

FORM 993

Kentucky-American Water Company  
**1999 INVESTMENT PLAN**

1/6/1999

Investment Item	Brief Description of Proposed Expenditures	Authorized Expenditures 1999					CPS No.	2001	Strategic Business Plan				Original SBP Cost	Year
		Estimated Cost	Prior	1999	2000	1998			1997	1996	1995			
A	Mains, Hydrants, Valves, Meters - Deposit/Contribution			2,800,000										
B	Mains, Hydrants, Valves - Company Expense			1,225,000										
C	Services			1,011,000										
D	Meters			1,200,000										
E	Office Furniture & Equipment			500,930										
F	Transportation			293,100										
G	General Equipment			241,404										
H	Miscellaneous			287,000										
	<b>TOTAL ITEM A THROUGH H</b>			<b>7,558,434</b>										
92-12	<b>Current Investment Projects</b>													
96-12	Bluegrass Water Project	6,220,000	3,487,200	2,732,800	0									1994
96-19	KRS Additional Residuals	8,100,000	400,000	1,400,000	5,200,000									1996
97-08	Customer Service Software	966,600	716,200	250,400										1997
98-01	Chemical Systems Improvements	1,480,000	318,000	600,000	562,000									1996
98-02	Intergrated Resources Plan	350,000	75,000	150,000	125,000									1994
98-05	16" from Clays Mill Road to Harrodsburg Road	958,487	8,487	950,000										1995
98-08	4,000' of 12" in Leestown Road at Meadowthorpe	320,000	30,000	290,000										1996
98-09	Surge Protection at Kentucky River Station	175,000	75,000	100,000										1998
98-10	Upgrade Cart Winch at Intake/ Kentucky River Station	480,000	160,000	320,000										1998
98-12	Reinforce Intake Structure/Pump Replacement - KRS Clark County Improvements	400,000	370,000	30,000										1997
		2,000,000	375,000	361,000	451,000	813,000								1998
99-01	<b>New Investment Projects</b>													
99-02	North Broadway Replacement	1,300,000		300,000	1,000,000									1995
99-03	Replace Filter Valves at Kentucky River Station	140,000	0	140,000										1995
99-04	Scott County Mains	1,500,000	0	750,000	750,000									1996
99-05	Replace Tank Telemetry with Radio	530,000	0	530,000										1995
99-06	Electric renovations at KRS, Jacobson Reservoir Reynolds Road 24" Relocation	230,000	0	230,000										1998
		400,000	0	400,000										1995
	<b>INVESTMENT PROJECT TOTAL</b>													
Line 1	<b>TOTAL ITEM A THROUGH IP's (1999)</b>			17,092,634										
Line 2	Item A and IP Contributions			3,669,000										
Line 3	<b>COMPANY FUNDED EXPENDITURES (1 minus 2)</b>			13,423,634										
	<b>Acquisitions</b>													
Line 4	<b>TOTAL ACQUISITIONS (1999)</b>			0										
Line 5	<b>TOTAL-CAPITAL EXPENDITURES (1 plus 4) (1999)</b>			13,423,634										

President \_\_\_\_\_ Date \_\_\_\_\_

Approved by Board of Directors for the Year 1999

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		6/14/2004												1999	
		Program of Construction													
		Item													
CPS #	Item	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	SBP
	Item A - Mains & Hydrants, Deposit Agreements	147,000	127,000	160,000	146,000	267,000	268,000	186,000	199,000	311,000	311,000	260,000	178,000	2,800,000	2,445,290
	Item B - Mains & Hydrants, New & Replacement	30,500	44,500	66,000	94,000	106,000	145,000	185,000	184,000	126,000	83,500	103,500	57,000	1,225,000	1,225,398
	Item C - Services	40,900	54,400	78,940	83,340	94,120	98,689	108,089	103,009	99,278	93,718	89,958	66,559	1,011,000	1,011,068
	Item D - Meters & Installations	72,500	58,950	63,180	124,330	48,880	157,030	91,260	88,170	190,170	108,220	40,680	156,630	1,200,000	1,430,049
	Item E - Office Furniture & Equipment	19,240	3,140	110,540	8,640	81,890	41,640	33,640	42,640	64,640	52,640	24,640	17,640	500,930	271,710
	Item F - Transportation Equipment	0	0	16,700	68,100	53,600	78,700	76,000	0	0	0	0	0	293,100	315,260
	Item G - General Equipment	35,000	0	69,439	49,455	37,010	14,000	32,000	0	2,500	0	2,000	0	241,404	288,079
	Item H - Miscellaneous	2,000	2,000	9,000	83,000	68,000	70,000	0	0	31,000	18,000	0	4,000	287,000	192,570
	<b>SUB-TOTAL</b>	347,140	289,990	573,799	656,865	756,500	873,059	791,989	736,819	824,588	667,078	520,778	519,829	7,558,434	7,179,424
	<b>LESS Item A</b>	147,000	127,000	160,000	146,000	267,000	268,000	186,000	199,000	311,000	311,000	260,000	178,000	2,800,000	2,445,290
	<b>TOTAL</b>	200,140	162,990	413,799	510,865	489,500	605,059	525,989	417,819	513,588	356,078	260,778	301,829	4,758,434	4,734,134
	<b>INVESTMENT PROJECTS</b>														
A-10	Bluegrass Water Project	200,000	350,000	350,000	350,000	250,000	250,000	150,000	150,000	157,000	200,000	200,000	125,800	2,732,800	8,000,000
96-12	KRS Mechanical Dewatering	57,000	9,000	19,000	8,000	5,000	5,000	246,000	223,000	228,000	200,000	200,000	200,000	1,400,000	2,285,940
96-19	Customer Service Software	36,039	35,712	36,462	23,041	18,303	16,640	17,403	15,108	16,395	12,817	13,141	9,341	250,402	62,030
97-08	Chemical Systems Improvements	55,000	80,000	100,000	100,000	100,000	80,000	60,000	5,000	5,000	5,000	5,000	5,000	600,000	250,260
A-18	Integrated Resource Plan	10,000	10,000	15,000	15,000	15,000	15,000	15,000	15,000	10,000	10,000	10,000	10,000	150,000	175,000
98-02	16" From Clays Mill to Harrodsburg Rd	10,000	10,000	50,000	50,000	50,000	50,000	50,000	50,000	130,000	200,000	150,000	150,000	950,000	880,000
98-05	4,000' of 12" in Leesstown Rd @ Meadowthorpe	0	0	25,000	25,000	25,000	25,000	45,000	0	0	0	0	0	290,000	0
98-08	Surge Protection/KRS	10,000	10,000	10,000	2,000	2,000	2,000	4,000	50,000	50,000	100,000	40,000	40,000	320,000	320,000
98-09	Upgrade Cart Winch at Intake/KRS	0	0	15,000	0	0	0	0	0	0	15,000	0	0	30,000	0
98-10	Reinf. Intake Structure/Pump Maint - KRS	0	0	15,000	0	0	0	0	0	0	0	0	0	30,000	0
98-12	Clark County Improvements	25,600	35,800	86,300	86,900	106,000	17,400	3,000	0	0	0	0	0	361,000	0
99-01	North Broadway Replacement	0	0	5,000	10,000	10,000	20,000	20,000	10,000	5,000	100,000	70,000	50,000	300,000	300,000
99-02	Replace Filter Valves @ KRS	0	0	0	0	0	0	0	0	10,000	70,000	60,000	0	140,000	125,000
99-03	Scott County Mains	0	2,000	3,000	5,000	0	0	50,000	80,000	120,000	150,000	150,000	190,000	750,000	750,000
99-04	Replace Tank Telemetry with Radio	5,000	5,000	10,000	10,000	35,000	55,000	55,000	85,000	85,000	75,000	70,000	40,000	530,000	200,000
99-05	Electric Renovations @ KRS, Jacobson	0	0	0	0	0	0	0	10,000	10,000	80,000	80,000	50,000	230,000	210,000
99-06	Reynolds Road 24" Relocation	25,000	75,000	150,000	100,000	50,000	0	0	0	0	0	0	0	400,000	0
	<b>SUB-TOTAL IPS</b>	443,639	632,512	924,762	834,941	716,303	611,040	715,403	693,108	826,395	1,217,817	1,048,141	870,141	9,534,202	13,558,230
	<b>IP Reimbursements</b>	0	0	0	0	0	400,000	0	0	0	0	0	469,000	869,000	0
	<b>TOTAL IPS</b>	443,639	632,512	924,762	834,941	716,303	211,040	715,403	693,108	826,395	1,217,817	1,048,141	401,141	8,665,202	13,558,230
	<b>TOTAL INVESTMENT PLAN</b>	643,779	795,502	1,338,561	1,345,806	1,205,803	816,099	1,241,392	1,110,927	1,339,983	1,573,895	1,308,919	702,970	13,423,636	18,292,364

1999 Investment Plan - Investment Projects

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CPS #	Project No.	IP No.	INVESTMENT PROJECTS	Acct	Prior	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL	Projected Total	Anticipated Completion	
A-10	10212	92-12	Bluegrass Water Project	343	3,487,200	200,000	350,000	350,000	350,000	250,000	250,000	150,000	150,000	150,000	157,000	200,000	200,000	125,800	2,732,800	45,000,000	Jul-01
	10612	96-12	KRS Mechanical Dewatering	340.12	400,000	57,000	9,000	19,000	8,000	5,000	5,000	246,000	223,000	228,000	200,000	200,000	200,000	200,000	1,400,000	8,100,000	Apr-01
	10619	96-19	Customer Service Software	331	716,200	36,039	35,712	36,462	23,041	18,303	16,640	17,403	15,108	16,395	12,817	13,141	9,341	230,402	966,602	Nov-99	
	10710	97-08	Chemical Systems Improvements	332	318,000	53,000	80,000	100,000	100,000	100,000	80,000	60,000	5,000	5,000	5,000	5,000	5,000	5,000	600,000	1,480,000	Dec-00
	10704	98-01	Intergrated Resource Plan	300	75,000	10,000	10,000	15,000	15,000	15,000	15,000	15,000	15,000	10,000	10,000	10,000	10,000	10,000	150,000	350,000	Aug-00
A-18	10802	98-02	16" From Clays Mill to Harrodsburg Rd	343	8,487	10,000	10,000	50,000	50,000	50,000	50,000	50,000	50,000	130,000	200,000	150,000	150,000	150,000	950,000	958,487	Dec-99
	10805	98-05	4,000' of 12" in Leestown Rd @ Meadowthorpe	343	30,000	10,000	10,000	50,000	50,000	50,000	75,000	45,000						290,000	320,000	Dec-99	
	10808	98-08	Surge Protection/KRS	343	75,000			25,000	25,000	25,000	25,000							100,000	175,000	Aug-99	
	10809	98-09	Upgrade Cart Winch at Intake/KRS	392.3	160,000	10,000	10,000	10,000	2,000	2,000	2,000	4,000	50,000	50,000	100,000	40,000	40,000	40,000	320,000	480,000	Dec-99
	10811	98-10	Reinf. Intake Structure/Pump Maint - KRS	343	400,000			15,000							15,000				30,000	460,000	Dec-00
	10813	98-12	Clark County Improvements	343	375,000	25,600	35,800	86,300	86,900	106,000	17,400	3,000							361,000	2,000,000	Oct-01
	10901	99-01	North Broadway Replacement	343	0			5,000	10,000	10,000	20,000	20,000	10,000	5,000	100,000	70,000	70,000	50,000	300,000	1,300,000	Aug-00
	10903	99-02	Replace Filter Valves @ KRS	332	0									10,000	70,000	60,000			140,000	140,000	Dec-99
	10511	99-03	Scott County Mains	343	0	0	2,000	3,000	5,000	0	0	50,000	80,000	120,000	150,000	150,000	150,000	190,000	750,000	750,000	Dec-99
	10905	99-04	Replace Tank Telemetry with Radio	397.2	0	5,000	5,000	10,000	10,000	35,000	55,000	55,000	85,000	85,000	75,000	70,000	70,000	40,000	530,000	530,000	Dec-99
	10906	99-05	Electric Renovations @ KRS, Jacobson	398	0								10,000	10,000	10,000	80,000	80,000	50,000	230,000	230,000	Dec-99
	10907	99-06	Reynolds Road Relocation	343	0	25,000	75,000	150,000	100,000	50,000									400,000	400,000	Jun-99
			Investment Total			443,639	632,312	924,762	834,941	716,303	611,040	715,403	693,108	826,395	1,217,817	1,048,141	870,141	9,534,202	869,000		
			Reimbursements		0	0	0	0	0	0	400,000	400,000	469,000	0	0	0	0	0	869,000		
			Investment Plan Total		443,639	632,312	924,762	834,941	716,303	211,040	715,403	693,108	826,395	1,217,817	1,048,141	870,141	9,534,202	869,000	8,665,202		

**ITEM A - MAINS & HYDRANTS, DEPOSIT AGREEMENT  
1999 INVESTMENT PLAN**

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Sheet: ItemA

6/14/2004

Item	Acct	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Mains	343	140,000	120,000	150,000	130,000	250,000	250,000	250,000	300,000	300,000	300,000	250,000	210,000	2,650,000
Reimbursible projects from Item B	343	2,000	2,000	5,000	5,000	7,000	7,000	5,000	7,000	3,000	3,000	3,000	3,000	50,000
Fire Services	345	5,000	5,000	5,000	10,000	10,000	10,000	10,000	10,000	5,000	5,000	5,000	4,000	84,000
Hydrants	348				1,000	2,000	1,000	1,000	2,000	3,000	3,000	2,000	1,000	16,000
<b>Total Budget</b>		<b>147,000</b>	<b>127,000</b>	<b>160,000</b>	<b>146,000</b>	<b>267,000</b>	<b>268,000</b>	<b>266,000</b>	<b>319,000</b>	<b>311,000</b>	<b>311,000</b>	<b>260,000</b>	<b>218,000</b>	<b>2,800,000</b>

**ITEM B - MAINS & HYDRANTS, NEW & REPLACEMENT  
1999 INVESTMENT PLAN**

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Sheet: Item B

6/14/2004

Item	Acct	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1. Mains @ Company Expense	343	10,000	10,000	15,000	25,000	25,000	30,000	30,000	35,000	35,000	35,000	25,000	22,000	297,000
2. Hydrants @ Company Expense	348	6,500	6,500	15,000	15,000	20,000	37,000	42,000	36,000	25,000	22,000	22,000	22,000	269,000
3. Replacements & Improvements by KAWC	343	5,000	4,000	2,000	1,000	500	500	3,000	6,000	3,000	2,000	10,000	3,000	40,000
	348	0	0	1,000	1,000	500	500	1,000	1,000	1,000	1,000	2,000	1,000	10,000
4. Miscellaneous Capitalized Maintenance Repairs	343	5,000	5,000	2,000	2,000	1,000	2,000	4,000	8,000	2,000	3,000	10,000	6,000	50,000
5. Replace 4" CI & 8" CI in Meadows Neigh.	343		2,000	3,000	23,000	27,000	15,000							70,000
6. Replace 4" CI & 6" CI in Meadows Neigh. - II	343		15,000	23,000	20,000	10,000	5,000	15,000	15,000	15,000	15,000	27,000	3,000	90,000
7. Install 800' of 8" DI Main in Greendale Road	343	2,000												75,000
8. Replace 800' of 6" A.C. with DI in Brown Ave.	343				2,000	15,000	15,000	15,000	13,000	11,500	1,000	2,500		75,000
9. Replace 600' of 6" CI with DI in Shropshire	343					5,000	10,000	20,000	15,000	5,000				55,000
10. Replace 600' of 12" AC with DI on Todds Rd	343						5,000	20,000	20,000	15,500	500	4,000		65,000
11. Replace 250' of 8" AC with DI on Lowery Ln	343							10,000	10,000	10,000	1,000	1,000		32,000
12. Replace 1,500' of 6" CI & 4" CI on Victory Av	343	2,000	2,000	5,000	5,000	2,000	25,000	25,000	25,000	3,000	3,000			97,000
<b>Total Budget</b>		<b>30,500</b>	<b>44,500</b>	<b>66,000</b>	<b>94,000</b>	<b>106,000</b>	<b>145,000</b>	<b>185,000</b>	<b>184,000</b>	<b>126,000</b>	<b>83,500</b>	<b>103,500</b>	<b>57,000</b>	<b>1,225,000</b>

**ITEM C - SERVICES  
1999 INVESTMENT PLAN**

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Sheet: ItemC 6/14/2004

Item	Acct	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1-B404.1 Install 3/4" Services	345	4,900	6,500	6,500	8,900	8,900	9,200	12,000	12,000	12,000	8,000	8,000	5,700	102,600
2-B404.2 Renew 3/4" Services	345	11,000	16,500	22,000	22,000	27,500	27,500	27,500	25,000	27,500	27,500	27,500	17,600	279,100
3-B404.3 Extend 3/4" Services	345	0	0	0	709	709	709	709	709	1,418	1,418	1,418	709	7,090
4-B405.1 Install 1" Services	345	23,000	29,000	37,000	40,000	40,000	46,000	50,000	46,000	40,000	40,000	36,000	31,050	458,050
5-B405.1 Install 1" Rock Services	345	0	1,400	2,100	2,800	3,500	4,000	4,000	4,000	2,800	2,800	2,100	2,500	32,000
6-B405.2 Renew 1" Services	345	2,000	1,000	5,000	7,000	6,000	6,000	6,000	6,000	11,000	11,000	11,000	9,000	81,000
7-B405.3 Extend 1" Services	345			600	600	600	600	600	600	600		600		3,000
8-B408.1 Install 2" Services	345			2,640	2,640	3,600	5,280	5,280	5,280	3,960	3,000	1,320		33,000
9-B408.2 Renew 2" Services	345					2,020			2,020			2,020		6,060
10-Install Domestic Services larger than 2"	345			3,100		2,000		2,000	2,000					9,100
<b>Subtotal</b>		<b>40,900</b>	<b>54,400</b>	<b>78,940</b>	<b>83,340</b>	<b>94,120</b>	<b>98,689</b>	<b>108,089</b>	<b>103,009</b>	<b>99,278</b>	<b>93,718</b>	<b>89,958</b>	<b>66,559</b>	<b>1,011,000</b>

**ITEM D - METERS  
1999 INVESTMENT PLAN**

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Sheet: ItemD

6/14/2004

Item	Acct	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
1-Purchase 5/8"x3/4"	346.2		35,000		35,000		60,000			50,000			58,000	273,000
2-Purchase 1"	346.2	10,000		20,000	20,000		20,000	20,000		20,000	20,000		7,400	137,400
	346.3									51,650	51,650		51,650	154,950
3-Purchase 1-1/2" Encoder	346.3	2,000			2,000			2,000		2,000				8,000
4. Purchase 2" Encoder	346.3	36,600			36,600			12,200		12,200				97,600
5. Purchase 4" Encoder	346.3			5,900			5,900			5,900			5,900	23,600
6. Purchase 6" Encoder	346.3						21,500							21,500
7. B303.1 Install 5/8"x3/4"	347	18,000	18,000	21,000	21,000	25,600	25,600	25,600	25,600	25,600	21,000	21,000	21,000	269,000
8. B303.2 Renew 5/8"x3/4"	347	2,700	2,700	5,500	5,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	79,900
9. B303.3 Extend 5/8"-3/4"	347			180	180	180	180	360	720	720	720	180	180	3,600
10. B305.1 Install 1"	347	1,000	1,000	2,000	2,000	2,000	2,000	4,000	4,000	2,000	2,000	2,000	2,000	26,000
11. B305.2 Renew 1"	347			350	350	350	350	350	350	350	350			2,800
12. B305.3 Extend 1"	347							250					250	500
13. B308.1 Install 2"	347	2,200	2,250	2,250	2,200	6,750	13,500	13,500	13,500	6,750	4,500	4,500	2,250	74,150
14. B308.2 Renew 2"	347			1,000		1,000			1,000					3,000
15. Domestic Services Larger than 2"	347			5,000		5,000		5,000		5,000		5,000		25,000
<b>Subtotal</b>		72,500	58,950	63,180	124,330	48,880	157,030	91,260	88,170	190,170	108,220	40,680	156,650	1,200,000

**ITEM E - OFFICE FURNITURE & EQUIPMENT  
1999 INVESTMENT PLAN**

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Sheet: ItemE

6/14/2004

Item	Acct	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<b>Accounting</b>														
<b>Administrative</b>														
1. Purchase HR CD-Rom Software	391.26	12,500												12,500
2. Purchase HR CD-Rom Training Software	391.26			20,000										20,000
<b>Commercial</b>														
1. Replace Common Data IVR w/Conversant*	397.2			89,900										89,900
2. Purchase 10 FirstTech Pay Stations	391.3					27,500								27,500
<b>Distribution</b>														
1. Purchase Five (5) Notebook Computers	391.21					36,250								36,250
2. Purchase One (1) Pentium PC - Maintenance	391.21					5,500								5,500
3. Mobile/Desktop Mapping Software	391.26	6,100												6,100
<b>Information Services</b>														
1. Upgrade to Novell 5.0 - 3 servers	391.25					25,000								25,000
2. Windows 98 - NT Upgrades	391.25					2,000							2,000	2,000
3. Upgrade to Microsoft Office 2000	391.25					15,000								15,000
4. Purchase 20 Compaq PC's w/20" Monitors	391.21					10,000								10,000
5. Install Remote ADSL Connections - KRS, RRS, HC	391.2					4,000								4,000
6. Upgrade Lotus Notes	391.25									22,000				22,000
<b>New Development</b>														
1. Address Search Engine for AutoCAD Map	391.2				1,500									1,500
2. MapSync Mobile/Desktop Mapping Updates	391.2	640	640	640	640	640	640	640	640	640	640	640	640	7,680
3. Data integration/Geographic conversion of CAD	391.2								15,000	15,000	20,000	20,000	15,000	85,000
<b>Production</b>														
1. Replace Copier at RRS	391.21													6,000
2. Replace Vibration software - Y2K compl.	391.26							6,000			20,000	2,000		22,000
<b>Water Quality</b>														
1. Purchase Computer/Printer for Lab Technician	391.21		2,500		6,500									2,500
2. Copier at KRS	391.3													6,500
<b>Total Budget</b>		19,240	3,140	110,540	8,640	81,890	41,640	33,640	42,640	64,640	52,640	24,640	17,640	500,930



**ITEM F - TRANSPORTATION EQUIPMENT  
1999 INVESTMENT PLAN**

File: \budget\99\invbd

Sheet: ItemF

6/14/2004

Item	Acct	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<b>Administrative</b>														
1. Replace 1991 Cavalier Pool Car, Unit 5	392.2					15,700								15,700
2. Replace 1991 Lumina, Unit 158	392.2			18,300										18,300
<b>Distribution</b>														
1. Replace 1991 Ford Ranger, Unit 7	392.11					21,000	21,000							21,000
2. Replace 1991 C20 Van, Unit 8	392.11							43,500						21,000
3. Replace 1991 Ford 1-Ton Truck, Unit 9	392.12							43,500						43,500
4. Replace 1991 Chevrolet 1-Ton Truck, Unit	392.12					20,900	21,200							43,500
5. Replace 1992 Cavalier, Unit 29	392.2													20,900
6. Replace 1994 Ford Ranger, Unit 36	392.11						21,200							21,200
7. Replace 1994 S-10 Truck, Unit 37	392.11						21,200							21,200
8. Replace 1994 S-10 Truck, Unit 38	392.11						21,200							21,200
<b>Engineering</b>														
1. Replace 1991 GMC Jimmy, Unit 151	392.11				24,800									24,800
2. Replace 1994 Jeep Cherokee, Unit 31	392.11				24,800									24,800
3. Replace 1989 Sonoma Truck, Unit 115	392.11				24,800									24,800
<b>Production</b>														
<b>Water Quality</b>														
Total		0	0	18,300	74,400	57,600	84,600	87,000	0	0	0	0	0	321,900
Trade-in Value				1,600	6,300	4,000	5,900	11,000	0					28,800
Total Item F Less Trade-ins		0	0	16,700	68,100	53,600	78,700	76,000	0	0	0	0	0	293,100

**ITEM G - GENERAL EQUIPMENT  
1999 INVESTMENT PLAN**

File: \budget\99\inv\bd  
Sheet: ItemG

6/14/2004

Item	Acct	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<b>Administrative</b>														
1. Purchase One (1) Snow Blower	396	5,000												5,000
2. Replace Wash Water Pump - Office	398			5,000	3,000									5,000
3. Replace Air Compressor - Office	398													3,000
<b>Distribution</b>														
1. Replace Three (3) Pipe Locators	394				3,800									3,800
2. Replace Three (3) Box Locators	394				1,600									1,600
3. Purchase Repeater	397.2	35,000												35,000
4. Replace One (1) Asbestos Monitor	394				9,000									9,000
5. Replace Two (2) 7-Day Recorders	398				2,600									2,600
6. Replace One (1) Hydraulic Trash Pump	394				2,500									2,500
7. Replace Three (3) Trash Pumps	394				3,600									3,600
8. Replace Six (6) Electric Pumps	394				6,200									6,200
9. Replace Three (3) Cut-off Saws	394					2,700								2,700
10. Purchase One (1) Model Trav-L-Vac	398				5,400			11,000						11,000
11. Purchase One (1) S-20 Leak Surveyor	398					2,850								2,850
12. Replace 1000' of Fire Hose	398				6,955									6,955
13. Purchase RD-400 Pipeline Locator	394													20,730
14. Purchase 1000' of 6" Temporary Main	398					20,730								23,439
15. Purchase One (1) 700 gpm Trash Pump	394			23,439										1,730
16. Purchase Four (4) 4 1/2" Diffusers	398					1,730								950
17. Purchase Three (3) Electric Pumps	394				950									3,850
18. Purchase Three (3) Box Locators	394				3,850									3,850
<b>Production</b>														
1. Replace RRS Filter Bldg Air Compressor	398						6,000							6,000
2. Purchase 2-ton Hoist for Jacobson Reservoir	394							1,000						1,000
<b>Water Quality</b>														
1. Replace Incubator (Operations) for RRS	395						8,000							8,000
2. Replace Toxic Gas Meters for RRS/KRS	395			16,000										16,000
3. Replace Ion Meters for RRS/KRS	395					9,000								9,000
4. Replace Stir/hot Plates for KRS	395									2,500				2,500
5. Replace (8) Filter Effluent Turbidimeters @ RRS	395							20,000						20,000
6. Purchase On-line pH Monitor for RRS	395											2,000		2,000
7. Purchase Field Autosampler	395			30,000	3,000									3,000
8. Replace Two (2) On-line Particle Counters	395													30,000
<b>Total Investment</b>		35,000	0	69,439	49,455	37,010	14,000	32,000	0	2,500	0	2,000	0	241,404
Less Item G Trade-in Values														0
<b>Total Investment Item G</b>		35,000	0	69,439	49,455	37,010	14,000	32,000	0	2,500	0	2,000	0	241,404

**ITEM H - MISCELLANEOUS  
1999 INVESTMENT PLAN**

File: \budget\99invbvd  
Sheet: ItemH 6/14/2004

Item	Acct	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<b>Administrative</b>														
1. Office Security Improvements	390.1			5,000	20,000	20,000	30,000							75,000
2. Replace Sprinkler System	390.1				10,000					3,000				10,000
3. Install Brass Cut-off Valves	390.1						9,000							9,000
4. Replace Roof Fan Hoods	390.1													9,000
<b>Distribution</b>														
1. Computerized Inspection Forms & Registers	391.23	2,000	2,000	4,000	4,000	10,000	6,000							28,000
2. Distribution Emergency Storage Bldg.	390.1			24,000	24,000	24,000				20,000	18,000			48,000
3. Pave around Stock Bldg/driveway/curbing	330													38,000
<b>Production</b>														
1. Replace Switchgear Batteries, KRS	325									8,000				8,000
2. Replace Telemetering Equipment, KRS	397.1				25,000		25,000							25,000
3. Strip Heaters/Switchgear	398													25,000
4. Replace Office backflow preventer	390.1					14,000							4,000	4,000
<b>Water Quality</b>														
1. Distribution Sampling Stations														14,000
<b>Total Budget</b>		2,000	2,000	9,000	83,000	68,000	70,000	0	0	31,000	18,000	0	4,000	287,000

**KENTUCKY-AMERICAN WATER COMPANY  
1999 INVESTMENT PLAN DETAIL**

**Item A  
Mains and Hydrants - Deposit Agreements**

**Form "D" Enclosed**

1999 Budget Request	\$2,800,000
1998 Budget	\$2,442,500
1997 Actual	\$2,394,625
1996 Actual	\$2,491,168
Strategic Business Plan	\$2,445,290

Our estimate for this budget item was calculated through discussions with a number of representatives of the home builders industry, various land developers and obtaining those preliminary plats that were available as well as getting their best estimate of what is expected in 1999. Based on the installed costs of the various sizes of pipe installed during 1997, the following are estimated costs for 1999.

12-Inch	8-Inch	6-Inch	4-Inch	3-Inch
\$23.57 (\$16.50) *	\$19.18	\$16.45	\$28.77	\$10.27

\* This represents 66.7 percent of the estimated cost of installing 12-inch pipe.

The actual amount that the developer will deposit for pipe pursuant to the terms of our On-Site Main Extension Agreement will be recalculated at year-end 1998, and these figures will be adjusted accordingly pursuant to our approved Rules and Regulations.

This portion of the Item A Investment Plan deals only with proposed main installations that are covered by extension deposit agreements.

Additionally, we estimate \$50,000 in Item B projects that will be reimbursable by others, and will be charged to Item A.

**KENTUCKY-AMERICAN WATER COMPANY  
 1999 INVESTMENT PLAN DETAIL**

**Details Of Mains & Hydrants – Deposit Agreements  
 1999**

**Item A**

**Form D**

<b>SUBDIVISION</b>	<b>PIPE (Feet)</b>					<b>ESTIMATED COST</b>
	12-Inch	8-Inch	6-Inch	4-Inch	3-Inch	
1999 Subdivisions	15,336	86,000	15,000	300	9,000	
<b>TOTAL PIPE</b>	125,636					<b>\$2,650,000</b>
<b>MISC FIRE SERVICES (16)</b>						<b>84,000</b>
<b>HYDRANTS (6)</b>						<b>16,000</b>
<b>1-A5 REIMBURSABLE PROJECTS</b>						<b>50,000</b>
<b>TOTAL ITEM 1-A3</b>						<b>\$2,800,000</b>

**KENTUCKY-AMERICAN WATER COMPANY  
1999 INVESTMENT PLAN DETAIL**

**Item B  
Mains & Hydrants, New & Replacement**

**Forms "C2" and "E" Attached**

1999 Budget Request	\$1,225,000
1998 Budget	\$1,224,000
1997 Actual	\$1,215,000
1996 Actual	\$1,014,976
Strategic Business Plan	\$1,225,398

On the enclosed Form "C", we have detailed six specific items which are recommended for the 1999 budget. They are:

1. Company's Portion of Investment ..... \$108,100

Rule 26 of the Company's Rules and Regulations as filed with Kentucky Public Service Commission provides for developers to make deposits based on the average installed per foot cost of the applicable size from the previous year. We are projecting that 1999 costs will be slightly higher than 1997 average installed costs.

SIZE OF PIPE	1997 COSTS	1999 ESTIMATE	DIFFERENCE
12-Inch	23.57	24.75	5%
8-Inch	19.18	20.14	5%
6-Inch	16.45	17.27	5%
4-Inch	28.77	28.77	0%
3-Inch	10.27	10.78	5%

As shown on Form "C" and Form "D", we are projecting that the following footages will fall into this category:

SIZE OF PIPE	FEET
12-Inch	15,336
8-Inch	86,000
6-Inch	15,000
4-Inch	300
3-Inch	9,000

Company Expense for Increasing Size of Mains ..... \$66,000

The Company will pay the additional cost of installing mains larger than 8-inch in accordance with the Rules and Regulations. Our estimated cost for 1999 will be based on \$30.61 per foot installed.

The difference in cost between the \$24.75 projected cost and the \$16.50 per foot that the developer will deposit will be \$8.25 per foot as the Company's portion for upsizing mains to 12-inch. We are projecting 8,000 feet of 12-inch main to be installed during 1999 that will need to be upsized.

Cost of Rock Excavation ..... \$122,900

Mains installed in new subdivisions are almost totally installed under On-Site Agreements which require the developer to deposit the average per foot cost of a like installation of the previous year. This average cost includes the average amount of rock encountered during the year.

This agreement works well except that in some subdivisions no rock will be encountered, while in others a tremendous amount of rock excavation will be required.

Consequently, when no rock is encountered, installation will probably be installed for less than the developer's deposit; when excessive amounts of rock is encountered, the cost of the installation will greatly exceed the average cost of the amount deposited.

After reviewing the anticipated developments, it appears that more rock may be encountered next year than this year.

Since there are no provisions for taking advantage of an excess deposit toward 1A2 funds and yet these funds are impacted by excessive rock areas, we feel that a rock excavation item should be included in this budget to cover this additional expense. We are projecting that approximately 3,072 cubic yards of rock will be encountered. This rock excavation will cost approximately \$40.00 per yard for removal.

2. Installation of Fire Hydrants in New Subdivisions ..... \$210,000

Preliminary investigations of the 1999 Investment Budget estimates that 100 new fire hydrants will be required. The estimated cost for installation of a fire hydrant during 1999 is \$2,100.

Hydrants to be Requested by Lexington Fire Department..... \$59,000  
on Existing Mains

Each year the Lexington Fire Department requests additional fire hydrants installed on existing mains due to zone changes and to upgrade fire protection in outlying areas. After discussion with fire department personnel, 21 such fire hydrant requests are projected. The average estimated cost for installation of a fire hydrant on an existing main is \$2,810.

Replacements and reinforcements include 11 specific items, as shown on the attached Form E. Also attached are drawings for those items where appropriate.

3. Replacements and Improvements by KAWC ..... \$45,500

Each year KAWC receives requests from state and local governments to relocate our facilities due to storm and/or sanitary sewer improvements, bridge relocations or roadway work to install turn lanes, etc. In order to avoid conflicts with our mains, our facilities must be relocated. Each year we also are required to replace broken valves, replace damaged fire hydrants and repair main breaks which require full joints of pipe or more to repair. Since all of these projects are small in nature, added or included in state or city budgets on an as-needed basis and are all funded by the company, we have combined these into one item. All of these projects are less than \$10,000 in cost each. Generally, they run from \$2,000 to \$4,000. There are no known projects planned in this specific category at this time. Budget amounts used in establishing this total was \$15,000 for relocation requests by the Lexington-Fayette Urban County Government (LFUCG), \$15,000 for relocation requests by the Kentucky Transportation Cabinet (KTC) and \$20,000 for miscellaneous valve and hydrant replacement and main repair.

4. Miscellaneous Capitalized Main Breaks ..... \$46,000

Each year there are main breaks that are of sufficient size to justify individual work orders be written. Funds are being requested to allow for these expenditures. This is estimated based on previous years' needs.

5. Replace 4-Inch Cast Iron and 8-Inch Cast-Iron Pipe with 900 feet 8-Inch D.I. Pipe in Meadows Neighborhood ..... \$65,000

The LFUCG has planned an extensive 10-phase neighborhood improvement project to correct drainage, improve roads and replace sidewalks. This proposed Phase II will upgrade 1,400 feet of 4-inch unlined cast iron pipe installed in 1924 to improve fire flows, service pressure and eliminate conflicts with the City's construction.

6. Replace 4-Inch Cast Iron and 6-Inch Cast Iron Pipe with 900 feet of 8-Inch D.I. Pipe in Meadows Neighborhood ..... \$85,000

As Phase III of the 10-phase project described in Item 3 above, this proposed construction will upgrade 1,400 feet of 4-inch unlined cast pipe installed in 1926 to improve fire flows, service pressures and eliminate conflicts with the City's construction. Because of the location and number of tie-ins, the estimated cost per foot is less than Phase II.

7. Install 800 Feet of 8-Inch Ductile Iron Pipe along Greendale Road ..... \$75,000

This area suffers from marginal flows and excessive pressure fluctuations. This main proposes to provide reinforcement by connecting to an existing 8" near Spurr Road. This main needs to be installed to reduce liability and increase reliability.



- 8. Replace 800 Feet of 6-AC with 800 Feet of 8-Inch Ductile Iron Main in Brown Ave ..... \$70,000

The LFUCG has proposed the first phase of an urban renewal project to correct drainage, improve roads and replace sidewalks. The main was installed in 1948 and must be relocated to avoid conflicts based on preliminary realignment plans provided by the State.

- 9. Replace 600 Feet of 6-Inch Cast Iron with 600 Feet of 8-Inch Ductile Iron Main in Shropshire ..... \$55,000

The LFUCG has proposed the second phase of an urban renewal project to correct drainage, improve roads and replace sidewalks. The existing mains are unlined cast iron mains that were installed in 1955. They will be replaced with 600 feet of 8-inch ductile iron to improve fire flows, service pressure and eliminate conflicts.

- 10. Replace 600 Feet of 12-Inch AC Main with 12-Inch Ductile Iron on Todds Road between Palumbo and Liberty & Retire 600 Feet of 6" AC Main. .... \$60,500

The LFUCG is widening Todds Road from Palumbo Drive to Liberty Road. The main was installed in 1974 and needs to be relocated to avoid conflicts with the road realignment. The existing 6-inch A.C. main can be removed without impacting flows.

- 11. Install 250 Feet of 8-Inch AC with 250 Feet of 8-inch Ductile Iron Main on Lowery Lane ..... \$30,000

The LFUCG is improving Lowery Lane with additional turning lanes. The main was installed in 1955 and needs to be relocated to avoid conflicts with the road realignment and grading.

- 12. Replace 1,500 Feet of 6-Inch Cast Iron and 4-Inch Cast Iron Main on Victory Avenue ..... \$97,000

This main is an unlined cast iron main that was installed in 1932. The area suffers from marginal flows, pressure fluctuations and low flow on the hydrants. The main will be replaced and all services will be replaced.

- 13. Purchase and Install 250 4 1/2-Inch Hydrant Nozzle Adapters ..... \$30,000

These adapters will convert existing KAWC threads to National Standard threads. This work is being proposed at the request of the LFUCG Fire Department because KAWC threads are slightly smaller than NST and allows suction hoses to blow off hydrants while in use. This is the ninth of a nine-year program to convert approximately 4,500 hydrants. Materials and labor will be furnished by KAWC.

**KENTUCKY-AMERICAN WATER COMPANY  
 1999 INVESTMENT PLAN DETAIL**

**Item B  
 Detail of Mains & Hydrants  
 To Be Installed At Company Expense During 1999**

**Form "C"**

<b>DESCRIPTION &amp; LOCATION</b>	<b>NO. UNITS</b>	<b>SIZE</b>	<b>ESTIMATED REVENUE</b>	<b>ESTIMATED COST</b>	<b>PRIORITY</b>
Hydrants for new subdivisions	100	6-Inch		\$210,000	2
Hydrants to be requested by Lexington Fire Department On existing mains	21	6-Inch		\$59,000	3
Company's portion of invest- ment in accordance with Rule 26 of Rules and Regulations				\$108,100	1
Company's portion to upsize 12-inch and larger	8,000			\$66,000	2
Rock excavation	3,070 cu yds			\$122,900	1
<b>TOTAL</b>				<b>\$566,000</b>	

**KENTUCKY-AMERICAN WATER COMPANY  
 1999 INVESTMENT PLAN DETAIL**

**Item C  
 Services**

1999 Budget Request	\$1,011,000
1998 Budget	\$1,009,915
1997 Actual	\$986,800
1996 Actual	\$994,962
Strategic Business Plan	\$1,011,068

After reviewing preliminary plats available, consulting with developers, homebuilders, engineering firms, and reviewing current available building lots, forecast of services was developed. The following is a summary of services for 1999:

Install	255	3/4-Inch Services	@	\$401	=	\$102,315
Renew	250	3/4-Inch Services	@	\$1,100	=	\$275,000
Extend	10	3/4-Inch Services	@	\$709	=	\$7,090
Install	938	1-Inch Services	@	\$495	=	\$464,135
Install	47	1-Inch Rock Services	@	\$695	=	\$32,400
Renew	41	1-Inch Services	@	\$1,823	=	\$75,352
Extend	10	1-Inch Services	@	\$300	=	\$3,000
Install	25	2-Inch Services	@	\$1,330	=	\$248
Renew	2	2-Inch Services	@	\$2,110	=	\$6,060
Install	4	Domestic Larger Than 2-Inch	@	\$3,100	=	\$12,400
<b>TOTAL BUDGET ITEM 1B</b>						<b>\$1,011,000</b>

In recent years, a sharp increase occurred in contractor price for installation of new services and replacement services, as well as an increase in the number of replacement services required. However, we are not anticipating an increase for 1999. Existing plastic services have become a tremendous problem and are being replaced when they break. This trend is anticipated to continue until virtually all of the plastic services are replaced.

**KENTUCKY-AMERICAN WATER COMPANY  
1999 INVESTMENT PLAN DETAIL**

**Item D  
Meters & Installations**

1999 Budget Request	\$1,200,000
1998 Budget	\$957,782
1997 Actual	\$870,769
1996 Actual	\$722,214
Strategic Business Plan	\$1,011,000

The contract price for meter settings has not increased significantly in recent years. This has been offset, however, with the purchase of additional encoder meters for 1-inch replacement meters and larger.

The Company recently received permission from the Public Service Commission to begin a sampling program that could extend the life of the residential meters. Little savings will be realized in the initial years due to the extent of the testing levels.

Continued growth higher than previously projected has resulted in a sharp increase in the number of services being added to the system. This growth is expected to continue.

**BUDGET ITEM D**

In conformance with the current program of the periodic meter change program 6,560 additional meters will need to be purchased. All vaults that have to be entered for reading have been changed to encoder meters. All 4-inch meters were changed to encoders as of the end of 1996 and Kentucky-American should have all 1 1/2-inch and 2-inch changed by 2003. Based upon this information and past experience, our recommendation for meters and settings during 1998 is as follows:

Purchase Meters		5/8-Inch x 3/4-Inch	
New Installations		2,000	
Periodic Changes		6,560	
Burst/Stopped Meters		500	
TOTAL 9,050 @		\$47.24	= \$427,950
Purchase Encoder Meters		1-Inch	
New Installations		200	
Periodic Changes		400	
Rural Area Conversion		150	
Burst/Stopped Meters		50	
TOTAL 800 @		\$98.43	= \$137,400
Purchase Encoder Meters		1 1/2-Inch	
Periodic Changes		28	
Rural Area Conversion		6	
Burst/Stopped Meters		6	
TOTAL 40 @		\$200.00	= \$8,000
Purchase Encoder Meters		2-Inch	
New Installations		105	
Periodic Changes		200	
Rural Area Conversion		75	
Burst/Stopped Meters		20	
TOTAL 400 @		\$243.00	= \$97,600
Purchase Encoder Meters		4-Inch	
Protectus Meter Installations		4	
Not Feasible to Repair		10	
TOTAL 14 @		\$1,685.71	= \$23,600
Purchase Encoder Meters		6-Inch	
Protectus Meter Installation		4	
Not Feasible to Repair		1	
TOTAL 5 @		\$4,300	= \$21,500
<b>SUBTOTAL METERS</b>			<b>\$716,050</b>

Install	1,860	5/8-Inch x 3/4-Inch	@	139.95	=	269,000
Renew	290	5/8-Inch x 3/4-Inch	@	265.00	=	79,900
Relocate	20	5/8-Inch x 3/4-Inch	@	180.00	=	3,600
Install	130	1-Inch	@	195.00	=	26,000
Renew	8	1-Inch	@	340.00	=	2,800
Relocate	2	1-Inch	@	250.00	=	500
Install	30	2-Inch	@	2,200.00	=	74,150
Renew	3	2-Inch	@	1,000.00	=	3,000
Install Domestic	5	Larger Than 2-Inch	@	3,550.00	=	25,000
<b>SUBTOTAL ITEM D</b>						<b>483,950</b>
<b>TOTAL ITEM D</b>						<b>\$1,200,000</b>

**KENTUCKY-AMERICAN WATER COMPANY  
 1999 INVESTMENT PLAN DETAIL**

**Item E  
 Office Furniture and Equipment**

1999 Budget Request	\$500,930
1998 Budget	\$271,400
1997 Actual	\$204,507
1996 Actual	\$283,233
Five Year Plan	\$271,710

**ADMINISTRATIVE**

1. Purchase 20/20 Insight Associate Assessment, Planning and Development CD-ROM Software System..... \$12,500

This system will provide for 360-degree feedback from all associates in the Company. This system provides all reports as well as training necessary to implement this highly effective assessment system. (January)

2. Purchase CD-ROM Training Series to Help Build Better Understanding Between Associates, Provide Skills Training Programs, Personal Productivity Training, Management Competency Training and Basic Computer Use Training ..... \$20,000

This type of training will allow associates to work at designated workstations in the Company both at off-work times as well as set class settings during working hours. They will allow our employees to become more efficient in their day-to-day encounters with both customers and fellow associates. This is state of the art training. (March)

**COMMERCIAL**

1. Replace Common Data IVR with Lucent Technologies Conversant System .. \$89,900

The current Interactive Voice Response (IVR) system is outdated and does not allow for the local administration of the features such as local message changes, out call capabilities, etc. The Conversant System can handle all of the above features and is easily expandable for future needs. (March)

2. Purchase 10 FirsTech Pay Stations ..... \$27,500

In 1998 we established an agreement with FirsTech to act as our agent in securing outside parties to take water bill payments. These 10 pay stations will be utilized to expand our collections of payments into additional agents throughout our service area. (May)

**DISTRIBUTION**

1. Purchase Five Notebook Computers..... \$36,250  

These computers will be used in conjunction with the computerized inspection of valves, hydrants and blowoffs. (May)
2. Purchase One Pentium PC Computer..... \$????????  

This PC unit will provide permanent storage of data. (May)
3. MapSync Mobile and/or Desktop Mapping Software ..... \$1,500
  - Distribution (Ed Blankenship) – 32 bit version
  - Distribution (Wayne Mattingly) – upgrade to 32 bit version
  - Move Database forms to 32 bit version (Wayne Mattingly)

**NEW DEVELOPMENT**

1. Software Development..... \$1,500
  - Address Search Engine for AutoCAD Map
  - Two (2) Copies
2. MapSync Mobile and Desktop Mapping Data Updates..... \$7,680
  - Update Address Model (monthly)
  - Update Distribution Maps (monthly)
  - 8 hours/month
3. Data Integration and Conversion..... \$85,000
  - Geographic Correction of KAWC Data
  - Integrate LFUCG data set

**INFORMATION TECHNOLOGY**

1. Upgrade to Novell 5.0 ..... \$25,000  

This project will upgrade the 3 LAN Servers to the latest Novell operating system and will include enhancements for user connectivity. (June)
2. Upgrade to Windows 98..... \$16,000  

Upgrade 120 PCs to Windows 98 to improve connectivity to the LAN, WAN and Internet. (\$2,000 each month May-December)



3. Upgrade to Microsoft Office 2000..... \$45,000  
 Upgrade from Microsoft Office 97 to Office 2000 to enhance word processing, spreadsheet, presentation and database capabilities. (\$15,000 each month July – September)
4. Purchase 20 Personal Computers..... \$60,000  
 These 20 PCs will replace existing 133 mhz machines to improve speed and connectivity. (\$10,000 each month May – October)
5. Install Remote ADSL Connections ..... \$4,000  
 These connections will replace the existing ISDN connection to the Kentucky River Station and provide connectivity to the Richmond Road Station and remote Customer Service functions. The ADSL will increase response time for the users at these locations. (June)
6. Upgrade Lotus Notes ..... \$22,000  
 Upgrade Lotus Notes server and 120 user license to latest version. (October)

**PRODUCTION**

1. Richmond Road Station Copier..... \$6,000  
 The copier used by the Production/Water Quality staff at the Richmond Road Station is now six years old. This copier was under lease for three years and was then purchased by the Company. At the current time, the unit requires repeated service calls and needs to have the major components replaced. Due to the high use of this machine by the Production/Water Quality staff, it is recommended that the unit be replaced. (July)
2. Purchase Vibration Monitoring Equipment ..... \$22,000  
 The existing vibration monitoring/collection software is obsolete and not year 2000 compliant. To continue the monitoring and collection of pump and motor vibration data as required by American Water System Operations Manual, Production Procedure No. 4, new software must be purchased. (?????)

**WATER QUALITY**

1. Computer/Printer for Lab Technician ..... \$2,500  
 The computer and printer used by the Water Quality lab technician are obsolete and need replacing. The computer is used to track and generate data associated with Kentucky-American Water Company’s compliance bacteriological laboratory. (February)

- 2. Kentucky River Station Copier ..... \$6,500

As this unit is used by Production/Water Quality staff, it is in constant use and is beginning to experience maintenance and operating problems that affect the quality of the copies. (April)

**KENTUCKY-AMERICAN WATER COMPANY  
 1999 INVESTMENT PLAN DETAIL**

**Item F  
 Transportation Equipment**

1999 Investment Request	\$293,100
1998 Investment Plan	\$314,900
1997 Actual	\$342,336
1996 Actual	\$304,993
Five Year Plan	\$315,260

**ADMINISTRATIVE**

1. Replace 1991 Chevrolet Cavalier Pool Car, Unit 5..... \$15,700

This vehicle is in need of repairs, and needs to be replaced. It will have over 90,000 miles on it at the time of replacement. The estimated trade-in value is \$1,600. It will be replaced with a comparable unit. (May)

2. Replace 1991 Chevrolet Lumina 4-door, Unit 158..... \$18,300

This vehicle is used by the Director of Community Relations. The vehicle will have nearly 90,000 miles. The maintenance costs for the last 12 months were \$1,500. This vehicle will be replaced with a similar vehicle with 4 doors. The estimated trade-in value is \$1,600. (March)

**DISTRIBUTION**

1. Replace 1991 Ford Ranger Pickup, Unit 7..... \$21,000

This vehicle is in need of extensive maintenance and needs to be replaced. It will have approximately 120,000 miles on it at the time of replacement. The estimated trade-in value is \$1,100. (May)

2. Replace 1991 Chevrolet C20 Van, Unit 8..... \$21,000

This vehicle will have over 115,000 miles at the time of trade-in and needs to be replaced. The estimated trade-in value is \$1,100. It will be replaced with a similar unit (June)

- 3. Replace 1991 Ford 1-Ton Truck, Unit 9 ..... \$43,500

This vehicle is used as a utility truck daily by the Distribution department. At the time of replacement it will have been driven in excess of 78,000 miles. The maintenance costs estimated for 1998 are \$1,800. The estimated trade-in value is \$5,500. It will be replaced with a similar unit. (July)

- 4. Replace 1991 Chevrolet 1-Ton Truck, Unit 13 ..... \$43,500

This vehicle is used as a utility truck daily by the Distribution department. At the time of replacement it will have been driven in excess of 75,000 miles. The maintenance costs for the last 12 months were \$1,600. The estimated trade-in value is \$5,500. It will be replaced with a similar unit. (July)

**OUTSIDE COMMERCIAL**

- 1. Replace 1992 Chevrolet Cavalier, Unit 29..... \$20,900

This unit is used by the Outside Commercial Supervisor. It will have about of 90,000 miles at the time of trade-in. The vehicle is undersized for transporting more than 2 persons and is proposed to be replaced by a compact vehicle. The estimated trade-in value is \$1,300. (May)

- 2. Replace 1994 Ford Ranger Pickup, Unit 36 ..... \$21,200

This truck is utilized daily by an On/Off Utility person. The vehicle will have over 80,000 miles on it and needs replacing. The vehicle will be replaced with a similar vehicle. The estimated trade-in value is \$1,600. (June)

- 3. Replace 1994 Chevrolet S-10 Pickup, Unit 37 ..... \$21,200

This truck is utilized daily by an On/Off Utility person. The vehicle will have over 90,000 miles on it and needs replacing. The vehicle will be replaced with a similar vehicle. The estimated trade-in value is \$1,600. (June)

- 4. Replace 1994 Chevrolet S-10 Pickup, Unit 38 ..... \$21,200

This truck is utilized daily by an On/Off Utility person. The vehicle will have over 90,000 miles on it and needs replacing. The vehicle will be replaced with a similar vehicle. The estimated trade-in value is \$1,600. (June)

**ENGINEERING**

- 1. Replace 1991 GMC Jimmy 4x4, Unit 151..... \$24,800

This vehicle is used by the Operations Engineer. The vehicle will have nearly 90,000 miles and requires major transmission work. This vehicle will be replaced with a similar vehicle with 4 doors. The estimated trade-in value is \$2,600. (April)

- 2. Replace 1994 Jeep Cherokee 4x4, Unit 31 ..... \$24,800

This vehicle is used by the Operations Engineer. The vehicle will have about 90,000 miles and requires major engine work. This vehicle will be replaced with a similar vehicle with 4 doors. The estimated trade-in value is \$2,600. (April)

- 3. Replace 1989 GMC Sonoma Pickup, Unit 115..... \$24,800

This vehicle is used by the New Development Supervisor. The vehicle will have about 110,000 miles and requires major engine work and painting. This vehicle will be replaced with a blazer style vehicle with 4 doors. The estimated trade-in value is \$1,100. (April)

**KENTUCKY-AMERICAN WATER COMPANY  
 1999 INVESTMENT PLAN DETAIL**

**Item G  
 General Equipment**

1999 Investment Request	\$241,404
1998 Investment Plan	\$287,750
1997 Actual	304,993
1996 Actual	\$304,993
Five Year Plan	\$288,079

**ADMINISTRATIVE**

1. Snow Blower ..... \$5,000  
 This snow blower will be used to clear the sidewalks and parking areas surrounding the main office complex.
2. Replace Washwater Pump..... \$5,000  
 ????????????? (March)
3. Replace Air Compressor ..... \$3,000  
 ????????????? (April)

**COMMERCIAL**

1. Purchase Six (6) Radio Units ..... \$8,250  
 These two Distribution and two Outside Commercial radios are for the new meter reading vehicles. (April)
2. Purchase Two (2) New Electric Pumps ..... \$1,800  
 These two new electric pumps will be used by meter readers to pump out meter vaults. (April)
3. Purchase Two (2) New Meter Box Locators ..... \$1,500  
 These additional units will be used by meter readers in locating meter tops. (April)

- 4. Replace 24-Position Indianapolis Meter Test Bench ..... \$28,500

The existing bench is over 25 years old and is beginning to need expensive maintenance of the valves and cylinders. This bench will be replaced with similar equipment except it will have the capability to test 24, 5/8-inch x 3/4-inch meters or 16 1-inch meters at a time. (May)

**WATER QUALITY**

- 1. On-Line Water Quality Analyzers ..... \$27,000

This new equipment will provide on-line fluoride and phosphate analyzers for both plants to monitor plant effluent water quality. On-line monitors will enable the plants to maintain consistent quality water. (March)

- 2. Gas Chromatograph Autosampler..... \$18,000

This will be replacement equipment as the current model is over 10 years old and no longer is supported by the manufacturer. This equipment is essential to maintaining compliance with water quality standards. (January)

**DISTRIBUTION**

- 1. Purchase Three (3) Pipe Locators ..... \$3,800

These three pipe locators will replace existing locators that are outdated and not economically feasible to repair. These new locators are also more efficient and easier to operate. (April)

- 2. Purchase Three (3) Box Locators ..... \$6,000

These three box locators will replace existing locators that are outdated and not economically feasible to repair. These new locators will be used by Distribution crews on a daily basis. (April)

- 3. Purchase Repeater & 20 Additional Radios ..... \$35,000

The Company currently utilizes two separate radio systems. One system is owned by the Company, the other is leased. By purchasing an additional repeater, the leased system can be eliminated. With the additional repeater, each vehicle will have one radio with two channels – one for the Outside Customer Service group and the other channel for the Distribution crews. (January – \$15,000 & February - \$20,000)

- 4. Asbestos Monitor ..... \$900

Purchase one asbestos monitor that will replace a similar unit. (April)

- 5. Pressure Recorders ..... \$2,600

Purchase two (2) seven-day 200 psi recorders that will replace similar units. (April)

- 6. Replace One (1) Hydraulic Trash Pump..... \$2,500

This pump is over six years old and has been in continuous use by Distribution department crews. This pump needs to be replaced with a new one. (April)

- 7. Replace Three (3) Trash Pumps ..... \$3,600

These trash pumps are used daily by the Distribution department in the repair of mains, services, etc. These pumps are used continuously and are replaced on a periodic basis to ensure that good working equipment is available for the Distribution crews. (April)

- 8. Replace Six (6) Electric Pumps ..... \$6,200

These electric pumps are used daily by the Distribution department in the repair of mains, services, etc. These pumps are used continuously and are replaced on a periodic basis to ensure that good working equipment is available for the Distribution crews. (April)

- 9. Replace Three (3) Cutoff Saws ..... \$2,700

These saws will replace ones that are used daily by the Distribution department crews to cut pipe, concrete and asphalt. These saws are in continuous use and repairs are not economical. (May)

- 10. Purchase One (1) Model Trav-L-Vac Skid Mounted Valve Box ..... \$11,000  
Cleanout System

This Trav-L-Vac will be an additional piece of equipment that will be used by employees operating valves during routine maintenance and by employees working on programmed maintenance work orders such as valve inspection and flushing dead-end mains. This piece of equipment will enable the Distribution department crews to clean out valve boxes quickly and efficiently, cutting down on response time to broken mains, etc. Currently the Distribution department crews are using small valve box vacuum cleanout systems that have to be emptied several times during daily use. The larger systems can be used all day without downtime due to having to be emptied. (July)

- 11. Purchase One (1) S-20 Leak Surveyor ..... \$5,400

This unit will replace an L-100 Leak Surveyor which has been used since 1986. The L-100 is in need of repair and repair parts are not available. (April)



- 12. Purchase 500 Feet of 2.5 Inch & 500 Feet of 1.5 Inch Fire Hose ..... \$2,850

The new fire hose will replace existing hose that is no longer usable. This hose is used for washing down streets after main breaks and for supplying temporary service. (May)

- 13. Purchase RD-400 Pipeline Locator ..... \$6,955

This unit will replace an existing unit that is damaged and is not repairable. The existing unit has been used in the Distribution department since 1989 to locate mains and services. (April)

- 14. Purchase 1,000 Feet of 6 Inch Temporary Main ..... \$20,730

This temporary main will be used by the Distribution department as an emergency water supply during major water outage. (June)

- 15. Purchase One (1) 700 GPM Trash Pump ..... \$23,439

This pump will be used by the Distribution department on major main breaks. At the present time, several maintenance vehicles equipped with 3-inch trash pumps have to be dispatched to the main break. This new pump would allow one vehicle to handle all the dewatering. (March)

- 16. Purchase Four (4) 4.5 Inch Diffusers ..... \$1,730

These diffusers will be used for testing fire-fighting capability of the Distribution system. The hydrants now being installed by Kentucky-American Water Company have two 4.5 inch hose outlets which require a 4.5 inch diffuser to conduct a fire flow test. (May)

- 17. Purchase Three (3) Electric Pumps ..... 950

Two pumps will be used on service trucks that were not equipped when purchased in 1996. The other is to be used to evaluate its efficiency for possible change in the type that is currently being used by our service personnel. (April)

- 18. Purchase Three (3) Box Locators ..... \$3,850

One box locator will replace a unit that is beyond repair. The others will be used on two new service vehicles. (April)

**PRODUCTION**

- 1. Replace Filter Building Air Compressor at the Richmond Road Station..... \$6,000

This work order is to replace the existing Atlas Copco non-oil lubricated filter building air compressor pumps with oil lubricated pumps. The existing non-oil compressor is showing signs of wear on the cylinder walls and will cost more to repair than a new compressor pump costs. (?????)

2. Purchase 2-Ton Hoist for Jacobson Reservoir ..... \$1,000

The existing trolley is rated for a 2-ton load and requires a 2-ton hoist to match the rated load. These devices are necessary to remove and install the motors and pumps housed in the pump station. (?????)

**WATER QUALITY**

1. Incubator (Operations) for Richmond Road Station..... \$8,000

The current unit is in constant use and is beginning to require more frequent maintenance. Reliable operation is crucial as this incubator is used for plant and distribution bacteriological samples, particularly Boil Water Advisory samples. (June)

2. Toxic Gas Meters for Richmond Road/Kentucky River Stations ..... \$16,000

The current meters are over eight years old and are in need of replacement due to increased maintenance to keep reliable and calibrated. These meters are used by the Production and Water Quality departments to monitor confined space entries. (March)

**KENTUCKY-AMERICAN WATER COMPANY  
 1998 INVESTMENT PLAN DETAIL**

**Item H  
 Miscellaneous**

1999 Investment Request	\$287,000
1998 Investment Plan	\$192,350
1997 Actual	\$170,342
1996 Actual	\$170,342
Five Year Plan	\$192,570

**ADMINISTRATIVE**

1. Security Improvements for the Office Complex, Stock Building,..... \$75,000  
 Richmond Road and Kentucky River Stations  
 ????????????????????
2. Replace Sprinkler System ..... \$10,000  
 ??????????????????? (April)
3. Install Brass Cutoff Valves ..... \$3,000  
 ??????????????????? (September)
4. Replace Roof Fan Hoods ..... \$9,000  
 ??????????????????? (June)

**DISTRIBUTION**

1. Computerization of Inspection Forms & Registers ..... \$28,000  
 Develop software and procedures for computerizing the valve, hydrant and blowoff inspection process. Customer software will be developed to replace each inspection form, card and register. In addition, a custom office module will be developed to manage the data and provide custom reports. (\$2,000 January, \$5,000 March, \$5,000 February, \$5,000 April, \$10,000 May and \$6,000 June)

- 2. Distribution Emergency Storage Building ..... \$48,000

Due to the continued expansion of the Distribution system, additional storage is required for emergency materials and supplies. Having specific materials available during emergency situations is badly needed. Adequate storage space is currently not available for maintaining needed emergency equipment and material. This building will be a metal structure with approximately 1,500 square feet of floor space.

- 3. Paving Around Stock Building ..... \$38,000

An existing graveled lot exists around the stock building. This lot is used to park company as well as associates' vehicles. A portion of the area will be paved; the driveway at the front office building will be resurfaced and the front curbing will be replaced.

**PRODUCTION**

- 1. Replace Switchgear Batteries, Kentucky River Station..... \$8,000

The switchgear battery bank provides power to the metal-clad, 4160-volt switchgear for electrical opening, closing and clearing of any overload condition. The switchgear provides power to all of the existing facilities at the Kentucky River Station.

The existing batteries were placed in service in 1981. The battery bank consists of 20 individual batteries connected in series to form a 130-volt battery. The manufacturer no longer produces this type of battery. Two of the individual batteries have been replaced in the last three years.

Due to the fact that the batteries are nearing the end of their useful life and the critical function these batteries perform, we propose to replace the battery bank. (?????)

- 2. Replace Telemetry Transmitters, Kentucky River Station..... \$25,000

The existing telemetry transmitters must be replaced due to the fact they are obsolete and repair parts are not available. These transmitters measure the rate of flow and loss of head of the filters at the operating plant. To ensure continuous reliable operation and meet all state and federal regulations, these transmitters must be replaced. (?????)

- 3. Strip Heaters/Switchgear ..... \$25,000

During the most recent inspections of electrical equipment, several comments were made on inspection forms as to condensation forming and evidence of erosion beginning in air break switches and switchgear. Recommendations were to install strip heaters inside the electrical equipment to prevent condensation from forming.

This proposal is a direct result of the budgeted electrical inspections and will retard degradation of the air break switches and switchgear. (?????)

- 4. Replace 6-Inch Wilkins Approved Backflow Preventer on the Main..... \$4,000

Incoming Water Supply to the Main Office Building

The existing device is 11 years old and in need of replacement. (???????)

**WATER QUALITY**

1. Distribution Sampling Stations ..... \$14,000

As Kentucky-American Water Company expands into more rural areas, adequate bacteriological sample points are difficult to locate. Sampling stations provide a clean, easily accessible means of collecting compliance samples. (May)



# Kentucky-American Water Company

2300 Richmond Road • Lexington, Kentucky 40502 • (606) 269-2386 • Fax (606) 268-6327

Date: October 5, 1998  
 IP 99- 01  
 Project No. 10901

## KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PROJECT 99- 01 NORTH BROADWAY REPLACEMENT PROJECT

**Reference:** 1998 Strategic Business Plan, 1997 Strategic Business Plan,  
 1996 Strategic Business Plan, 1995 Strategic Business Plan

### SUBJECT

Continuous maintenance problems and low flows on hydrants in the vicinity of North Broadway.

### RECOMMENDATION

Replace 5,400 feet of 6-inch cast iron main with 12-inch ductile iron main from Short Street to Loudon Avenue in North Broadway.

### ESTIMATED COST

Total Estimated Cost	\$1,300,000
Proposed 1999 Expenditure	\$ 300,000
Proposed 2000 Expenditure	\$1,000,000

### ADEQUACY

The funds for this proposed budget project will be adequate to complete the project.

INVESTMENT PROJECT REVIEW		
DEPARTMENT	BY	DATE
ENGINEERING	<i>[Signature]</i>	11.3.98
WATER QUALITY	N/A <i>[Signature]</i>	
INFO SYSTEMS		
OTHERS		
RECOMMENDED FOR APPROVAL:		
<i>[Signature]</i> PRESIDENT		11/16/98

Kentucky-American Water Company  
Proposed 1999 IP 99-01  
North Broadway Replacement Project  
October 5, 1998

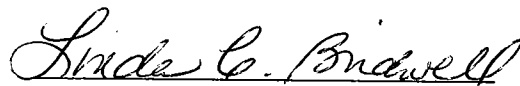
## DISCUSSION

The North Broadway area in downtown Lexington is currently served by a 6-inch cast iron main that was installed in approximately 1885. Because of the age of the main and its inadequate size, fire flows in the area and on side streets is inadequate. All of the hydrants along this route flow at less than 750 gallons per minute although this is a main artery for downtown Lexington with commercial and residential customers. Fire hydrants on adjacent streets flow at less than 500 gallons per minute.

In 1993, the 16-inch main at Church Street was slip-lined with a new 12-inch polyethylene main. It is proposed that the main be replaced from Church Street to Loudon Avenue. This will increase fire flows to 1200 gpm in some of the historically worst areas for fire flows in Lexington. It is also anticipated that this will improve flows along parallel North Limestone Street, which are less than 500 gallons per minute. The project will serve as not only a replacement project but a reinforcement for the downtown distribution grid.

Because of traffic considerations, this work will need to be coordinated at non-peak traffic times. Project layout and utility location will occur in early 1999, with construction beginning in 1999 and continuing into 2000.

The cost estimate was based on similar work recently completed on South Broadway. Because of complex traffic considerations, it is projected to be accurate within plus or minus 10%.



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



Nick O. Rowe  
Vice President - Operations

Proposed 1999 IP 99-01  
North Broadway Replacement Project  
October 5, 1998

**Detailed Cost Estimate**

<u>Item</u>	<u>Responsibility</u>	<u>Proposed Estimate</u>
Design	Company	\$75,000
Pipeline	Company	66,000
Installation	Contractor	961,000
Inspection	Company	50,000
	O&C	60,000
		<u>\$1,212,000</u>
AFUDC		88,000
Total		\$1,300,000

NOR/dm



**Kentucky-American Water Company**  
**Economic Analysis of the Impact of Capital**  
**Spending Proposal**  
**North Broadway Replacement**

Determination of Revenue Requirement

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	7.38%

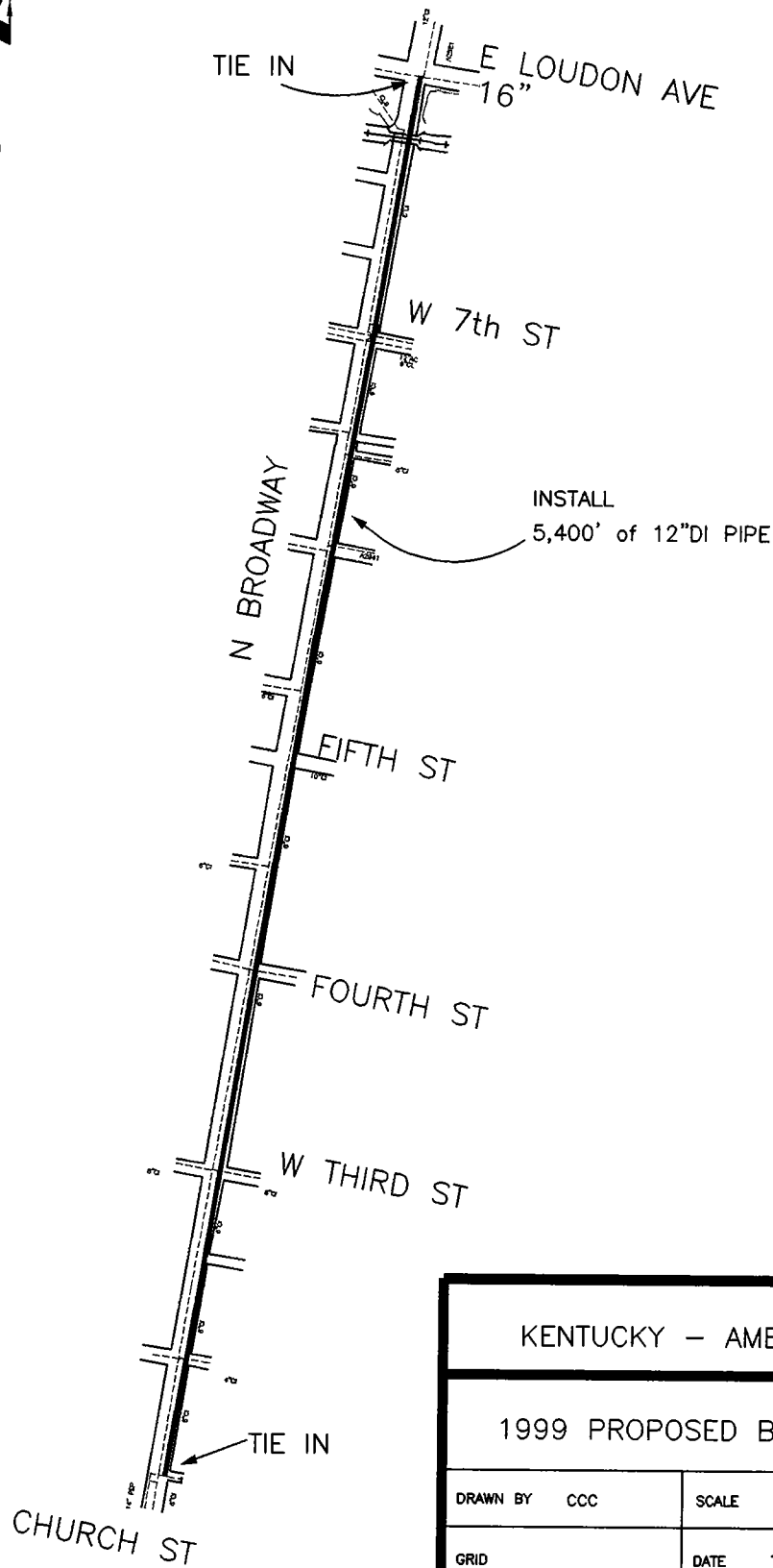
Long Term Debt Ratio for Project	60.00%
Estimated Cost Rate for New Debt	7.00%
Weighted Cost of Debt	4.20%

Total Pre-Tax Cost of Capital	11.58%
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Total Estimated Cost of Project	\$1,300,000
Investment by Others	0
Net Investment Financed by Company	1,300,000
New Common Equity	\$520,000
New Long Term Debt	780,000

<u>Total Revenue Requirement</u>		<u>Amount</u>	<u>Rate</u>
Required Pre-Tax Operating Income		\$150,540	11.58%
Depreciation Rate	1.180%	15,340	1.18%
Property Tax Rate	0.6990%	9,087	0.70%
Change in Operation & Maint. Expense		0	0.00%
Revenue from New Customers		0	0.00%
Total Net Revenue Requirement		\$174,967	13.46%
Revenue Tax Rate	0.14537%	255	0.02%
Total Revenue Requirement		\$175,222	13.48%

Latest 12 Months Revenue - 9/31/98	\$37,453,760
Required Price Increase	0.47%



KENTUCKY – AMERICAN WATER COMPANY		
1999 PROPOSED BP 99–NORTH BROADWAY		
DRAWN BY	CCC	MATERIAL:
GRID	SCALE NONE	INSTALL 5,400' of 12" DI PIPE
APPROVED	DATE 10-15-98	
	DRAWING No.	

KENTUCKY-AMERICAN WATER COMPANY  
NORTH BROADWAY REPLACEMENT PROJECT, IP 99-01  
1999

DESCRIPTION OF ACTIVITY	RESPONSIBLE ENTITY	MONTHS																
		1	2	3	4	5	6	7	8	9	10	11	12					
DESIGN	CONSULTANT																	
PIPELINE CONSTRUCTION	CONTRACTOR																	
INSPECTION	COMPANY																	
Subtotal	\$295,475			\$4,955	\$9,945	\$9,920	\$19,885	\$19,875	\$9,800	\$4,795	\$99,000	\$68,800	\$48,500					
AFUDC	\$4,525			\$45	\$55	\$80	\$115	\$125	\$200	\$205	\$1,000	\$1,200	\$1,500					
CASH FORECAST	\$300,000	0	0	\$5,000	\$10,000	\$10,000	\$20,000	\$20,000	\$10,000	\$5,000	\$100,000	\$70,000	\$50,000					

KENTUCKY-AMERICAN WATER COMPANY  
NORTH BROADWAY REPLACEMENT PROJECT, IP 99. 01  
2000

DESCRIPTION OF ACTIVITY	RESPONSIBLE ENTITY	MONTHS																						
		1	2	3	4	5	6	7	8	9	10	11	12											
DESIGN	CONSULTANT																							
PIPELINE CONSTRUCTION	CONTRACTOR																							
INSPECTION	COMPANY																							
Subtotal	\$916,525	\$46,500	\$93,000	\$142,000	\$236,000	\$234,000	\$132,500	\$32,525																
AFUDC	\$83,475	\$3,500	\$7,000	\$8,000	\$14,000	\$16,000	\$17,500	\$17,475																
CASH FORECAST	\$1,000,000	\$50,000	\$100,000	\$150,000	\$250,000	\$250,000	\$150,000	\$50,000																



Kentucky-American Water Company

2300 Richmond Road • Lexington, Kentucky 40502  
 606-269-2386

Date: October 5, 1998  
 IP 99- 02  
 Project No. 10902

**KENTUCKY-AMERICAN WATER COMPANY  
 PROPOSED INVESTMENT PROJECT 99- 02  
 REPLACE FILTER VALVES AT KENTUCKY RIVER STATION**

**Reference:** 1998 Strategic Business Plan

**SUBJECT**

Poor operation of leakage through sixteen filter drain and wash valves at the hydrotreaters at Kentucky River Station.

**RECOMMENDATION**

Replace sixteen filter drain and wash valves on eight hydrotreaters at the Kentucky River Station.

**ESTIMATED COST**

Total Estimated Cost	\$140,000
Proposed 1999 Expenditure	\$140,000

**ADEQUACY**

The recommended investment project funding will be adequate for design and construction.

INVESTMENT PROJECT REVIEW		
DEPARTMENT	BY	DATE
ENGINEERING	<i>John S. Young</i>	10-20-98
WATER QUALITY	<i>Richard W. Moore</i>	10/20/98
INFO SYSTEMS	_____	_____
OTHERS	_____	_____
RECOMMENDED FOR APPROVAL:		
<i>Wayne W. ...</i>		11/16/98
PRESIDENT		

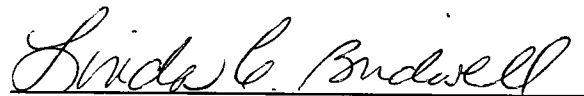
Proposed 1999 IP 99-02  
Replace Filter Valves at Kentucky River Station  
October 5, 1998  
Project No. 10902


### DISCUSSION

The existing hydrotreator filter wash water inlet valves and drain valves on eight of the hydrotreaters at the Kentucky River Station have been in service for extended periods, having been installed between 1958 and 1970. Change in the hydrotreator water levels is noticed any time the filters are removed from service. This obviously occurs as a result of leakage through either the washwater inlet valves or the drain valves, depending on whether the hydrotreator is drained or not. This makes it difficult when the hydrotreaters are taken out of service for maintenance, inspections or painting because the leaking drain valves will cause water to leak into the empty hydrotreator each time any of the other hydrotreaters are backwashed. This significantly hinders maintenance within the hydrotreaters.

The existing valves are the original 24-inch Pratt butterfly valves that have been retrofitted with electric operators. Not only are the valves leaking, but the operators are also continually needing maintenance and should be replaced. It is recommended that sixteen valves be replaced, two on each hydrotreator, to eliminate leakage and improve the efficiency of operations. The new valves will be Pratt 24-inch butterfly valves with electric operators.

The purchase of the valves and installation are proposed for 1999. The cost estimate is based on manufacturers' list prices and will vary only based on contractor installation costs. The cost estimate is therefore is projected to be accurate within plus or minus 10% depending on contractor installation costs.

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

  
\_\_\_\_\_  
Nick O. Rowe  
Vice-President - Operations

Proposed 1999 IP 99-02  
Replace Filter Valves on Kentucky River Station Hydrotreaters  
October 5, 1998  
Project No. 10902

**Detailed Cost Estimate**

<u>Item</u>	<u>Responsibility</u>	<u>Proposed Estimate</u>
Equipment		\$80,000
Installation		48,000
Coordination		3,100
O&C		6,900
Subtotal		<u>\$138,000</u>
AFUDC		2,000
Total		\$140,000

NOR/dm

**Kentucky-American Water Company**  
**Economic Analysis of the Impact of Capital**  
**Spending Proposal**  
**Replace Filter Valves**

Determination of Revenue Requirement

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

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

Total Pre-Tax Cost of Capital	<u><u>11.58%</u></u>
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Total Estimated Cost of Project	\$140,000
Investment by Others	0
Net Investment Financed by Company	<u><u>140,000</u></u>
New Common Equity	\$56,000
New Long Term Debt	84,000

<u>Total Revenue Requirement</u>		<u>Amount</u>	<u>Rate</u>
Required Pre-Tax Operating Income		\$16,212	11.58%
Depreciation Rate	4.030%	5,642	4.03%
Property Tax Rate	0.6990%	979	0.70%
Change in Operation & Maint. Expense		0	0.00%
Revenue from New Customers		0	0.00%
Total Net Revenue Requirement		<u>\$22,833</u>	<u>16.31%</u>
Revenue Tax Rate	0.14537%	33	0.02%
Total Revenue Requirement		<u><u>\$22,866</u></u>	<u><u>16.33%</u></u>

Latest 12 Months Revenue - 9/31/98	<u><u>\$37,453,760</u></u>
Required Price Increase	<u><u>0.06%</u></u>



KENTUCKY-AMERICAN WATER COMPANY  
 REPLACE FILTER VALVES AT KENTUCKY RIVER STATION, JP 99-02  
 1999

DESCRIPTION OF ACTIVITY	RESPONSIBLE ENTITY	MONTHS												
		1	2	3	4	5	6	7	8	9	10	11	12	
INSTALLATION	CONTRACTOR													
INSPECTION	COMPANY													
Subtotal	\$138,000									\$9,980	\$69,662	\$58,358		
AFUDC	\$2,000									\$20	\$338	\$1,642		
CASH FORECAST	\$140,000									\$10,000	\$70,000	\$60,000		



# Kentucky-American Water Company

2300 Richmond Road • Lexington, Kentucky 40502 • (606) 269-2386 • Fax (606) 268-6327

Date: October 12, 1998  
 IP 99-03  
 Project No. 10511

## KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PROJECT 99- 03 SCOTT COUNTY MAINS

**Reference:** Budget Project Memoranda 97-05 dated November 6, 1997 and 95-12 dated June 21, 1996, Strategic Business Plans for 1996, 1997, and 1998

### SUBJECT

The installation of mains in rural Scott County.

### RECOMMENDATION

It is recommended that 89,600 feet of 8-inch mains be installed in rural Scott County.

### ESTIMATED COST

Total Estimated Cost	\$1,500,000
Proposed 1999 Expenditure	\$750,000
Proposed 2000 Expenditure	\$750,000
Total Reimbursements	\$(958,000)
Proposed 1999 Reimbursements	\$(469,000)
Proposed 2000 Reimbursements	\$(489,000)

### ADEQUACY

The proposed investment project funds are adequate to design and construct the work in 1999 and 2000. This is a continuation of a program that was originally initiated under budget project 95-12 and continued under budget project 97-05. An estimated \$958,000 will be reimbursed by the Scott County Fiscal Court, with \$469,000 in 1999 and \$489,000 in 2000.

INVESTMENT PROJECT REVIEW		
DEPARTMENT	BY	DATE
ENGINEERING	<i>John S. Young</i>	11-3-98
WATER QUALITY	N/A	
INFO SYSTEMS		
OTHERS		
RECOMMENDED FOR APPROVAL:		
<i>Jay W. [Signature]</i>		11/16/98
PRESIDENT		


Proposed 1999 IP 99- 03  
Scott County Mains Project  
October 12, 1998

## DISCUSSION

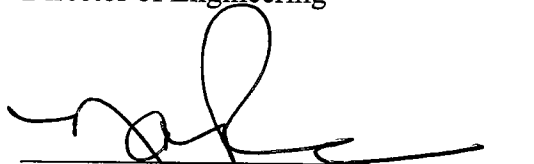
The Scott County Judge Executive has indicated that the Fiscal Court would like to continue the program of extending water supply mains into rural Scott County. The program was initiated under budget project 95-12 in 1995 and 1996. The County has agreed to provide 80 percent of the capital expenditures for rural water service and waive refunds if Kentucky-American Water Company will provide 20 percent of the capital expenditures. The Public Service Commission has approved the special agreement.

The Fiscal Court has agreed with the proposed extension of 20,500 feet on US 25 from KY 32 to KY 356, 18,000 feet on Stonewall Road from US 25 to Elk Lick Church Road, 15,800 feet from South Rays Fork to Hinton, 23,700 feet on North Rays Fork and Fields Roads, and 11,600 feet on Eagle Springs and KY 608. An estimated 85 homes will be provided water service.

As with the previous extensions, Kentucky-American Water Company will provide the investment to upgrade the installation of these extensions in order to meet Company standards and provide for anticipated growth. The proposed 8-inch mains will provide a minimum hydrant fire flow of 500 gpm to these residential areas.



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



Nick O. Rowe  
Vice President

**KENTUCKY-AMERICAN WATER COMPANY  
 SCOTT COUNTY MAINS**

**Detailed Cost Estimate**

<b>Item</b>	<b>Responsibility</b>	<b>Total Estimated Cost</b>	<b>Scott County Contribution</b>	<b>KAWC Costs</b>
1999 Design	Company	\$10,000	\$8,000	\$2,000
Easement Acquisition	Company	28,750	20,000	8,750
Construction	Contract	<u>659,631</u>	<u>418,905</u>	<u>240,726</u>
		\$698,381	\$446,905	\$251,476
Omissions & Contingencies		34,419	22,095	12,324
AFUDC		<u>17,200</u>	<u>---</u>	<u>17,200</u>
		\$750,000	\$469,000	\$281,000
2000 Design	Company	\$10,000	\$8,000	\$2,000
Construction	Contract	<u>692,458</u>	<u>457,732</u>	<u>234,727</u>
		\$702,458	\$465,732	\$236,727
Omissions & Contingencies		36,767	23,268	13,498
AFUDC		<u>10,775</u>	<u>---</u>	<u>10,775</u>
		\$750,000	\$489,000	\$261,000

/sdb

8kybp\scott1.lwp

**Kentucky-American Water Company**  
**Economic Analysis of the Impact of Capital**  
**Spending Proposal**  
**Scott County Mains**

Determination of Revenue Requirement

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

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

Total Pre-Tax Cost of Capital	<u><u>11.58%</u></u>
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Total Estimated Cost of Project	\$1,500,000
Investment by Others	958,000
Net Investment Financed by Company	<u>542,000</u>
New Common Equity	\$216,800
New Long Term Debt	325,200

<u>Total Revenue Requirement</u>		<u>Amount</u>	<u>Rate</u>
Required Pre-Tax Operating Income		\$62,764	11.58%
Depreciation Rate	1.180%	6,396	1.18%
Property Tax Rate	0.6990%	3,789	0.70%
Change in Operation & Maint. Expense		0	0.00%
Revenue from New Customers		<u>-59,075</u>	<u>-10.90%</u>
Total Net Revenue Requirement		\$13,874	2.56%
Revenue Tax Rate	0.14537%	20	0.00%
Total Revenue Requirement		<u><u>\$13,894</u></u>	<u><u>2.56%</u></u>

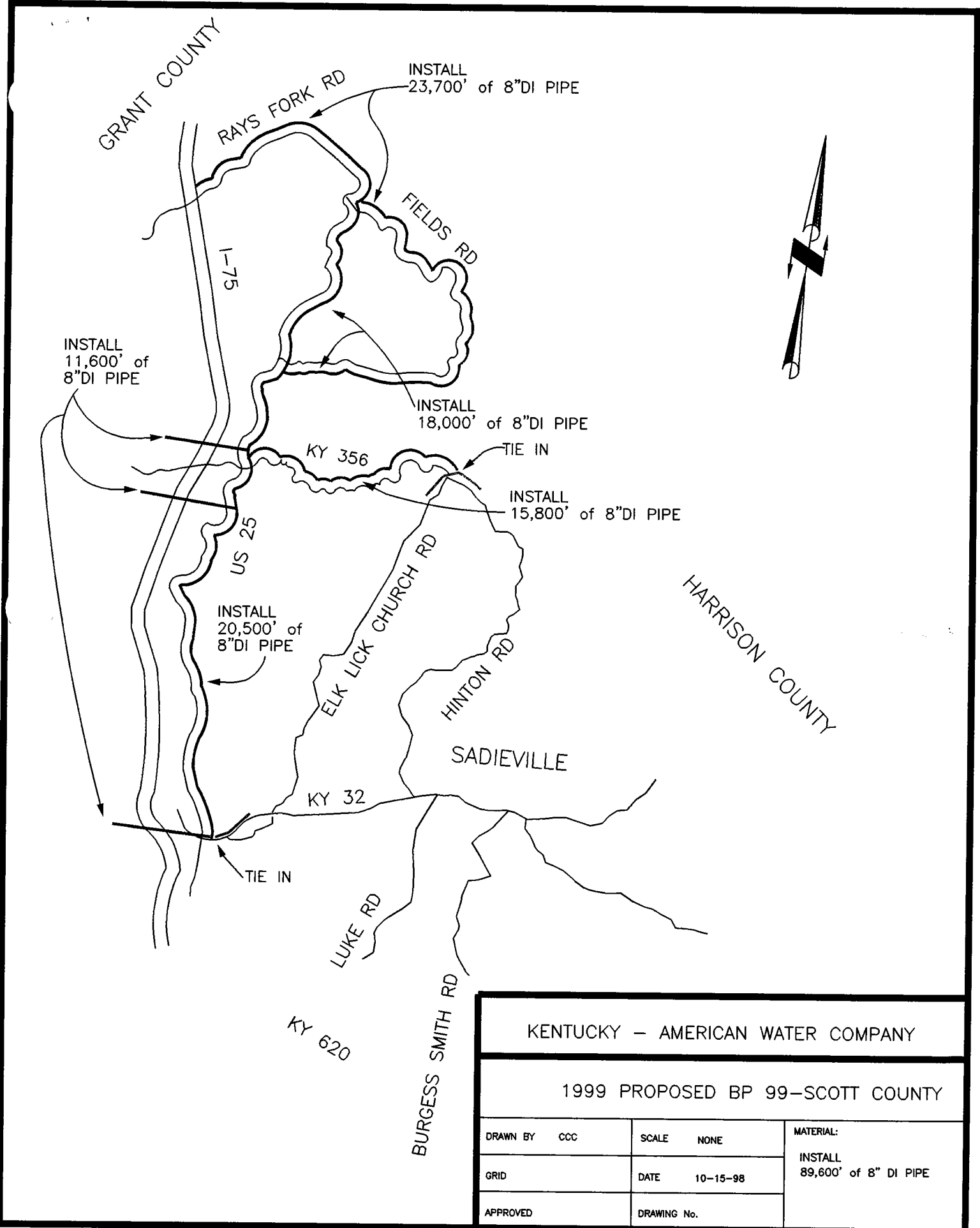
Latest 12 Months Revenue - 9/31/98	<u><u>\$37,453,760</u></u>
Required Price Increase	<u><u>0.04%</u></u>

KENTUCKY-AMERICAN WATER COMPANY  
SCOTT COUNTY MAINS, IP 99- 03  
1999

DESCRIPTION OF ACTIVITY	RESPONSIBLE ENTITY	MONTHS																
		1	2	3	4	5	6	7	8	9	10	11	12					
DESIGN	KAWC																	
EASEMENT ACQUISITION	CONSULTANT																	
PIPELINE CONSTRUCTION	CONTRACTOR																	
INSPECTION	COMPANY																	
Subtotal	\$732,800		\$1,925	\$2,825	\$4,775			\$49,600	\$79,400	\$119,000	\$148,000	\$145,000	\$182,275					
AFUDC	\$17,200		\$75	\$175	\$225			\$400	\$600	\$1,000	\$2,000	\$5,000	\$7,725					
CASH FORECAST	\$750,000	0	\$2,000	\$3,000	\$5,000			\$50,000	\$80,000	\$120,000	\$150,000	\$150,000	\$190,000					

KENTUCKY-AMERICAN WATER COMPANY  
SCOTT COUNTY MAINS, IP 99- 03  
2000

DESCRIPTION OF ACTIVITY	RESPONSIBLE ENTITY	MONTHS														
		1	2	3	4	5	6	7	8	9	10	11	12			
DESIGN	KAWC															
PIPELINE CONSTRUCTION	CONTRACTOR															
INSPECTION	COMPANY															
Subtotal	\$739,225	\$1,925	\$2,875	\$4,775		\$19,925	\$54,800	\$74,350	\$118,500	\$147,500	\$147,500	\$147,500	\$167,075			
AFUDC	\$10,775	\$75	\$125	\$225		\$75	\$200	\$650	\$1,500	\$2,500	\$2,500	\$2,500	\$2,925			
CASH FORECAST	\$750,000	\$2,000	\$3,000	\$5,000		\$20,000	\$55,000	\$75,000	\$120,000	\$150,000	\$150,000	\$150,000	\$170,000			



INSTALL  
23,700' of 8"DI PIPE

INSTALL  
11,600' of  
8"DI PIPE

INSTALL  
18,000' of 8"DI PIPE

INSTALL  
15,800' of 8"DI PIPE

INSTALL  
20,500' of  
8"DI PIPE

KENTUCKY - AMERICAN WATER COMPANY			
1999 PROPOSED BP 99-SCOTT COUNTY			
DRAWN BY	CCC	SCALE	NONE
GRID		DATE	10-15-98
APPROVED		DRAWING No.	
			MATERIAL: INSTALL 89,600' of 8" DI PIPE





# American Water Works Service Company, Inc.

1025 Laurel Oak Road • P.O. Box 1770 • Voorhees, New Jersey 08043 • (609) 346-8201 • Fax (609) 346-8360

September 23, 1998

File No. 380-8362

## KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PROJECT 99-xx04 RADIO TELEMETRY SYSTEM

**Reference:** Strategic Business Plan 1998

### SUBJECT

Installation of radio based communications for distribution system telemetry.

### RECOMMENDATION

It is recommended that funds be authorized for replacement of the existing leased telephone line communications with radio communications.

### ESTIMATED COST

Total Estimated Cost	\$530,000
Proposed 1999 Expenditure	\$530,000

### ADEQUACY

The recommended investment project will be adequate for design, permitting, bidding and construction of a radio telemetry system.

INVESTMENT PROJECT REVIEW		
DEPARTMENT	BY	DATE
ENGINEERING	<i>John V. Young</i>	9-28-98
WATER QUALITY	N/A	9/24
INFO. SYSTEMS		
OTHERS		
RECOMMENDED FOR APPROVAL:		
<i>Ray W. Winters</i>		11/16/98
PRESIDENT		

KAWC  
Proposed 1999 BP 99-04  
Radio Telemetry System  
September 23, 1998

## DISCUSSION

Kentucky-American Water Company operates a water system in and around Lexington, KY consisting of two treatment plants, six pumped storage facilities, six elevated tanks, six pressure monitoring and control stations, and eight booster stations. Information for monitoring and control of the various sites is transmitted over telephone lines leased from the local telephone service providers. The information transmitted is critical for the safe and reliable operation of the production facilities and distribution system.

Because the phone lines are leased from the local telephone service provider, the Water Company has no control over the maintenance and overall reliability of the service. In the competitive environment that has developed as a result of deregulation in the telecommunications industry, local telecommunications providers are allocating resources to the products and service that create the greatest return on investment. Leased telephone lines for the low speed data associated with the Water Company distribution system telemetry are not a major source of revenue to the telecommunications providers. Therefore, the leased lines are not afforded the resources required to provide the reliability required by KAWC for telemetry data requirements. Incidents of leased line failures during weather events have caused severe disruption of KAWC's safe and reliable water service to their customers.

This Investment Project is intended to replace the existing mixture of leased telephone lines being provided by multiple telecommunications providers with a single radio based communications system dedicated to the distribution system telemetry. The installation of radio based communications will allow KAWC to take responsibility for communicating critical system data. The radio system will provide the required reliability of service while freeing the Water Company from the unreliability of the phone company service. As an added benefit, the Water Company will no longer be subject to future rate increase by the telecommunications providers.

The estimated total project cost for the recommended improvements is \$530,000. Given the extent of scope development and the complexity of this project, the cost estimate is projected to be accurate within plus or minus 10%.

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Norman R. Ansell, P.E.

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

KAWC  
Proposed 1999 BP 99-04  
Radio Telemetry System  
September 23, 1998

**Detailed Estimated Cost**

Engineering Design	Company	\$50,000
Permitting	Company/Contract	50,000
Bidding	Company	10,000
Local Assistance	Company	10,000
Construction	Contract	345,000
Construction Supervision	Company	<u>50,000</u>
		\$515,000
AFUDC		<u>15,000</u>
Total		\$530,000

REH/sdb  
9/21/98  
8kybp\radio1.lwp

**KENTUCKY-AMERICAN WATER COMPANY  
RADIO TELEMETRY SYSTEM, IP 99- 04  
1999**

DESCRIPTION OF ACTIVITY	RESPONSIBLE ENTITY	MONTHS																
		1	2	3	4	5	6	7	8	9	10	11	12					
FIELD INVESTIGATIONS	SYSTEM ENGINEERING																	
DESIGN	SYSTEM ENGINEERING																	
PERMITS	WATER COMPANY																	
PROCUREMENT	SYSTEM ENGINEERING																	
INSTALLATION	SYSTEM ENGINEERING																	
CONTRACT ADMINISTRATION	SYSTEM ENGINEERING																	
START-UP AND TESTING	SYSTEM ENGINEERING																	
CASH FORECAST		\$5,000	\$5,000	\$10,000	\$10,000	\$10,000	\$35,000	\$55,000	\$55,000	\$85,000	\$75,000	\$70,000	\$40,000					

**Kentucky-American Water Company**  
**Economic Analysis of the Impact of Capital**  
**Spending Proposal**  
**Tank Telemetry Replacement**

Determination of Revenue Requirement

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	7.38%

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

Total Pre-Tax Cost of Capital	11.58%
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Total Estimated Cost of Project	\$530,000
Investment by Others	0
Net Investment Financed by Company	530,000
New Common Equity	\$212,000
New Long Term Debt	318,000

<u>Total Revenue Requirement</u>	<u>Amount</u>	<u>Rate</u>
Required Pre-Tax Operating Income	\$61,374	11.58%
Depreciation Rate	4.790%	25,387
Property Tax Rate	0.6990%	3,705
Change in Operation & Maint. Expense	-66,000	-12.45%
Revenue from New Customers	0	0.00%
Total Net Revenue Requirement	\$24,466	4.62%
Revenue Tax Rate	0.14537%	36
Total Revenue Requirement	\$24,502	4.63%

Latest 12 Months Revenue - 9/31/98	\$37,453,760
Required Price Increase	0.07%



# Kentucky-American Water Company

2300 Richmond Road • Lexington, Kentucky 40502 • (606) 269-2386 • Fax (606) 268-6327

Date: October 12, 1998  
IP 99-05  
Project No. 10906

## KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PROJECT 99- 05 ELECTRIC RENOVATIONS

**Reference:** 1998 Strategic Business Plan

### SUBJECT

The electric facilities at both the Kentucky River Station and Jacobson Reservoir are inadequate.

### RECOMMENDATION

It is recommended that funds be authorized for the replacement of incoming switchgear and electric pole at the Kentucky River Station, and the replacement of the power transformers at Jacobson Reservoir.

### ESTIMATED COST

Total Estimated Cost	\$230,000
Proposed 1999 Expenditure	\$230,000

### ADEQUACY

The recommended investment project funds will be adequate for design, bidding, and construction of the replacements.

INVESTMENT PROJECT REVIEW		
DEPARTMENT	BY	DATE
ENGINEERING	<i>[Signature]</i>	10-28-98
WATER QUALITY	N/A	
INFO SYSTEMS		
OTHERS		
RECOMMENDED FOR APPROVAL:		
<i>[Signature]</i>		11/16/98
PRESIDENT		

Proposed 1999 IP 99- 05  
Electric Renovations Project  
October 12, 1998

### DISCUSSION

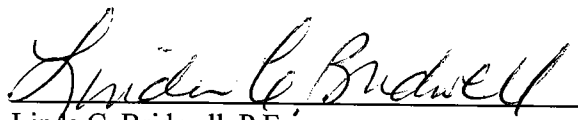
The existing transformers at Jacobson Reservoir raw water pumping station have been in service for approximately twenty-seven years. These transformers were used originally at the Kentucky River Station and then held in storage, before being installed at Jacobson Reservoir. The three 200 KVA transformers are mounted on an 'H' Structure and complete the existing 600 KVA 12,000 to 2,400-volt, three-phase stepdown transformation that provides power to all of the electrical equipment at the raw water pumping station and intake well.


The existing connected electrical equipment load on the secondary of the transformer now totals 675 KVA. Due to age, existing electrical load and critical nature of the pumping station, it is recommended that these transformers be replaced with a three-phase, pad mounted, 750 KVA transformer.

At the Kentucky River Station, the plant is fed through two pieces of switchgear in a new main substation that pulls from the Kentucky Utilities substation on the property. Square D Company has recently informed Kentucky-American that these pieces are now obsolete and repair parts are not available. Because the operation of this equipment is so critical to the Kentucky River Station operations, it is recommended that they be replaced.

Additionally, woodpeckers have damaged an electric pole at the Kentucky River Station. This pole will also be replaced as part of this work.

All of the work will be bid in one contract and will be completed in 1999. This cost estimate is based on manufacturers' list prices and is projected to be accurate within plus or minus ten percent.

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

  
Nick O. Rowe  
Vice-President Operations

Proposed 1999 IP 99- 05  
Electric Renovations Project  
October 12, 1998

**Detailed Cost Estimate**

<u>Item</u>	<u>Responsibility</u>	<u>Proposed Estimate</u>
Equipment	Contractor	\$100,000
Installation	Contractor	106,600
Coordination	Company	10,000
	O&C	11,400
		<u>\$228,000</u>
AFUDC		2,000
Total		\$230,000

NOR/dm





**Kentucky-American Water Company**  
**Economic Analysis of the Impact of Capital**  
**Spending Proposal**  
**Electric Renovations**

Determination of Revenue Requirement

Authorized Rate of Return on Common Equity	11.00%
Federal Income Tax Rate	35.00%
Return on Common Equity before FIT	<u>16.92%</u>
State Income Tax Rate	8.25%
Required Rate of Return on CE for Project	<u>18.44%</u>
Common Equity Ratio for Project	40.00%
Weighted Cost of Common Equity before Tax	<u><u>7.38%</u></u>
Long Term Debt Ratio for Project	60.00%
Estimated Cost Rate for New Debt	7.00%
Weighted Cost of Debt	<u><u>4.20%</u></u>
Total Pre-Tax Cost of Capital	<u><u>11.58%</u></u>

Total Estimated Cost of Project	\$230,000
Investment by Others	0
Net Investment Financed by Company	<u>230,000</u>
New Common Equity	\$92,000
New Long Term Debt	138,000

<u>Total Revenue Requirement</u>		<u>Amount</u>	<u>Rate</u>
Required Pre-Tax Operating Income		\$26,634	11.58%
Depreciation Rate	3.710%	8,533	3.71%
Property Tax Rate	0.6990%	1,608	0.70%
Change in Operation & Maint. Expense		0	0.00%
Revenue from New Customers		0	0.00%
Total Net Revenue Requirement		<u>\$36,775</u>	<u>15.99%</u>
Revenue Tax Rate	0.14537%	54	0.02%
Total Revenue Requirement		<u><u>\$36,829</u></u>	<u><u>16.01%</u></u>

Latest 12 Months Revenue - 9/31/98	<u>\$37,453,760</u>
Required Price Increase	<u><u>0.10%</u></u>



# Kentucky-American Water Company

2300 Richmond Road • Lexington, Kentucky 40502

606-269-2386

Date: October 12, 1998

IP 99- 06

Project No. 10907

## KENTUCKY-AMERICAN WATER COMPANY PROPOSED INVESTMENT PROJECT 99- 06 REYNOLDS ROAD RELOCATION

### SUBJECT

The relocation of the water main on West Reynolds Road.

### RECOMMENDATION

It is recommended that funds be authorized for the relocation of 3,250 feet of 24-inch concrete main in the right-of-way along Reynolds Road.

### ESTIMATED COST

Total Estimated Cost	\$400,000
Proposed 1999 Expenditure	\$400,000
Total Reimbursement	(\$400,000)
Proposed 1999 Reimbursement	(\$400,000)

### ADEQUACY

The recommended investment project funds will be adequate for design, permitting, bidding, and construction of the relocation.

INVESTMENT PROJECT REVIEW		
DEPARTMENT	BY	DATE
ENGINEERING	<i>[Signature]</i>	10-20-98
WATER QUALITY	N/A <i>[Signature]</i>	
INFO SYSTEMS		
OTHERS		
RECOMMENDED FOR APPROVAL:		
<i>[Signature]</i>		11/16/98
PRESIDENT		



Proposed 1999 IP 99- 06  
Reynolds Road Relocation Project  
October 12, 1998

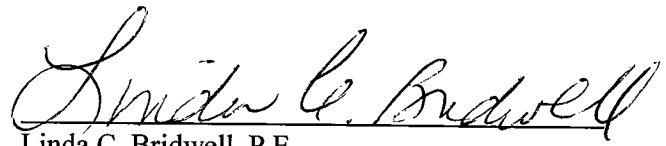
### DISCUSSION

Kentucky-American has been notified by the developer of the Reynolds Road property that they intend to realign the roadway beginning in the summer of 1999. The road will be widened from two lanes to four lanes. The developer, National Development Council, has been embroiled in an adversarial battle with area neighborhood associations and the Lexington-Fayette Urban County Government. The parties have finally reached a compromise, and work is ready to begin. The first construction required by the city is the widening of the road. The development will include light industrial, commercial, two churches, two parks, and over 400 new homes.

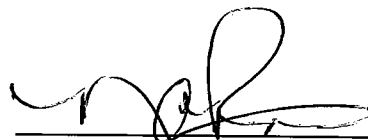
Kentucky-American has a 24-inch concrete transmission main that lays entirely in the right-of-way of the road and will need to be relocated. Although the city is requiring that the road be relocated, the road project for this section will be entirely at the expense of the developer. Kentucky-American expects to be reimbursed 100 percent for the cost of the relocation.

Because of the extended legal battles over this project, the construction timing was uncertain and Kentucky-American did not have this project previously in its Strategic Business Plan.

Preliminary work will begin in late 1998, with design and construction to be completed in 1999. The total project cost is estimated at \$400,000. This cost estimate is based on similar size main projects completed in recent years and is projected to be accurate within plus or minus ten percent.



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



Nick O. Rowe  
Vice-President - Operations

Proposed 1999 IP 99- 06  
Reynolds Road Relocation Project  
October 12, 1998

**Detailed Cost Estimate**

<u>Item</u>	<u>Responsibility</u>	<u>Proposed Estimate</u>
Legal	Consultant	\$50,000
Design	Company	10,000
Pipeline	Company	160,000
Installation	Contractor	142,875
Inspection	Company	10,000
	O&C	19,625
		<u>\$392,500</u>
AFUDC		7,500
Total		\$400,000

NOR/dm

**Kentucky-American Water Company**  
**Economic Analysis of the Impact of Capital**  
**Spending Proposal**  
**Reynolds Road Relocation**

Determination of Revenue Requirement

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	7.38%

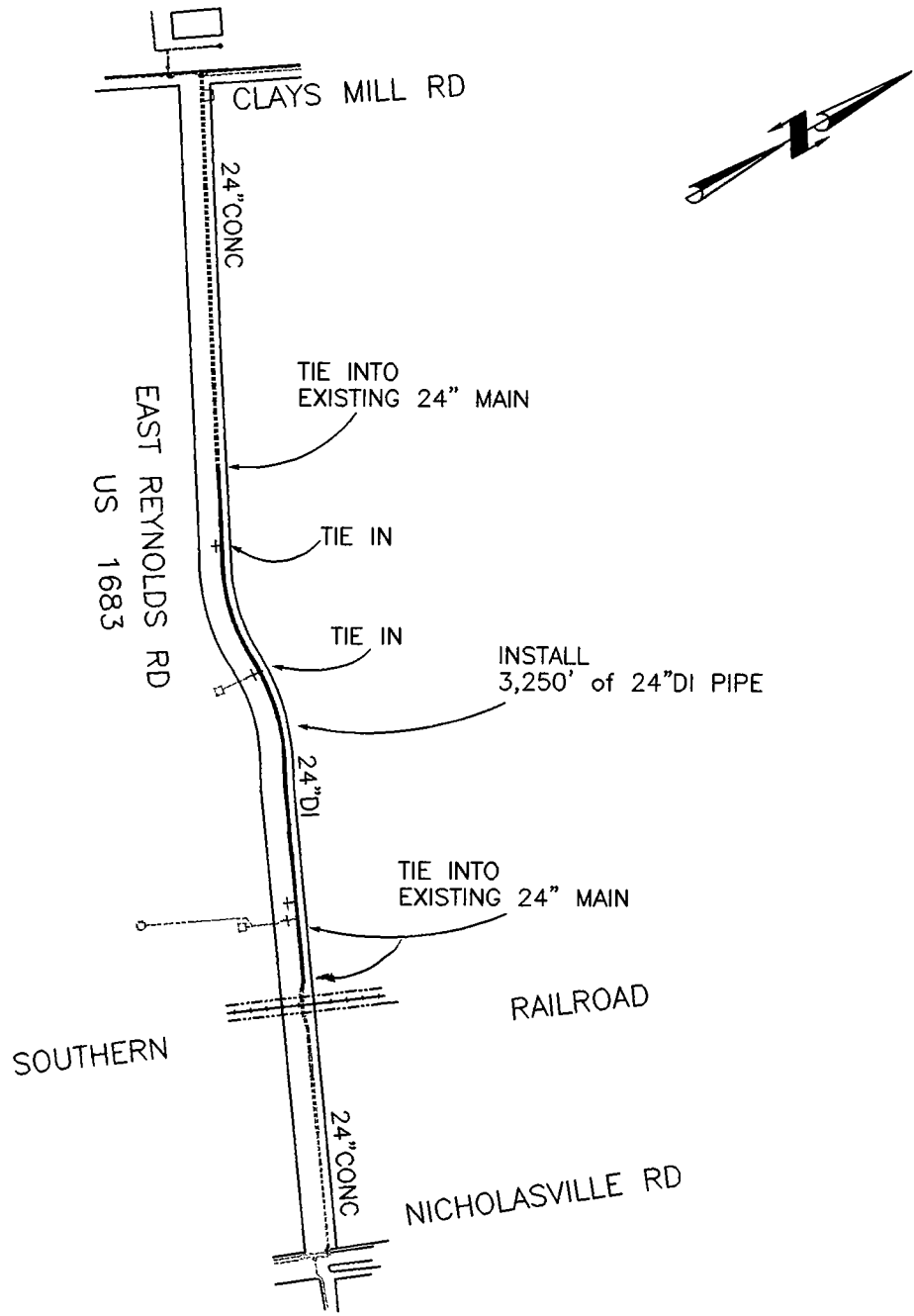
Long Term Debt Ratio for Project	60.00%
Estimated Cost Rate for New Debt	7.00%
Weighted Cost of Debt	4.20%

Total Pre-Tax Cost of Capital	11.58%
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Total Estimated Cost of Project	\$400,000
Investment by Others	400,000
Net Investment Financed by Company	0
New Common Equity	\$0
New Long Term Debt	0

<u>Total Revenue Requirement</u>	<u>Amount</u>	<u>Rate</u>
Required Pre-Tax Operating Income	\$0	11.58%
Depreciation Rate	0	#DIV/0!
Property Tax Rate	0	#DIV/0!
Change in Operation & Maint. Expense	0	#DIV/0!
Revenue from New Customers	0	#DIV/0!
Total Net Revenue Requirement	\$0	#DIV/0!
Revenue Tax Rate	0	#DIV/0!
Total Revenue Requirement	\$0	#DIV/0!

Latest 12 Months Revenue - 9/31/98	\$37,453,760
Required Price Increase	0.00%



KENTUCKY – AMERICAN WATER COMPANY		
1999 PROPOSED BP99-REYNOLDS RD		
DRAWN BY	CCC	MATERIAL:
GRID	DATE	3,250' of 24" DI PIPE
APPROVED	DRAWING No.	
	SCALE	NONE
	DATE	10-15-98







# Kentucky-American Water Company

2300 Richmond Road • Lexington, Kentucky 40502 • (606) 269-2386 • Fax (606) 268-6327

June 1, 1999  
IP 99-07  
Project No. 10908

## KENTUCKY-AMERICAN WATER COMPANY

### PROPOSED 1999 CAPITAL INVESTMENT PLAN PROJECT 99-07

### INSTALLATION OF 45,450 FEET OF 12-INCH AND 8-INCH DUCTILE IRON MAIN IN BOURBON COUNTY

#### SUBJECT OF STUDY:

The extension of mains in rural Bourbon County.

#### RECOMMENDATION:

It is recommended that 12,920 feet of 12-inch and 32,530 feet of 8-inch main be installed in rural Bourbon County.

#### ESTIMATED COST:

Total Estimated Cost	\$ 916,000
Proposed 1999 Expenditures	\$ 283,000
Proposed 2000 Expenditure	\$ 633,000
Total Reimbursements	\$(384,500)
Proposed 1999 Reimbursements	\$ (80,000)
Proposed 2000 Reimbursements	\$(304,500)

#### ADEQUACY:

The proposed investment project funds are adequate to design and construct the work in 1999 and 2000. This joint project is similar to the extension of mains in Scott County, with reimbursements provided by the Bourbon County Fiscal Court, the Kentucky Transportation Cabinet and local residents.

INVESTMENT PROJECT REVIEW		
DEPARTMENT	BY	DATE
ENGINEERING	<i>[Signature]</i>	6-16-99
WATER QUALITY	N/A	
INFORMATION SYSTEMS		
OTHER		
RECOMMENDED FOR APPROVAL:		
<i>[Signature]</i>		6/17/99
PRESIDENT		

June 1, 1999  
IP 99-07  
Project No. 10908  
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### DISCUSSION

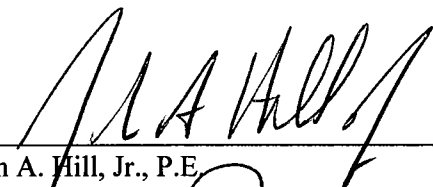
KAWC serves the southwestern portion of rural Bourbon County. There is currently an area of nearly five miles between the Paris city limits and the end of KAWC's existing mains. With the recent construction of the Avon tank, service to this area has been greatly improved.

KAWC began working on short extensions of mains similar to the arrangements with the Scott County Fiscal Court, where both the Bourbon County Fiscal Court and local residents participated in the cost of construction. The Public Service Commission has approved these previous special agreements for main extension. This program has been successful and KAWC has been asked to extend it further.

Additionally, the Kentucky Transportation Cabinet is in the process of widening the road between Lexington and Paris, beginning in Paris. The first two phases are under construction. Part of this construction has meant the loss of wells for property owners near Paris. The Transportation Cabinet has asked KAWC to participate in an extension of mains rather than dig new wells for the property owners. KAWC will partner with the Transportation Cabinet, the local property owners and the Bourbon County Fiscal Court to provide funding for this project. Because of the road improvements, KAWC anticipates moderate growth in the area and will provide the investment to upgrade the installation of these extensions to meet Company standards.

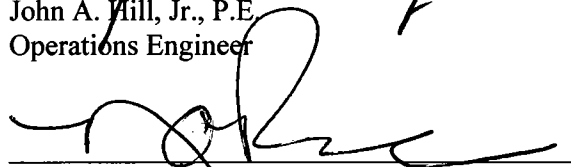
This widening of Paris-Lexington Road has been a contested issue for nearly 20 years. The poor transportation system between the two communities has undoubtedly stifled growth in the area. Now that the road widening is a reality, it provides new opportunities for development around Paris, which has an unreliable water supply and limited treatment capacity. This project not only provides KAWC with an opportunity to partner with other agencies but is in accordance with the Commonwealth's initiative to provide water in currently unserved areas.

The project will provide service to a currently unserved area and will provide an opportunity for future reinforcement of Northeastern Fayette County.



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John A. Hill, Jr., P.E.  
Operations Engineer



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Nick O. Rowe  
Vice President – Operations

NOR/JAH/dm

**KENTUCKY-AMERICAN WATER COMPANY**

**PROPOSED 1999 CAPITAL INVESTMENT PLAN PROJECT 99-07**

**INSTALLATION OF 45,450 FEET OF 12-INCH AND 8-INCH DUCTILE  
 IRON MAIN IN BOURBON COUNTY**

ITEM	RESPONSIBLE ENTITY	TOTAL ESTIMATED COST
Easement Acquisition	Consultant	\$ 40,000
Construction	Contractor	\$ 735,000
Inspection	KAWC	\$ 65,000
	Sub-Total	\$ 840,000
O&C (3%)		\$ 25,200
Engineering Overhead (2%)		\$ 17,304
	Sub-Total	\$ 882,504
AFUDC		\$ 33,825
	Total	\$ 916,329





**KENTUCKY-AMERICAN WATER COMPANY**  
**ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL**  
**SPENDING PROPOSAL**  
**INSTALLATION OF 45,450 FEET OF 12-INCH AND 8-INCH DUCTILE**  
**IRON MAIN IN BOURBON COUNTY**

Determination of Revenue Requirement

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	7.38%
Long Term Debt Ratio for Project	60.00%
Estimated Cost Rate for New Debt	7.00%
Weighted Cost of Debt	4.20%
Total Pre-Tax Cost of Capital	11.58%

Total Estimated Cost of Project	\$ 916,000
Investment by Others	384,500
Net Investment Financed by Company	\$ 531,500
New Common Equity	\$ 212,600
New Long Term Debt	318,900

<u>Total Revenue Requirement</u>	<u>Amount</u>	<u>Rate</u>
Required Pre-Tax Operating Income	\$ 61,548	11.58%
Depreciation Rate	1.180%	6,272
Property Tax Rate	0.6990%	3,715
Change in Operation & Maint. Expense	0	0.00%
Revenue from New Customers	(22,100)	-4.16%
Total Net Revenue Requirement	\$ 49,435	9.30%
Revenue Tax Rate	0.14537%	72
Total Revenue Requirement	\$ 49,507	9.31%

Latest 12 Months Revenue - 05/30/1999	\$ 38,184,069
Required Price Increase	0.13%

# BOURBON COUNTY

# PROPOSED INVESTMENT SKETCH

KENTUCKY - AMERICAN WATER COMPANY at LEXINGTON, KENTUCKY

INVESTMENT W.O. No. \_\_\_\_\_

MAP No. \_\_\_\_\_ TAX DISTRICT \_\_\_\_\_

SHEET 1 of 1 SCALE NONE

OPERATIONS DATE \_\_\_\_\_ DATE \_\_\_\_\_

DRAWN BY \_\_\_\_\_ DATE \_\_\_\_\_

INSPECTOR \_\_\_\_\_ DATE \_\_\_\_\_

REVISIONS : \_\_\_\_\_

DEVELOPER: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_

TRENCH: AVERAGE DEPTH \_\_\_\_\_ AVERAGE WIDTH \_\_\_\_\_ KIND of SOIL \_\_\_\_\_ KIND of ROCK \_\_\_\_\_  
 PAVING: KIND \_\_\_\_\_ LENGTH of CUT \_\_\_\_\_ WIDTH of CUT \_\_\_\_\_

OVERALL LENGTH OF MAINS \_\_\_\_\_

No. of HYDRANTS INSTALLED N/A  INSTALLED

No. of HYDRANTS REPLACED N/A  REMOVED

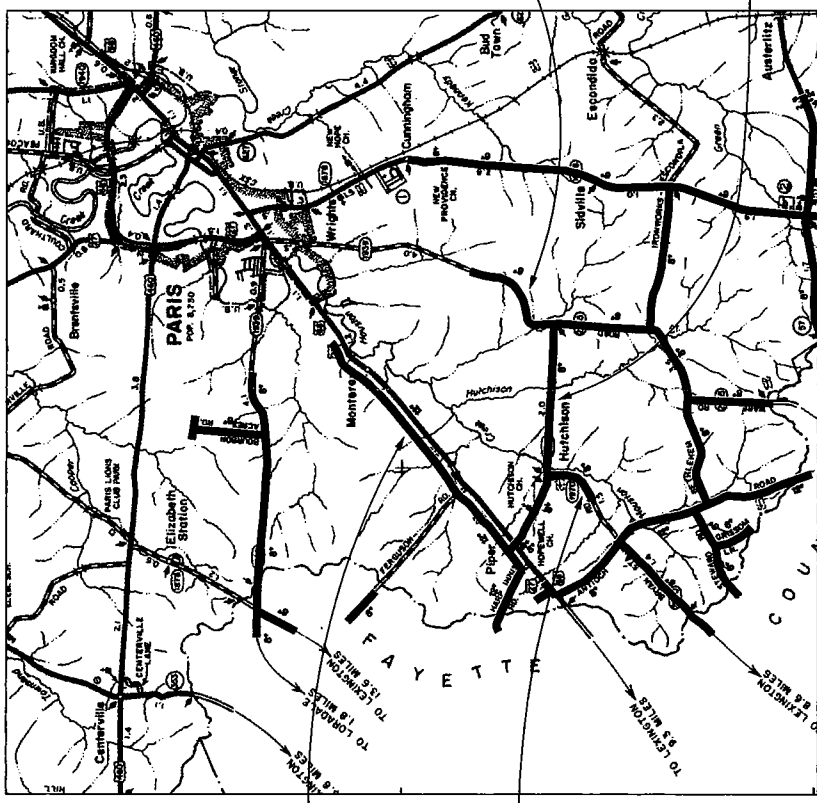
No. of HYDRANTS RETIRED / REPLACED N/A  ABANDONED

No. of HYDRANTS RETIRED / SYSTEM N/A

REMARKS: \_\_\_\_\_

RELATED RETIREMENT W.O. No. N/A

RELATED INVESTMENT W.O. No.  
 PARENT - 8" MAIN -----XXXX  
 CHILDREN - 6" MAIN -----XXXX  
 4" MAIN -----XXXX  
 3" MAIN -----XXXX  
 HYDRANT-----XXXX



SCALE NONE



## Kentucky-American Water Company

2300 Richmond Road • Lexington, Kentucky 40502

606-269-2386

June 3, 1999

IP 99-08

Project No. 11104

**KENTUCKY-AMERICAN WATER COMPANY  
PROPOSED 1999 CAPITAL INVESTMENT PLAN PROJECT 99-08  
INSTALLATION OF 26,300 FEET OF 12-INCH AND 6000 FEET OF 8-INCH DUCTILE IRON  
MAIN ALONG U.S. HIGHWAY 62 TO REPLACE EXISTING WATERLINE**

**REFERENCE:** 1992 Least Cost/Comprehensive Planning Study, Project B-11

**SUBJECT OF STUDY:**

To increase the reliability of water supply and stabilize pressures in the northeastern Scott County section of the distribution system.

**RECOMMENDATION:**

It is recommended that expenditures be authorized for the design and construction of the new mains to replace existing water lines impacted by the Kentucky Transportation Cabinet (KTC) roadway improvements.

**ESTIMATED COST:**

Total Estimated Cost	\$1,800,000
Proposed 1999 Expenditure	475,000
Proposed 2000 Expenditure	1,325,000
Total KTC Reimbursement	(\$ 775,000)
Proposed 1999 Reimbursements	(\$ 0)
Proposed 2000 Reimbursements	(\$ 775,000)

**ADEQUACY:**

The proposed budget will be adequate for design and easement acquisition in 1999 with construction in 1999 and 2000.

INVESTMENT PROJECT REVIEW		
DEPARTMENT	BY	DATE
ENGINEERING	<i>John V. Young</i>	6-16-99
WATER QUALITY	N/A <i>RSY</i>	
INFO. SYSTEMS		
OTHERS		
RECOMMENDED FOR APPROVAL:		
<i>Gregory W. ...</i>		6/17/99
PRESIDENT		





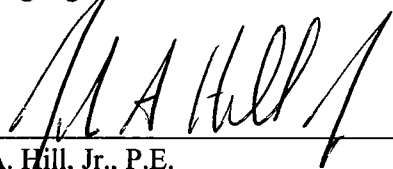
June 3, 1999  
IP 99-08  
Project No. 11104  
Page Two


**DISCUSSION**

Due to recent zone changes and urban government policies for the Metro-Lexington service area to control growth, developers are looking outside of Fayette County to build homes, townhouses and other multi-family units. As a result, Scott County is experiencing an unprecedented overflow of residential development from the diminishing market in Fayette County. In response to that growth and in support of anticipated growth, the 1992 LC/CPS recommended the installation of a 12-inch main along U.S. Route 62 from Leesburg and along Leesburg-Newtown Road from Leesburg to Hill Road. This investment project will install the Route 62 portion of that recommended project. This project also includes the installation of an 8-inch main along U.S. Route 62 to parallel an existing 6-inch pipe from Barkley Pike to Gunnell Road. The remaining portion of LC/CPS project B-11 will be completed during a future project to tie this area into a proposed storage tank along Russell Cave Road.

One of the underlying factors for moving this project from 2001 to 1999 is the acceleration of the Kentucky Transportation Cabinet (KTC) proposed relocation/widening of U.S. 62. This project, which was initially in their 2001 construction plan, has been accelerated due to the growth in this area. Approximately \$775,000 of the \$1,800,000 estimated cost will be recovered from the KTC.

The hydraulic benefits associated with this project will be a substantial reduction in high friction losses during peak demands. This is due to the installation of the 12- and 8-inch mains, through parts of Bourbon, Harrison and Scott Counties that will be part of a loop arrangement in the future. In addition, the proposed improvements will create a major transmission main which will be connected to the existing Muddy Ford elevated tank and preserve adequate pressures during high customer demands.

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

  
\_\_\_\_\_  
Nick O. Rowe  
Vice President – Operations

NOR/JAH/dm

**KENTUCKY-AMERICAN WATER COMPANY**

**PROPOSED 1999 CAPITAL INVESTMENT PLAN PROJECT 99-08**

**INSTALLATION OF 26,300 FEET OF 12-INCH AND 6000 FEET OF 8-INCH  
 DUCTILE IRON MAIN IN ALONG US 62**

**DETAILED COST ESTIMATE**

ITEM	RESPONSIBLE ENTITY	TOTAL ESTIMATED COST
Design	Consultant	\$ 125,000
Easement Acquisition	Consultant	\$ 100,000
Construction	Contractor	\$ 1,300,000
Inspection	KAWC	\$ 75,000
	Sub-Total	\$ 1,600,000
O&C (3%)		\$ 48,000
Engineering Overhead (2%)		\$ 32,960
	Sub-Total	\$ 1,680,960
AFUDC		\$ 105,488
	Total	\$ 1,786,448





**KENTUCKY-AMERICAN WATER COMPANY**  
**ECONOMIC ANALYSIS OF THE IMPACT OF CAPITAL**  
**SPENDING PROPOSAL**  
**INSTALLATION OF 26,300 FEET OF 12-INCH AND 8-INCH DUCTILE IRON**  
**MAIN ALONG U.S. HIGHWAY 62 TO REPLACE EXISTING WATERLINE**

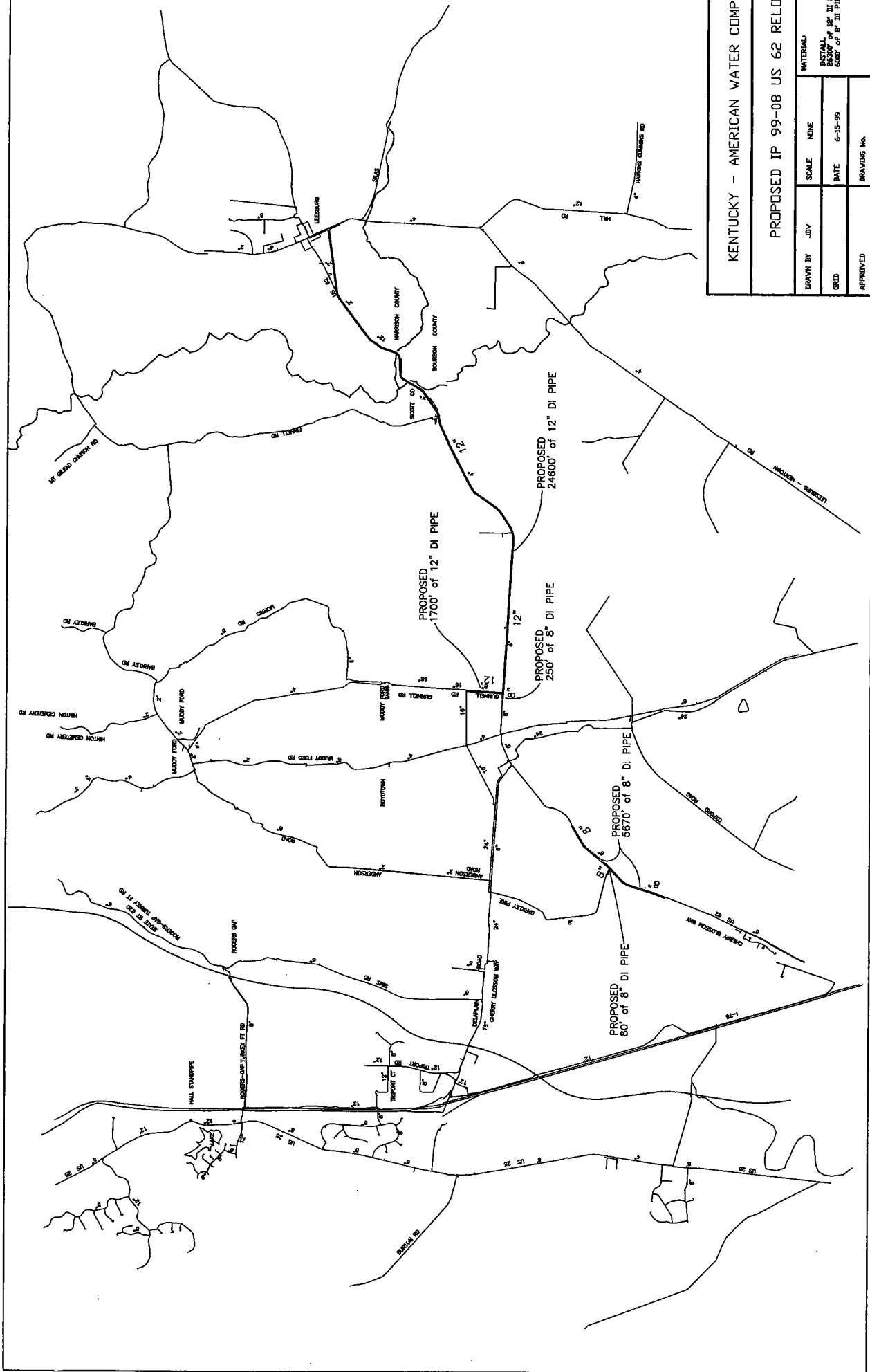
Determination of Revenue Requirement

Authorized Rate of Return on Common Equity	11.00%
Federal Income Tax Rate	35.00%
Return on Common Equity before FIT	<u>16.92%</u>
State Income Tax Rate	8.25%
Required Rate of Return on CE for Project	<u>18.44%</u>
Common Equity Ratio for Project	40.00%
Weighted Cost of Common Equity before Tax	<u><u>7.38%</u></u>
Long Term Debt Ratio for Project	60.00%
Estimated Cost Rate for New Debt	7.00%
Weighted Cost of Debt	<u><u>4.20%</u></u>
Total Pre-Tax Cost of Capital	<u><u>11.58%</u></u>

Total Estimated Cost of Project	\$ 1,800,000
Investment by Others	775,000
Net Investment Financed by Company	<u><u>\$ 1,025,000</u></u>
New Common Equity	\$ 410,000
New Long Term Debt	615,000

<u>Total Revenue Requirement</u>		<u>Amount</u>	<u>Rate</u>
Required Pre-Tax Operating Income		\$ 118,695	11.58%
Depreciation Rate	1.180%	12,095	1.18%
Property Tax Rate	0.6990%	7,165	0.70%
Change in Operation & Maint. Expense		0	0.00%
Revenue from New Customers		0	0.00%
Total Net Revenue Requirement		<u>\$ 137,955</u>	<u>13.46%</u>
Revenue Tax Rate	0.14537%	201	0.02%
Total Revenue Requirement		<u><u>\$ 138,156</u></u>	<u><u>13.48%</u></u>

Latest 12 Months Revenue - 05/30/1999	<u><u>\$ 38,184,069</u></u>
Required Price Increase	<u><u>0.36%</u></u>



KENTUCKY - AMERICAN WATER COMPANY

PROPOSED IP 99-08 US 62 RELOCATION

DRAWN BY	JOB	SCALE	NOTE	MATERIAL INSTALL SECTION OF 12" DI PIPE 6000' OF 8" DI PIPE
	GRID	DATE	6-15-99	
APPROVED	DRAWING NO.			