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June 27, 2023

Mr. J. Frank Marsh, President
 Harrison County Water Association
 433 Sea Biscuit Way
 Cynthiana, KY 41031

Re: Cost of Service Study Findings—Additional Information
 Harrison County Water Association Inc. (HCWA), Kentucky

Dear Mr. Marsh:

Strand Associates, Inc.[®] (Strand) was retained to study whether future revenues will be sufficient to cover future expenses. This study was undertaken to fulfill the requirements of the Public Service Commission's order on Case No. 2022-00354. During this study, Strand coordinated with HCWA, reviewed past trends to develop projections for revenue and expense, evaluated strategies for the rate structure to cover future expenses, and prepared a letter on March 20, 2023, to summarize the preliminary findings. This letter was prepared at the request of HCWA to update the previous information with the 2022 audit, as well as examine other financial scenarios. It has been updated to address discrepancies in Table 2 in the previous version.

1. Existing Conditions

HCWA purchases 38 to 45 million gallons of water per month from four different providers: The City of Cynthiana, the Nicholas County Water District, the City of Millersburg, and the Kentucky American Water Company. Of the water purchased, approximately 5 to 10 percent is lost every month due to line leaks. The remaining water is sold to customers with the majority going toward residential use.

Findings:

2. Operating Revenue and Expenses

The operating revenue for the past 4 years was compared, and it was found that the total operating revenue has increased by approximately \$215,000 since 2019. Water sales make up 97 to 99 percent of the total operating revenue, with the remaining 1 to 3 percent coming from miscellaneous sales. According to HCWA, its customer base is expected to increase by 100 to 110 every year. This increase in customers would result in approximately \$50,000 in additional water sales every year.

From the audit reports conducted by RFH, the total operating expense increased from 2019 to 2021. The operating expense increase is due to an increase in purchased water, which accounts for 55 to 57 percent of all operating expenses. These operating expenses, along with depreciation, were assumed to increase by 3 percent every year. Table 1 details the operating revenue and expenses for the past 3 years.

Mr. J. Frank Marsh, President
Harrison County Water Association Inc.
Page 2
June 27, 2023

	2019	2020	2021	2022	Average
Water Sales	\$2,756,951	\$2,859,050	\$2,829,163	\$3,149,801	\$2,898,741
Late Charges	\$47,309	\$11,312	\$37,804	\$43,829	\$35,080
Other Service	\$11,972	\$5,772	\$14,524	\$12,752	\$11,255
Other Revenue	\$10,329	\$9,801	\$17,886	\$6,300	\$11,079
Total Operating Revenue	\$2,826,561	\$2,885,935	\$2,899,377	\$3,212,746	\$2,956,155
Purchased Water	\$1,314,939	\$1,446,862	\$1,462,631	\$1,662,347	\$1,471,695
Salaries	\$472,545	\$491,712	\$486,006	\$706,139	\$539,101
Payroll Taxes	\$36,736	\$40,644	\$38,767	\$52,424	\$42,143
Employee Benefits	\$151,409	\$162,875	\$167,663	\$174,938	\$164,221
Utilities	\$70,564	\$59,683	\$63,937	\$87,135	\$70,330
Material and Supplies	\$67,557	\$162,771	\$12,879	\$278,104	\$130,286
Office Supplies	\$38,394	\$43,287	\$51,554	\$82,132	\$53,842
Transportation	\$45,328	\$34,594	\$61,336	\$225,462	\$91,680
Repairs	\$54,241	\$60,819	\$39,097	\$142,148	\$74,076
Insurance	\$36,325	\$38,214	\$39,357	\$38,941	\$38,209
Billing	\$31,200	\$31,427	-	-	\$31,314
Accounting	\$19,500	\$19,500	\$50,936	\$22,937	\$28,218
Legal	\$58	\$8,250	\$9,424	\$22,080	\$9,953
Other Contractual Services	\$15,823	\$11,175	\$10,526	\$35,538	\$18,266
Bad Debt Expense	\$25,750	\$10,434	\$18,306	\$10,760	\$16,313
Telephone	\$4,075	\$5,008	\$6,348	\$14,220	\$7,413
Misc.	-	\$19	\$1,652	\$1,939	\$1,203
Regulatory Assessment Fee	\$5,403	\$5,529	\$11,786	\$8,279	\$7,749
Debt Repayment	-	-	-	\$58,033	\$58,033
Engineering	-	-	-	\$50,000	\$50,000
Funded Water Loss	-	-	-	\$108,818	\$108,818
Total Operating Expense	\$2,389,847	\$2,632,803	\$2,532,205	\$3,782,374	\$2,834,307
Operating Income	\$436,714	\$253,132	\$367,172	\$(569,628)	\$121,847

Note: () denote a loss

Table 1 Operating Revenue and Expenses from 2019 to 2021

Mr. J. Frank Marsh, President
 Harrison County Water Association Inc.
 Page 3
 June 27, 2023

3. Debt Repayment

From the Water Resource Information System (WRIS), HCWA has been approved for two new projects that would have a combined project cost of \$3.3 million: KY 353 Water Main Extension and US 27 Water Main Replacement. Currently, HCWA is paying \$58,033 per year for two loans; however, with the addition of the two new projects, HCWA will be paying a combined debt repayment of approximately \$230,000 per year for all four projects.

4. Projections

Based on the projections for operating revenue and expenses, debt repayment, and depreciation, HCWA is projected to have a deficit with its current rate structure. Currently, the average customer bill is \$40.06 per month. In order for HCWA to be net revenue neutral, the average customer bill will need to be increased to \$54.27 per month. To account for this increase, the existing rates will need to be raised by 30 percent over the course of 5 years. It should be noted that this projected rate does not include costs for new meters or the vehicle replacement as those costs will be amortized over 3 years or costs for the KY 353 Water Main Extension and the US 27 Water Main Replacement. Table 2 details the existing and projected expenses.

	Existing	2028 Projected (without loan)	2028 Projected (with loan)
Operating Revenue	\$3,044,446	\$4,482,417	\$4,657,472
Operating Expenses	(\$2,808,263)	(\$3,862,409)	(\$3,862,409)
Non-Operating Income	(\$22,173)	(\$22,173)	(\$22,173)
Debt Repayment	(\$58,033)	\$0	(\$175,055)
Depreciation	(\$515,698)	(\$597,835)	(\$597,835)
Surplus (Deficit)	(\$359,721)	\$0	\$0
Number of Customers	6,333	6,883	6883
Average Customer Usage	4,490	4,490	4,490
Average Customer Monthly Bill	\$40.06	\$54.27	\$56.39
Note: () denote a loss			
Table 2 Existing and Projected Expenses			

5. System Renewal and Replacement

Currently, HCWA does not have a specific budget item for system renewal and replacement. The 2018 *Benchmarking Performance Indicators for Water and Wastewater Utilities* by the American Water Works Association shows that the median water distribution utility budgets approximately 1 percent of the total present worth of its system assets on system renewal and replacement. From the audit reports by RFH, HCWA has approximately \$23,500,000 of property and equipment. Based on data from WRIS, the average construction date of the HCWA assets was 1990, which equates to a present worth of \$16,400,000. Therefore, if HCWA wanted to establish a specific budget item for system renewal and

Mr. J. Frank Marsh, President
Harrison County Water Association Inc.
Page 4
June 27, 2023

replacement that is similar to peer utilities, the total expenditures reserved for renewal and replacement would need to be \$164,000.

6. Conclusion

Strand recommends that HCWA raise its rates by 30 percent over the next 5 years. This rate increase could be implemented in many different ways based on HCWA's preferences. Please note that this 30 percent rate increase would not fund the new equipment, the two new projects, or the system renewal and replacement budget item. To fund the new equipment, rates would need to be raised by 44 percent resulting in an average customer bill of \$56.39 per month. For the funding of the two new projects and the system renewal, Rates would need to be raised to 46 percent; this increase would result in an average customer bill of \$58.37 per month. In order to fund all items, rates would need to be increased by 47 percent, resulting in an average customer bill of \$60.95 per month.


Thank you for the opportunity to help evaluate the rate structure at HCWA.

If you have any questions, please call 502-583-7020.

Sincerely,

STRAND ASSOCIATES, INC.®


Mark C. Askin


Paul G. Maron, P.E.

c: Nathan Fields, Manager, Board of Directors, Harrison County Water Association.