67	
		$ 179,866.67
TOTAL REVENUE REQUIREMENTS		**$ 2,452,494.42**
UTILITY INCOME		
Operating Revenues		
Sales	$ 4,099,805.00	
Service Charges/Reconnect Fees	$ 35,136.00	
Other Income	$ 28,202.00	
Cost of Water Sold	$ (1,452,694.00)	
		$ 2,710,449.00
Non-Operating Revenues		
Capital Contributions - Federal Grants	$ 30,467.00	
Capital Contributions - Other Grants	$ -	
Gain(Loss) on Sale	$ -	
Membership Fees Collected	$ 3,910.00	
Tap-on Fees Collected, Net of Amounts Refunded	$ 45,815.00	
Interest Income	$ 67,199.00	
		$ 147,391.00
TOTAL UTILITY INCOME		**$ 2,857,840.00**

FIGURE 4



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SCALE: 1"=2,000'

SOUTH EASTERN WATER ASSOCIATION

NEW DIXIE BEND TANK

PULASKI COUNTY, KENTUCKY

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FIGURE 5

Southeastern Water Association
Dixie Bend Tank Replacement
Opinion of Probable Cost

Item No.	Item	Unit	Quantity	Unit Price	Item Price
1	100,000 Gallon Elevated Water Storage Tank	LS	1	$ 280,000.00	$280,000.00
2	Earthwork	LS	1	$ 5,000.00	5,000.00
3	Foundation	LS	1	$ 50,000.00	50,000.00
4	Painting	LS	1	$ 60,000.00	60,000.00
5	Yard Work including line channels & site restoration	LS	1	$ 15,000.00	15,000.00
6	Yard Piping	LS	1	$ 10,000.00	10,000.00
7	Check Valve Station	LS	1	$ 15,000.00	15,000.00
8	Fencing	LF	400	$ 25.00	10,000.00
9	Access Road	LS	1	$ 2,000.00	2,000.00
10	Tank Demolition	LS	1	$ 15,000.00	15,000.00
	Construction Cost:				**$462,000.00**

Construction Cost	$462,000.00
Interim Interest	$7,000.00
Local Counsel	$3,500.00
Contingency	45,900.00
Engineering Design	48,300.00
Construction Observation	35,300.00
Preliminary Engineering Report	8,000.00
Environmental	2,000.00
Geotechnical Report	10,000.00
Total Estimated Project Cost	**$622,000.00**

Estimated User Rate Impact

FUNDING:	
RD Loan (75%)	$466,500.00
RD Grant (25%)	$155,500.00
TOTAL PROJECT FUNDING	**$622,000.00**

REVENUE REQUIREMENT:

RD Annual Principal & Interest Payment	$15,594
Loan Coverage @ 10%	$1,559
Depreciation/Short Lived Assets	$11,663
Total Annual Expense	$28,816

Number of Existing Customers	7,600
Additional Revenue Per Bill	$0.32

	Current Rates	Proposed Rates
First 2,000 Gallons	$25.87	$26.19
All Over 2,000 Gallons	$11.21	$11.21
Cost for 4,000 gallons	$48.29	$48.61
	Percent Increase	**0.65%**