

**KENTUCKY-AMERICAN WATER COMPANY  
 PROPOSED DESIGN INVESTMENT PLAN PROJECT 01-  
 ONE MILLION GALLON PUMPED STORAGE FACILITY**

**Detailed Cost Estimate**

<b>Item</b>	<b>Category</b>	<b>Estimate</b>
Preliminary and Final Design	Contract	\$75,000
Administration	Company	5,000
Surveying	Contract	4,000
Land Purchase and Legal Services	Company	<u>96,200</u>
		\$180,200
O&C (5%)		9,010
Engineering Overhead (2%)		<u>3,604</u>
		\$192,814
AFUDC		<u>6,722</u>
		\$199,536
SAY		\$200,000

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 9/21/00  
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**KENTUCKY-AMERICAN WATER COMPANY**  
**PROPOSED DESIGN INVESTMENT PLAN PROJECT 01-**  
**Russell Cave Road Pumped Storage Facilities**

DESCRIPTION OF ACTIVITY	ENTITY RESPONSIBLE	2001												TOTAL 2001
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	
Design	Consultant													\$ 65,000
Administration	KAWC													\$ 5,000
Surveying	Consultant													\$ 4,000
Land Purchase	KAWC											\$ 2,200	\$ 44,000	\$ 46,200
Legal	Consultant													\$ 15,000
<b>SUB-TOTAL</b>				\$ 25,000	\$ 11,000	\$ 26,000	\$ 26,000	\$ 1,000	\$ -	\$ -	\$ -	\$ 2,200	\$ 44,000	\$ 135,200
O&C (5%)				\$ 1,250	\$ 550	\$ 1,300	\$ 1,300	\$ 50	\$ -	\$ -	\$ -	\$ 110	\$ 2,200	\$ 6,760
Overhead (2%)				\$ 500	\$ 220	\$ 520	\$ 520	\$ 20	\$ -	\$ -	\$ -	\$ 44	\$ 880	\$ 2,704
AFUDC				\$ 94	\$ 229	\$ 368	\$ 563	\$ 664	\$ 668	\$ 668	\$ 668	\$ 676	\$ 662	\$ 5,256
<b>CASH FORECAST</b>				\$ 26,844	\$ 11,999	\$ 28,188	\$ 28,383	\$ 1,734	\$ 668	\$ 668	\$ 668	\$ 3,030	\$ 47,742	\$ 149,920

**KENTUCKY-AMERICAN WATER COMPANY**  
**PROPOSED DESIGN INVESTMENT PLAN PROJECT 01-**  
**Russell Cave Road Pumped Storage Facilities**

DESCRIPTION OF ACTIVITY	ENTITY RESPONSIBLE	2002												TOTAL 2002	Project Total	
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC			
Design	Consultant														\$ 10,000	\$ 75,000
Administration	KAWC														\$ -	\$ 5,000
Surveying	Consultant														\$ -	\$ 4,000
Land Purchase	KAWC												\$ -	\$ -	\$ 35,000	\$ 81,200
Legal	Consultant														\$ -	\$ 15,000
SUB-TOTAL				\$ -	\$ -	\$ -	\$ -	\$ 10,000	\$ 27,000	\$ 2,000	\$ 3,000	\$ 3,000	\$ -	\$ 45,000	\$ 180,200	
O&C (5%)				\$ -	\$ -	\$ -	\$ -	\$ 500	\$ 1,350	\$ 100	\$ 150	\$ 150	\$ -	\$ 2,250	\$ 9,010	
Overhead (2%)				\$ -	\$ -	\$ -	\$ -	\$ 200	\$ 540	\$ 40	\$ 60	\$ 60	\$ -	\$ 900	\$ 3,604	
AFUDC				\$ -	\$ 0	\$ 0	\$ 0	\$ 38	\$ 176	\$ 285	\$ 304	\$ 326	\$ 338	\$ 1,466	\$ 6,722	
CASH FORECAST				\$ -	\$ -	\$ -	\$ -	\$ 10,738	\$ 29,066	\$ 2,425	\$ 3,514	\$ 3,536	\$ 338	\$ 49,616	\$ 199,536	

AFUDC Interest Rate            0.0075

KENTUCKY-AMERICAN WATER COMPANY  
ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL  
SPENDING PROPOSAL  
Russell Cave Road Pumped Storage Facilities

<u>Determination of Revenue Requirement</u>	
Authorized Rate of Return on Common Equity	11.00%
Federal Income Tax Rate	35.00%
Return on Common Equity before FIT	16.92%
State Income Tax Rate	8.25%
Required Rate of Return on CE for Project	18.44%
Common Equity Ratio for Project	40.00%
Weighted Cost of Common Equity before Tax	<u>7.38%</u>

Long Term Debt Ratio for Project	60.00%
Estimated Cost Rate for New Debt	7.00%
Weighted Cost of Debt	<u>4.20%</u>

Total Pre-Tax Cost of Capital	<u>11.58%</u>
Total Estimated Cost of Project	\$ 1,500,000
Investment by Others	0
Net Investment Financed by Company	<u>\$ 1,500,000</u>
New Common Equity	\$ 600,000
New Long Term Debt	900,000

<u>Total Revenue Requirement</u>	<u>Amount</u>	<u>Rate</u>
Required Pre-Tax Operating Income	\$ 173,700	11.58%
Depreciation Rate	33,000	2.20%
Property Tax Rate	10,556	0.70%
Change in Operation & Maint. Expense	0	0.00%
Revenue from New Customers	0	0.00%
Total Net Revenue Requirement	\$ 217,256	14.48%
Revenue Tax Rate	316	0.02%
Total Revenue Requirement	<u>\$ 217,572</u>	<u>14.50%</u>

Latest 12 Months Revenue - 06/30/2000	\$ 39,128,658
Required Price Increase	<u>0.56%</u>

Approved at  
Board of Directors Meeting  
October 11, 2000



# Kentucky-American Water Company

2300 Richmond Road • Lexington, Kentucky 40502 • (859)269-2386 • Fax (859) 268-6327

August 28, 2000  
IP 01-06  
Project No. 11204

## KENTUCKY-AMERICAN WATER COMPANY PROPOSED DESIGN INVESTMENT PLAN PROJECT 01- REPLACE KENTUCKY RIVER STATION INTAKE SLUICE GATES

**Reference:** Strategic Business Plans for 1997, 1998, 1999, and 2000

**SUBJECT:**  
Deteriorating operations of the sluice gates and inability to isolate the intake wells at the Kentucky River Station.

**RECOMMENDATION:**  
It is recommended that the sluice gates be completely replaced.

**ESTIMATED COST:**  
Total Estimated Cost \$ 250,000  
Proposed 2001 Expenditure \$ 150,000  
Proposed 2002 Expenditure \$ 100,000

**ADEQUACY:**  
The proposed investment project funds are adequate for construction.

INVESTMENT PROJECT REVIEW		
DEPARTMENT	BY	DATE
ENGINEERING	<i>W. V. Cherry</i>	8.8.00
WATER QUALITY	<i>M/A</i>	
INFO. SYSTEMS		
OTHERS		
RECOMMENDED FOR APPROVAL:		
<i>David J. ...</i>		9/14/00
PRESIDENT		

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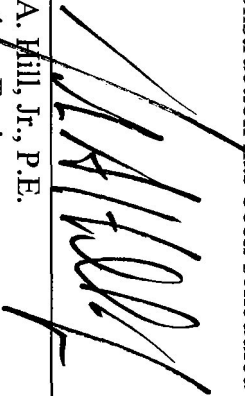
Kentucky-American Water Company  
Replace KRS Intake Sluice gates  
Proposed 2001 IP 01-  
Project No. 11204  
August 28, 2000  
Page 2

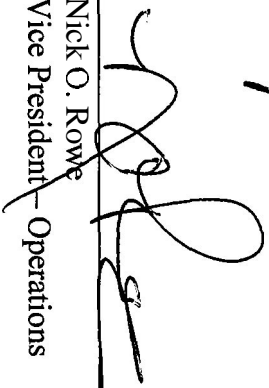
**DISCUSSION**

Four sluice gates are located at the intake structure on the Kentucky River. These sluice gates provide a means of isolating the traveling screens from the river and the intake wells, as well as isolating the intake wells from the inflow of water from the river.

The sluice gates have been in service since their original installation, 1956 and 1966, with no modifications or repairs. The sluice gates leak and do not provide a positive shutdown for isolating the operating equipment for maintenance and repairs. The sluice gate located in the down-river well, river side, will not close at all.

The replacement of these sluice gates is necessary to perform any maintenance in the intake well. This would include replacement of the travelling screen, which is scheduled for 2002 due to deteriorating operations. There are two gates in each of the two sides of the intake well. Each gate must be replaced individually, and it is estimated that it will take three to four weeks for each gate. Work on the sluice gates in each well will have to be done at separate times, in the early spring and late fall, due to pump shutdowns and the need for low river flows. Because of the length of time for ordering the gates, the construction has been scheduled for fall 2001, and spring 2002.

  
\_\_\_\_\_  
John A. Mill, Jr., P.E.  
Operations Engineer

  
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Nick O. Rowe  
Vice President - Operations

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**KENTUCKY-AMERICAN WATER COMPANY**  
**PROPOSED DESIGN INVESTMENT PLAN PROJECT 01-**  
**Replace KRS Sluice gates**

ITEM	RESPONSIBLE ENTITY	TOTAL ESTIMATED COST
Administration	KAWC	\$ 15,000
Materials	KAWC	\$ 50,000
Construction	Contractor	\$ 160,000
	Sub-Total	\$ 225,000
O&C (5%)		\$ 6,750
Engineering Overhead (2%)		\$ 4,635
	Sub-Total	\$ 236,385
AFUDC		\$ 13,425
	Total	\$ 249,810

Estimate \$ **250,000**

**KENTUCKY-AMERICAN WATER COMPANY**

**PROPOSED DESIGN INVESTMENT PLAN PROJECT 01-**

**Replace KRS Sluice gates**

DESCRIPTION OF ACTIVITY	ENTITY RESPONSIBLE	2001												TOTAL 2001
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	
Administration	KAWC								\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,000	\$ 2,950	\$ 10,950
Materials	KAWC								\$ -	\$ 25,000	\$ 25,000			\$ 50,000
Construction	Contractor								\$ -	\$ -	\$ -	\$ 40,000	\$ 40,000	\$ 80,000
SUB-TOTAL									\$ 2,000	\$ 27,000	\$ 27,000	\$ 42,000	\$ 42,950	\$ 140,950
O&C (3%)									\$ 60	\$ 810	\$ 810	\$ 1,260	\$ 1,289	\$ 4,229
Overhead (2%)									\$ 41	\$ 556	\$ 556	\$ 865	\$ 885	\$ 2,904
AFUDC									\$ 8	\$ 116	\$ 319	\$ 578	\$ 896	\$ 1,916
CASH FORECAST									\$ 2,109	\$ 28,482	\$ 28,685	\$ 44,703	\$ 46,019	\$ 149,998



**KENTUCKY-AMERICAN WATER COMPANY**  
**PROPOSED DESIGN INVESTMENT PLAN PROJECT 01-**  
**Replace KRS Sluice gates**

DESCRIPTION OF ACTIVITY	ENTITY RESPONSIBLE	2002												TOTAL	TOTAL	
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC			
Administration	KAWC	\$ 1,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 100									\$ 4,100	\$ 15,050
Materials	KAWC	\$ -	\$ -	\$ -	\$ -	\$ -										
Construction	Contractor	\$ -	\$ -	\$40,000	\$ 40,000	\$ -									\$ 80,000	\$ 160,000
SUB-TOTAL		\$ 1,000	\$ 1,000	\$ 41,000	\$ 41,000	\$ 100	\$ -	\$ -	\$ -						\$ 84,100	\$ 225,050
O&C (3%)		\$ 30	\$ 30	\$ 1,230	\$ 1,230	\$ 3	\$ -	\$ -	\$ -						\$ 2,523	\$ 6,752
Overhead (2%)		\$ 21	\$ 21	\$ 845	\$ 845	\$ 2	\$ -	\$ -	\$ -						\$ 1,732	\$ 4,636
AFUDC		\$ 1,061	\$ 1,068	\$ 1,226	\$ 1,533	\$ 1,688	\$ 1,688	\$ 1,688	\$ 1,688						\$ 11,640	\$ 13,556
CASH FORECAST		\$ 2,111	\$ 2,119	\$ 44,300	\$ 44,608	\$ 1,793	\$ 1,688	\$ 1,688	\$ 1,688						\$ 99,995	\$ 249,993

**KENTUCKY-AMERICAN WATER COMPANY**  
**PROPOSED DESIGN INVESTMENT PLAN PROJECT 01-**  
**Replace KRS Sluice gates**

ITEM	RESPONSIBLE ENTITY	TOTAL ESTIMATED COST
Administration	KAWC	\$ 15,050
Materials	KAWC	\$ 50,000
Construction	Contractor	\$ 160,000
	Sub-Total	\$ 225,050
O&C (5%)		\$ 6,752
Engineering Overhead (2%)		\$ 4,636
	Sub-Total	\$ 236,438
AFUDC		\$ 13,556
	Total	\$ 249,993

Estimate \$ **250,000**

**KENTUCKY-AMERICAN WATER COMPANY**  
**ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL**  
**SPENDING PROPOSAL**  
**Replace KRS Sluice slates**

<u>Determination of Revenue Requirement</u>	
Authorized Rate of Return on Common Equity	11.00%
Federal Income Tax Rate	35.00%
Return on Common Equity before FIT	16.92%
State Income Tax Rate	8.25%
Required Rate of Return on CE for Project	18.44%
Common Equity Ratio for Project	40.00%
Weighted Cost of Common Equity before Tax	<u>7.38%</u>

Long Term Debt Ratio for Project	60.00%
Estimated Cost Rate for New Debt	8.00%
Weighted Cost of Debt	<u>4.80%</u>

Total Pre-Tax Cost of Capital 12.18%

Total Estimated Cost of Project	\$ 249,810
Investment by Others	0
Net Investment Financed by Company	<u>\$ 249,810</u>
New Common Equity	\$ 99,924
New Long Term Debt	149,886

<u>Total Revenue Requirement</u>		
Required Pre-Tax Operating Income	\$ 30,427	12.18%
Depreciation Rate	7,844	3.14%
Property Tax Rate	1,758	0.70%
Change in Operation & Maint. Expense	0	0.00%
Revenue from New Customers	0	0.00%
Total Net Revenue Requirement	\$ 40,029	16.02%
Revenue Tax Rate	58	0.02%
Total Revenue Requirement	<u>\$ 40,087</u>	<u>16.04%</u>

Latest 12 Months Revenue - 06/30/2000 \$ 39,128,658  
 Required Price Increase 0.10%

Approved at  
Board of Directors Meeting  
October 11, 2000



# Kentucky-American Water Company

2300 Richmond Road • Lexington, Kentucky 40502 • (859) 269-2386 • Fax (859) 268-6327

September 7, 2000

IP 01-07

Project No. 11108

## KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PROJECT 01 - KYDOT MAIN RELOCATIONS

**Reference:** Strategic Business Plans for 2000 and 1999

### SUBJECT

Replace existing mains which may conflict with road construction undertaken by the Kentucky Department of Transportation.

### RECOMMENDATION

It is recommended that approximately 21,480 feet of water main be designed/installed in 2001 to relocate those existing mains which create a conflict with KY DOT projects.

### ESTIMATED COST

Total Estimated Cost                    \$1,050,000  
Proposed 2001 Expenditure            \$1,050,000

### ADEQUACY

The proposed investment project will be adequate for design, permitting, bidding and installation of new mains to relocate facilities which conflict with the KY DOT projects identified in the attached Exhibit "A".

INVESTMENT PROJECT REVIEW	
DEPARTMENT	BY
ENGINEERING	<i>[Signature]</i>
DATE	9-8-00
WATER QUALITY	N/A
INFO. SYSTEMS	
OTHERS	
RECOMMENDED FOR APPROVAL:	
<i>[Signature]</i>	9/14/00
PRESIDENT	

Kentucky-American Water Company  
Proposed 2001 IP 01 -  
KY DOT Main Relocations  
Project No. 11108  
September 7, 2000  
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## DISCUSSION

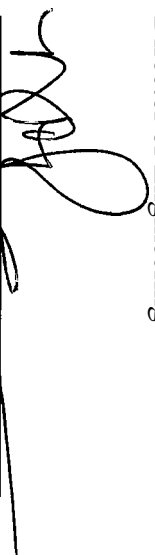
Water mains and other facilities must be relocated when they conflict with KY DOT roadway projects. The KY DOT has increased its construction activity as a result of elevated federal funding. This activity is expected to remain high through 2004. The volume and intensity of the construction program is resulting in more "fast tracking", and the DOT's priorities are often changed without prior notice. The most recent schedule of KY DOT projects which will affect KAWC facilities in 2001 is attached as Exhibit "A". This schedule will be revised as required by changes to the DOT plan and schedule.

All of the projects listed in Exhibit A were included in the Company's Strategic Business Plan (2000). The amount proposed has been reduced slightly based on current information from the DOT.

The KY DOT is required to reimburse KAWC when the existing facilities lie in private easement. Unfortunately, the proposed schedule has very little main in private easement. This varies depending on the location of the mains from one end of the distribution system to the other. Additionally, the proposed projects are all within major roadways, which will increase the relocation costs for this year's work.

The total project cost estimate of \$1,050,000 is accurate to within plus/minus 15 percent for the projects listed.

  
Linda C. Bridwell, P.E.  
Director of Engineering

  
Nick O. Rowe  
Vice-President Operations

**KENTUCKY-AMERICAN WATER COMPANY**  
**PROPOSED 2001 CAPITAL INVESTMENT PLAN PROJECT 01-**  
**KYDOT MAIN RELOCATIONS**

ITEM	RESPONSIBLE ENTITY	TOTAL ESTIMATED COST
Design/Easement Acquisition	KAWC / Consultant	\$ 100,000
Construction	Contractor	\$ 863,000
Inspection	KAWC	\$ 29,600
	Sub-Total	\$ 992,600
O&C (3%)		\$ 29,778
Engineering Overhead (2%)		\$ 19,852
	Sub-Total	\$ 1,042,230
AFUDC		\$ 7,817
	Total	\$ 1,050,047

Exhibit A  
 List of Known 2001 DOT Projects

<u>Project Name</u>	<u>Footage</u>	<u>Pipe Size</u>	<u>Estimated Cost</u>
Paris Pike - Design Only	10,000	12"	\$50,000
Reynolds Road - Design Only	1,480	24", 12", & 8"	\$50,000
Richmond Road	5,000	30"	\$650,000
Harrodsburg Road	5,000	12"	\$300,000
Subtotal			<u>\$1,050,000</u>
<u>Potential Reimbursements</u>			<u>Estimated Cost</u>
Harrodsburg Road			<u>(\$45,000)</u>
Subtotal			(\$45,000)

**KENTUCKY-AMERICAN WATER COMPANY**  
**PROPOSED 2001 CAPITAL INVESTMENT PLAN PROJECT 01-**  
**KYDOT MAIN RELOCATIONS**

DESCRIPTION OF ACTIVITY	ENTITY RESPONSIBLE	2001												TOTAL 2001
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	
Design/Easement Acquisition	KAWC / Consultant	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 5,000	\$ 10,000	\$ 20,000	\$ 20,000	\$ 10,000	\$ 100,000
Construction	Contractor	\$ 30,000	\$ 26,900	\$ 8,400	\$ 40,000	\$ 75,000	\$ 95,000	\$ 100,000	\$ 150,000	\$ 150,000	\$ 100,000	\$ 50,000	\$ 37,650	\$ 862,950
Company Labor	KAWC	\$ 500	\$ 2,000	\$ 2,000	\$ 2,000	\$ 500	\$ 2,000	\$ 2,500	\$ 3,000	\$ 5,000	\$ 5,000	\$ 3,000	\$ 2,100	\$ 29,600
SUB-TOTAL		\$35,500	\$ 33,900	\$15,400	\$47,000	\$ 80,500	\$102,000	\$107,500	\$158,000	\$165,000	\$ 125,000	\$ 73,000	\$ 49,750	\$ 992,550
O&C(3%)		\$ 1,065	\$ 1,017	\$ 462	\$ 1,410	\$ 2,415	\$ 3,060	\$ 3,225	\$ 4,740	\$ 4,950	\$ 3,750	\$ 2,190	\$ 1,493	\$ 29,777
Overhead(2%)		\$ 710	\$ 678	\$ 308	\$ 940	\$ 1,610	\$ 2,040	\$ 2,150	\$ 3,160	\$ 3,300	\$ 2,500	\$ 1,460	\$ 995	\$ 19,851
AFUDC		279.56	266.96	121.28	370.13	633.94	803.25	846.56	1,244.25	1,299.38	984.38	574.88	391.78	\$ 7,816
CASH FORECAST		\$37,555	\$ 35,862	\$16,291	\$49,720	\$ 85,159	\$107,903	\$113,722	\$167,144	\$174,549	\$ 132,234	\$ 77,225	\$ 52,629	\$ 1,049,994



**KENTUCKY-AMERICAN WATER COMPANY  
 ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL  
 SPENDING PROPOSAL  
 KY DOT MAIN RELOCATIONS**

<u>Determination of Revenue Requirement</u>	
Authorized Rate of Return on Common Equity	11.00%
Federal Income Tax Rate	35.00%
Return on Common Equity before FIT	16.92%
State Income Tax Rate	8.25%
Required Rate of Return on CE for Project	18.44%
Common Equity Ratio for Project	40.00%
Weighted Cost of Common Equity before Tax	<u>7.38%</u>

Long Term Debt Ratio for Project	60.00%
Estimated Cost Rate for New Debt	7.00%
Weighted Cost of Debt	<u>4.20%</u>

Total Pre-Tax Cost of Capital 11.58%

Total Estimated Cost of Project	\$ 1,050,047
Investment by Others	45,000
Net Investment Financed by Company	<u>\$ 1,005,047</u>
New Common Equity	\$ 402,019
New Long Term Debt	603,028

<u>Total Revenue Requirement</u>		<u>Amount</u>	<u>Rate</u>
Required Pre-Tax Operating Income		\$ 116,384	11.58%
Depreciation Rate	1.180%	11,860	1.18%
Property Tax Rate	0.7037%	7,073	0.70%
Change in Operation & Maint. Expense		0	0.00%
Revenue from New Customers		0	0.00%
Total Net Revenue Requirement		\$ 135,317	13.46%
Revenue Tax Rate		197	0.02%
Total Revenue Requirement	0.14537%	<u>\$ 135,514</u>	<u>13.48%</u>

Latest 12 Months Revenue - 05/30/1999 \$ 42,000,000  
 Required Price Increase 0.32%



**Kentucky-American Water Company**  
~~Kentucky American Water Company~~

2300 Richmond Road • Lexington, Kentucky 40502 • (859) 269-2386 • Fax (859) 268-6327

November 16, 2000

IP 01-

**KENTUCKY-AMERICAN WATER COMPANY  
PROPOSED INVESTMENT PROJECT 01 -  
ACQUISITION OF SOUTHSORE WATER WORKS, INC.**

**SUBJECT**

The acquisition of Southshore Water Works, Inc., located in Greenup County, Kentucky.

**RECOMMENDATION**

Kentucky-American should acquire the water system assets of SSWWI, and provide service to its 2356 customers.

**ESTIMATED COST**

Total Estimated Cost                    \$1,550,000  
Proposed 2001 Expenditure            \$1,550,000

**ADEQUACY**

The proposed investment project will be adequate for purchase of the assets of SSWWI and provide for legal expenses and other acquisition costs.

INVESTMENT PROJECT REVIEW		
DEPARTMENT	BY	DATE
ENGINEERING	_____	_____
WATER QUALITY	_____	_____
INFO. SYSTEMS	_____	_____
OTHERS	_____	_____
RECOMMENDED FOR APPROVAL:		
<i>Scott W. ...</i>		11/28/00
PRESIDENT		

Kentucky-American Water Company  
Proposed 2001 IP 01-  
Acquisition of Southshore Water Works, Inc.  
November 16,2000  
Page 2

## DISCUSSION

In late 1998, KAWC approached the owner of SSWWI about the possibility of examining the assets of SSWWI to determine if SSWWI would be a suitable candidate for acquisition. Discussions continued throughout 1999 and into mid-2000, and an offer to purchase the system was successfully negotiated in September, 2000.

SSWWI is Kentucky's 3<sup>rd</sup> largest investor-owned water utility, serving 2,356 customers in South Shore, **Greenup** County, in Northeast Kentucky, along the Ohio River. SSWWI was founded in the 1920's as a family business by the current owner's grandfather, a real estate developer, in order to facilitate the development of the City of Southshore. SSWWI pumps an average of **440,000** gallons of water per day from 11 wells located along the banks of the Ohio River. The Division of Water has determined that these wells are not under the influence of surface water. However, due to high iron and manganese, the water is treated in a treatment plant facility located adjacent to the well field that includes three pressurized filters. The plant capacity is 600 gallons per minute. A 150,000-gallon **clearwell** is used. The distribution system consists of 65 miles of piping ranging from two-inch to six-inch in size and five storage **tanks** with total storage capacity of 377,000 gallons.

Fuller, Mossbarger, Scott and May, Inc. completed a well analysis for **Kentucky-American** in October, 2000. The analysis verified the recharge capabilities of the aquifer **and** the flow of the wells. Water quality analysis was conducted by Kentucky-American personnel found the finished water quality to be well within acceptable parameters.


In 1998, Mr. Hannah negotiated with the City of **Greenup** to establish **2** emergency backup connections to the **Greenup** System (four-inch). It is anticipated that the connections will be completed in 2001. However, the drought of record in 1999 did not force restrictions to be placed upon SSWWI customers.

SSWWI employs **3** outside personnel/plant operators and 2 office personnel. The 3 outside personnel will be retained, and the 2 office personnel will be retained for short period of **time during the conversion process. The office will be closed and all customer support provided** by the American Call Center System. The office/parts building will be leased from South Shore Development Corporation, also owned by Mr. Hannah, with the **system/plant/wells** real estate being purchased by KAWC.

Kentucky-American Water Company  
Proposed 2001 IP 01 -  
Acquisition of Southshore Water Works, Inc.  
November 16, 2000  
Page 3

This acquisition is of significant value to KAWC and will provide a needed presence in Northeastern Kentucky. There are 9 other systems along the US 23 corridor that runs between South Shore and Ashland, Kentucky, serving nearly 11,000 customers.

KAWC proposed to purchase the SSWWI system for cash, \$1,450,000. This represents a net book value less contributions of \$644,577 and a utility plant acquisition adjustment of \$805,423. This project includes an additional estimated \$100,000 for legal, closing, and the well analysis conducted. By February, 2000, KAWC will file an application with the Public Service Commission to approve the acquisition and the 20-year amortization of the Acquisition Adjustment.

  
\_\_\_\_\_  
David Baker  
Director Business Development

KENTUCKY-AMERICAN WATER COMPANY  
ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL  
SPENDING PROPOSAL  
Acquisition of South Shore Waterworks, Inc.

<b>Determination of Revenue Requirement</b>	
Authorized Rate of Return on Common Equity	11.00%
Federal Income Tax Rate	35.00%
Return on Common Equity before FIT	16.92%
State Income Tax Rate	8.25%
Required Rate of Return on CE for Project	18.44%
Common Equity Ratio for Project	40.00%
Weighted Cost of Common Equity before Tax	<u>7.38%</u>

Long Term Debt Ratio for Project	60.00%
Estimated Cost Rate for New Debt	7.75%
Weighted Cost of Debt	<u>4.65%</u>

Total Pre-Tax Cost of Capital	<u>12.03%</u>
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Total Estimated Cost of Project	\$ 1,550,000
Investment by Others	0
Net Investment Financed by Company	<u>\$ 1,550,000</u>
New Common Equity	\$ 620,000
New Long Term Debt	930,000

<b>Total Revenue Requirement</b>	<b>Amount</b>	<b>Rate</b>
Required Pre-Tax Operating Income	\$ 186,465	12.03%
Depreciation Rate	34,100	2.20%
Property Tax Rate	13,074	0.84%
Change in Operation & Maint. Expense	73,668	4.75%
Revenue from New Customers	(517,373)	-33.38%
Total Net Revenue Requirement	\$ (210,066)	-13.56%
Revenue Tax Rate	(306)	-0.02%
Total Revenue Requirement	<u>\$ (210,372)</u>	<u>-13.58%</u>

Latest 12 Months Revenue - 10/31/00	<u>\$ 37,290,379</u>
Required Price Increase	<u>-0.56%</u>

**KENTUCKY-AMERICAN WATER COMPANY**  
**PROPOSED 2001 CAPITAL INVESTMENT PLAN PROJECT 01-**  
**Acquisition of South Shore Water Works Co., Inc.**

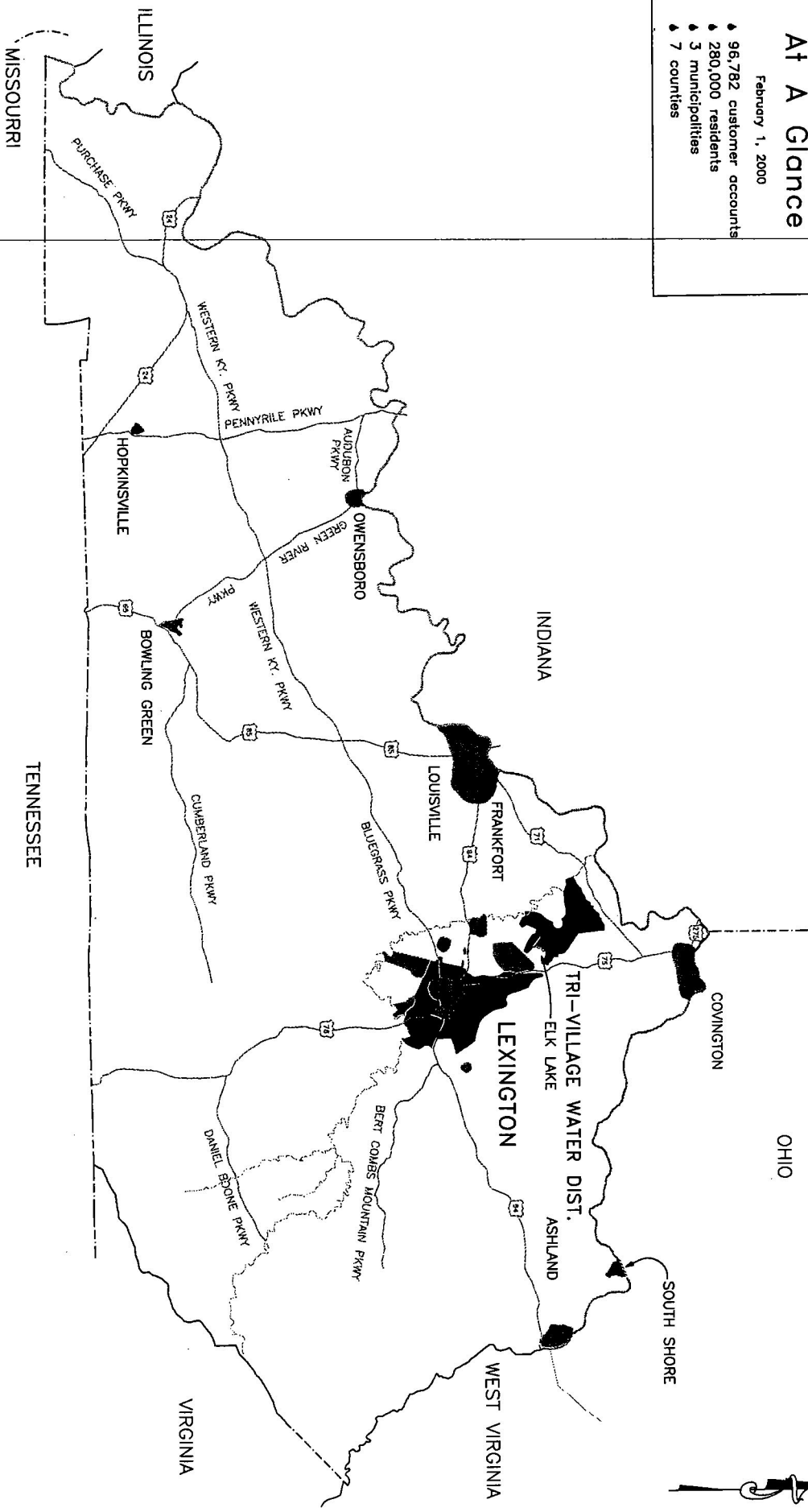
ITEM	RESPONSIBLE ENTITY	TOTAL ESTIMATED COST
FMSM Well Study	KAWC / Consultant	\$ 19,000
Legal and Acquisition Costs	KAWC	\$ 81,000
Acquisition payment to SSWWI	KAWC	\$ 1,450,000
	Sub-Total	\$ 1,550,000
	Sub-Total	\$ 1,550,000
	Total	\$ 1,550,000



# Kentucky-American At A Glance

February 1, 2000

- ◆ 96,782 customer accounts
- ◆ 280,000 residents
- ◆ 3 municipalities
- ◆ 7 counties



## Kentucky-American Water Company, Inc.

- METRO AREAS
- SERVICE AREAS
- PENDING ACQUISITIONS
- PENDING ACQUISITIONS
- PENDING ACQUISITIONS
- BULK SERVICE AREA
- POTENTIAL ACQUISITIONS





**American Water Works Service Company, Inc.**

1025 Laurel Oak Road • P. O. Box 1770 • Voorhees, New Jersey 08043 • (856) 346-8201 • Fax (856) 346-8360

March 2, 2001  
 File No. 380-8362  
 Project ID - 11111

**KENTUCKY-AMERICAN WATER COMPANY  
 PROPOSED 2001 INVESTMENT PROJECT  
 RICHMOND ROAD STATION  
 HYDRAULIC AND CHEMICAL FEED IMPROVEMENTS**

**SUBJECT**

The need for additional production capacity and greater treatment reliability at the Richmond Road Station to meet peak demand periods.

**RECOMMENDATION**

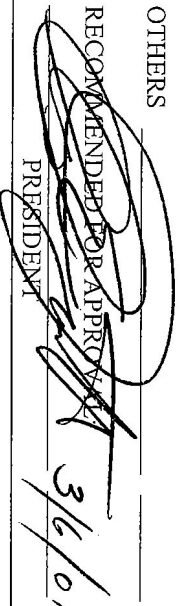
Hydraulic and chemical feed improvements are recommended to provide the additional capacity and adequate water quality at the higher production rates.

**ESTIMATED COST**

Total Estimated Cost	\$140,000
Proposed 2001 Expenditure	\$140,000

**ADEQUACY**

The recommended funding is adequate to complete the design and bidding phases.

INVESTMENT PROJECT REVIEW		
DEPARTMENT	BY	DATE
ENGINEERING	<i>John V. Perry</i>	3-5-01
WATER QUALITY	<i>Samuel Brown</i>	3/5/01
INFO. SYSTEMS		
OTHERS		
RECOMMENDED FOR APPROVAL  PRESIDENT		3/6/01

Kentucky-American Water Company  
Proposed IP  
Richmond Road Station  
Hydraulic and Chemical Feed Improvements  
March 2, 2001

## **DISCUSSION**

Kentucky-American Water Company (KAWC) operates two water treatment plants known as the Kentucky River Station (KRS) and the Richmond Road Station (RRS) which have rated capacities of 40 MGD and 25 MGD respectively. To meet projected peak demands of 76 MGD (2001) and 80 MGD (2008), it will be necessary to increase the total production capacity at both of these treatment plants.

KRS currently has a hydraulic capacity greater than 40 MGD. Achieving higher production rates at that plant will not require capital improvements, and the Division of Water (DOW) recently approved a request by KAWC to increase the reliable rating of KRS to 45 MGD. DOW has also stated that this reliable plant capacity can be exceeded on a given day provided that health standards are met and proper disinfection is maintained. Under this criteria, KRS can produce 50 MGD with anticipated summer raw water quality conditions.

The hydraulic capacity at RRS is currently limited to approximately its rated capacity of 25 MGD, and capital improvements will be required to increase this capacity. Two major hydraulic restrictions at RRS limit its hydraulic capacity to approximately 25 MGD. The first restriction is at the head of the plant where raw water flow rates are monitored and controlled by means of a venturi meter and control valve. The second restriction is between the sedimentation basins and the filters. Overcoming these hydraulic restrictions with piping modifications and making some other minor hydraulic improvements will increase the hydraulic capacity of the plant to 30 MGD.

At production rates of 30 MGD, the major plant processes (sedimentation, filtration, and disinfection) will continue to be adequate without the need for additional process units. However, some modifications to the existing facilities will be necessary. These improvements include hydraulic modifications to ensure an even flow split to the sedimentation basins, filter to waste capabilities to ensure compliance with turbidity standards, and dechlorination facilities associated with the filter to waste to ensure compliance with NPDES requirements.

Additionally, during summer periods of peak demands, the reliance on Jacobson Reservoir as a source of supply will be greater. Although KAWC has increased its reservoir management practices, it will be necessary to increase the capacity and reliability of certain chemical feed systems at RRS as part of this capital project in order to handle the treatment of the additional Jacobson supply. These modifications will focus on the powdered activated carbon and sodium hydroxide facilities.

Kentucky-American Water Company  
Proposed IP  
Richmond Road Station  
Hydraulic and Chemical Feed Improvements  
March 2, 2001

The total project cost estimate of \$1,600,000 for the recommended improvements is considered accurate to within -15% to +30% given the need to prepare bidding documents to determine the actual construction cost.



David M. Reyes, P.E.



Richard E. Hübel, P.E.  
Director - Design

**KENTUCKY-AMERICAN WATER COMPANY  
RICHMOND ROAD STATION  
HYDRAULIC AND CHEMICAL FEED IMPROVEMENTS**

**Detailed Cost Estimate**

<u>Item</u>	<u>Category</u>	<u>Estimate</u>
Preliminary Engineering	Company	\$14,000
Detailed Design	Contract	77,000
Bidding	Contract	10,000
Design and Bidding Liaison	Company	<u>34,000</u>
		\$135,000
AFUDC		<u>\$5,000</u>
		\$140,000

DMR/sdb  
3/2/01  
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KENTUCKY-AMERICAN WATER COMPANY  
RICHMOND ROAD STATION  
HYDRAULIC AND CHEMICAL FEED IMPROVEMENTS  
IP XX-01

DESCRIPTION OF ACTIVITY	ENTITY RESP.	2001											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
PRELIMINARY ENGINEERING	SYS. ENG.												
DETAILED DESIGN	SYS. ENG.												
BIDDING	SYS. ENG.												
<b>CASH FORECAST</b>		\$0	\$0	\$7,000	\$7,100	\$19,200	\$19,300	\$19,500	\$19,600	\$23,300	\$7,900	\$9,000	\$8,100

**KENTUCKY-AMERICAN WATER COMPANY  
ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL  
SPENDING PROPOSAL  
RRS HYDRAULIC IMPROVEMENTS**

<u>Determination of Revenue Requirement</u>	
Authorized Rate of Return on Common Equity	11.00%
Federal Income Tax Rate	35.00%
Return on Common Equity before FIT	16.92%
State Income Tax Rate	8.25%
Required Rate of Return on CE for Project	18.44%
Common Equity Ratio for Project	40.00%
Weighted Cost of Common Equity before Tax	<u>7.38%</u>

Long Term Debt Ratio for Project	60.00%
Estimated Cost Rate for New Debt	7.00%
Weighted Cost of Debt	<u>4.20%</u>

Total Pre-Tax Cost of Capital 11.58%

Total Estimated Cost of Project	\$ 1,630,200
Investment by Others	0
Net Investment Financed by Company	<u>\$ 1,630,200</u>
New Common Equity	\$ 652,080
New Long Term Debt	978,120

<u>Total Revenue Requirement</u>	<u>Amount</u>	<u>Rate</u>
Required Pre-Tax Operating Income	\$ 188,777	11.58%
Depreciation Rate	65,697	4.03%
Property Tax Rate	11,472	0.70%
Change in Operation & Maint. Expense	0	0.00%
Revenue from New Customers	0	0.00%
Total Net Revenue Requirement	\$ 265,946	16.31%
Revenue Tax Rate	387	0.02%
Total Revenue Requirement	<u>\$ 266,333</u>	<u>16.33%</u>

Latest 12 Months Revenue - 12/31/2000 \$ 38,719,658  
 Required Price Increase 0.69%