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FILE COPY**

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December 17, 1996

Blanca S. Bayo, Director
Division of Records & Reporting
Florida Public Service Commission
2540 Shumard Oak Boulevard
Tallahassee, FL 32399-0850

HAND DELIVERY

Re: Docket No. 960258-WS
Petition of the Florida Waterworks Association to Adopt Rules
on Margin Reserve and Imputation of Contributions-in-aid-of-
Construction on the Margin Reserve Calculation

Dear Ms. Bayo:

Enclosed on behalf of the Florida Waterworks Association for
filing in the above docket are an original and 15 copies of the
Late-filed Exhibit of Deborah D. Swain, together with our
Certificate of Service.

Please acknowledge receipt of the foregoing by stamping the
enclosed extra copy of this letter and returning same to my
attention. Thank you for your assistance.

Sincerely,

Wayne L. Schiefelbein
Wayne L. Schiefelbein

- ACK _____
- AFA 1
- APP 1
- CAF _____
- CMU _____
- CTR _____ WLS/adw
- EAG _____ Enclosures
- LEG _____
- LIN 5 *orig*
- OPC _____
- RCH 1
- SEC 1
- WAS 1
- OTH _____

DOCUMENT NUMBER-DATE

13402 DEC 17 86

FPSC-RECORDS/REPORTING

BEFORE THE FLORIDA PUBLIC SERVICE COMMISSION

In re: Petition of the Florida)
Waterworks Association to adopt)
rules on Margin Reserve and)
Imputation of Contribution-in-)
aid-of-Construction on the)
Margin Reserve Calculation.)

Docket No. 960258-WS
Filed: December 17, 1996

CERTIFICATE OF SERVICE


I HEREBY CERTIFY that a true and correct copy of the Late-filed Exhibit of Deborah D. Swain has been furnished to the following persons by hand-delivery (*) or by U.S. Mail on this 17th day of December, 1996.

*Christiana T. Moore, Esq.
Florida Public Service
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Division of Appeals
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Tallahassee, FL 32399-0850

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Waterworks Association

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Attorneys for Florida
Waterworks Association

THE FLORIDA WATERWORKS ASSOCIATION

RULEMAKING: MARGIN RESERVE AND IMPUTATION OF CIAC

FPSC DOCKET NO. 960258-WS

LATE FILED EXHIBIT - DEBORAH D. SWAIN

**COMPARISON OF RATES UNDER PSC PROPOSED VS FWA PROPOSED RULE
FOR MARGIN RESERVE AND IMPUTATION OF CIAC**

Line No.	a	b c d			e f g			h	i
		If utilities continue to construct in small increments			If utilities construct in larger increments				
		Construction in 2.5 year increments			Construction in 5 year increments				
18 mo. MR CIAC imp.	60 mo. MR No CIAC imp.	% Increase in Rates	18 mo. MR CIAC imp.	60 mo. MR No CIAC imp.	% Increase in Rates	Avg % increase if there is no change in construction schedule	Avg % increase if utilities start constructing in larger increments		
	<u>First year after rule change</u>								
1	Water	\$206	\$239	16%	\$156	\$238	53%	34%	15%
2	Wastewater	203	234	16%	172	268	56%	36%	32%
3	Combined	\$409	\$473	16%	\$328	\$506	54%	35%	24%
							Note (4)		
	<u>Average of first five years after rule change</u>								
4	Water	\$243	\$282	16%	\$179	\$225	26%	21%	-7%
5	Wastewater	236	263	11%	200	254	27%	19%	8%
6	Combined	\$479	\$545	14%	\$379	\$479	26%	20%	0%
								Note (5)	

Notes:

- (1) Based upon financial model presented in MSA study and during rulemaking hearing.
- (2) Assumes existing plant in service, CIAC and ERC's at the time the rule change is implemented.
- (3) The percentage change in rates will vary depending upon the maturity of the system at the time newly constructed facilities are placed in service. The higher the existing balance of plant in service the less impact the rule change will have on rates.
- (4) The percentage increase provided during rulemaking hearing was the average rate increase in the first year after implementation of the rule change as proposed by FWA, assuming utilities have not yet changed construction schedules in response to the rule change.
- (5) The average increase in combined water and wastewater rates over a five year period after implementation of the rule change, assuming a change in construction schedules from 30 to 60 month increments is 0%.

**CONSTRUCTION IN 2.5 YEAR INCREMENTS
PSC PROPOSED POLICY: 18 MONTH MARGIN RESERVE PERIOD
WITH IMPUTATION OF CIAC**

MODEL WATER UTILITY**Key Results****Scenario: WTP - 30 month increments / 18 month MR / CIAC Imputed****Existing plant, CIAC & ERC's at the beginning of Year 6**

(1)	Average Cost per ERC / year:		Service		
		Rates	Availability	AFPI	Total
	Five years	\$243	\$68	\$16	\$311
	Ten years	260	34	31	294
	Fifteen years	269	23	37	292
	Twenty years	276	17	40	294
	Twenty-five years	282	14	42	296
	Total cost per ERC over twenty-five years				\$7,393
(2)	Net Present Value of Revenue Requirement				
	Rates			\$10,107,811	
	CIAC			1,004,626	
	AFPI			106,391	
	Total			<u>\$11,218,828</u>	
(3)	Net Present Value of Return to the Utility				
	Rates			\$3,092,676	
	AFPI			106,391	
	Total			<u>\$3,199,066</u>	
(4)	Average Return on Investment to Utility				8.95%

MODEL WATER UTILITY
Scenario: WTP - 30 month increments / 18 month MR / CIAC Imputed
PROJECTED REGULATORY INCOME

a	b	c	d	e	f	g	h	i	j	k	l	m
YEAR	Revenue From Rates	O&M Expense	Allowed Depreciation Expense	Allowed Amortization Expense	Property Taxes	Gross Receipts Tax	Allowed Interest Expense	Allowed Pretax Profit	Income Tax	Allowed Net Profit	Revenue Per ERC	Avg 5 Year Revenue Per ERC
1												
2												
3												
4												
5												
6	647,838	(157,143)	(162,559)	34,601	(43,543)	(29,153)	(94,755)	195,287	(120,273)	75,014	\$206	
7	870,450	(185,714)	(174,171)	42,406	(43,543)	(39,170)	(153,631)	316,628	(195,004)	121,624	234	
8	1,012,344	(214,286)	(235,284)	50,212	(65,357)	(45,555)	(164,024)	338,050	(208,197)	129,853	236	\$243
9	1,281,368	(242,857)	(261,427)	58,017	(65,357)	(57,662)	(232,633)	479,450	(295,282)	184,168	264	
10	1,396,278	(271,429)	(317,689)	65,823	(90,253)	(62,833)	(235,186)	484,712	(298,523)	186,189	257	
11	1,684,470	(300,000)	(346,570)	73,628	(90,253)	(75,801)	(308,880)	636,594	(392,064)	244,530	281	
12	1,703,057	(328,571)	(361,011)	81,434	(90,253)	(76,638)	(303,177)	624,841	(384,825)	240,016	259	
13	1,850,843	(357,143)	(431,353)	89,239	(115,541)	(83,288)	(311,259)	641,497	(395,084)	246,414	259	\$270
14	2,138,120	(385,714)	(462,164)	97,045	(115,541)	(96,215)	(384,038)	791,492	(487,462)	304,030	277	
15	2,263,338	(414,286)	(528,100)	104,851	(144,402)	(101,850)	(385,351)	794,199	(489,129)	305,070	273	
16	2,568,191	(442,857)	(561,107)	112,656	(144,402)	(115,569)	(462,896)	954,016	(587,557)	366,459	290	
17	2,555,905	(471,429)	(577,610)	120,462	(144,402)	(115,016)	(446,887)	921,023	(567,237)	353,786	271	
18	2,721,007	(500,000)	(660,131)	128,267	(173,719)	(122,445)	(455,077)	937,902	(577,633)	360,269	272	\$281
19	3,016,570	(528,571)	(694,875)	136,073	(173,719)	(135,746)	(529,156)	1,090,576	(671,661)	418,915	285	
20	3,163,634	(557,143)	(773,460)	143,878	(207,177)	(142,364)	(531,651)	1,095,718	(674,826)	420,890	284	
21	3,477,991	(585,714)	(810,292)	151,684	(207,177)	(156,510)	(610,911)	1,259,071	(775,433)	483,638	297	
22	3,426,243	(614,286)	(828,707)	159,489	(207,177)	(154,181)	(581,966)	1,199,416	(738,693)	460,723	279	
23	3,615,112	(642,857)	(926,064)	167,295	(241,162)	(162,680)	(591,199)	1,218,445	(750,412)	468,032	281	\$288
24	3,914,196	(671,429)	(964,649)	175,100	(241,162)	(176,139)	(665,121)	1,370,796	(844,242)	526,554	291	
25	4,090,647	(700,000)	(1,058,718)	182,906	(279,950)	(184,079)	(669,985)	1,380,821	(850,416)	530,405	292	
26	4,410,733	(728,571)	(1,099,438)	190,711	(279,950)	(198,483)	(749,762)	1,545,240	(951,678)	593,562	303	
27	4,310,878	(757,143)	(1,119,798)	198,517	(279,950)	(193,990)	(705,173)	1,453,342	(895,080)	558,262	285	
28	4,528,628	(785,714)	(1,234,813)	206,322	(319,348)	(203,788)	(715,879)	1,475,408	(908,670)	566,738	288	\$294
29	4,828,074	(814,286)	(1,277,393)	214,128	(319,348)	(217,263)	(788,609)	1,625,303	(1,000,987)	624,316	296	
30	5,040,309	(842,857)	(1,389,995)	221,934	(364,313)	(226,814)	(796,565)	1,641,699	(1,011,085)	630,614	299	

Net Present Value of Revenue Requirement \$10,107,811

Schedule III

MODEL WATER UTILITY
Scenario: WTP - 30 month increments / 18 month MR / CIAC Imputed
PROJECTED RATE BASE & ALLOWED RETURN

YEAR	Average Net Plant	Used & Useful %	Rate Base				Allowed Rate of Return	Allowed Return on Rate Base
			Net Plant U & U	Average Net CIAC	Imputed CIAC	Total		
1								
2								
3								
4								
5								
6	\$2,825,433	93%	\$2,637,071	(\$770,973)	(\$286,853)	\$1,579,244	10.75%	169,769
7	3,679,352	100%	3,679,352	(927,608)	(191,236)	2,560,509	10.75%	275,255
8	4,552,254	90%	4,097,029	(1,076,437)	(286,853)	2,733,738	10.75%	293,877
9	5,381,528	100%	5,381,528	(1,217,461)	(286,853)	3,877,214	10.75%	416,801
10	6,315,112	88%	5,557,298	(1,350,679)	(286,853)	3,919,766	10.75%	421,375
11	7,198,903	96%	6,910,947	(1,476,092)	(286,853)	5,148,002	10.75%	553,410
12	6,837,893	100%	6,837,893	(1,593,699)	(191,236)	5,052,958	10.75%	543,193
13	7,690,726	93%	7,178,011	(1,703,500)	(286,853)	5,187,657	10.75%	557,673
14	8,492,982	100%	8,492,982	(1,805,497)	(286,853)	6,400,632	10.75%	688,068
15	9,416,162	91%	8,609,063	(1,899,687)	(286,853)	6,422,522	10.75%	690,421
16	10,281,619	97%	9,987,859	(1,986,072)	(286,853)	7,714,933	10.75%	829,355
17	9,704,010	100%	9,704,010	(2,064,652)	(191,236)	7,448,122	10.75%	800,673
18	10,533,578	95%	10,006,899	(2,135,426)	(286,853)	7,584,620	10.75%	815,347
19	11,304,514	100%	11,304,514	(2,198,394)	(286,853)	8,819,266	10.75%	948,071
20	12,215,633	93%	11,401,257	(2,253,557)	(286,853)	8,860,847	10.75%	952,541
21	13,059,836	98%	12,769,617	(2,300,914)	(286,853)	10,181,849	10.75%	1,094,549
22	12,231,128	100%	12,231,128	(2,340,466)	(191,236)	9,699,426	10.75%	1,042,688
23	13,033,726	96%	12,512,377	(2,372,213)	(286,853)	9,853,311	10.75%	1,059,231
24	13,768,352	100%	13,768,352	(2,396,153)	(286,853)	11,085,345	10.75%	1,191,675
25	14,665,489	95%	13,865,554	(2,412,289)	(286,853)	11,166,412	10.75%	1,200,389
26	15,485,052	98%	15,203,506	(2,420,618)	(286,853)	12,496,034	10.75%	1,343,324
27	14,365,254	100%	14,365,254	(2,421,142)	(191,236)	11,752,876	10.75%	1,263,434
28	15,136,585	97%	14,632,032	(2,413,861)	(286,853)	11,931,318	10.75%	1,282,617
29	15,829,119	100%	15,829,119	(2,398,774)	(286,853)	13,143,492	10.75%	1,412,925
30	16,710,048	95%	15,938,815	(2,375,882)	(286,853)	13,276,080	10.75%	1,427,179
AVG								

Schedule V

MODEL WATER UTILITY
Scenario: WTP - 30 month increments / 18 month MR / CIAC Imputed
CALCULATION OF USED & USEFUL %

YEAR	Year-end Capacity		Year-end Connections (ERCs)	Average Connections (ERCs)	Margin Reserve (ERCs)	Total ERCs in Rate Base	Used & Useful %
	MGD	ERC's					
1	1.000	2,857	571				
2	1.000	2,857	1,143				
3	1.000	2,857	1,714				
4	1.000	2,857	2,286				
5	1.000	2,857	2,857				
6	1.500	4,286	3,429	3,143	857	4,000	93%
7	1.500	4,286	4,000	3,714	571	4,286	100%
8	2.000	5,714	4,571	4,286	857	5,143	90%
9	2.000	5,714	5,143	4,857	857	5,714	100%
10	2.500	7,143	5,714	5,429	857	6,286	88%
11	2.500	7,143	6,286	6,000	857	6,857	96%
12	2.500	7,143	6,857	6,571	571	7,143	100%
13	3.000	8,571	7,429	7,143	857	8,000	93%
14	3.000	8,571	8,000	7,714	857	8,571	100%
15	3.500	10,000	8,571	8,286	857	9,143	91%
16	3.500	10,000	9,143	8,857	857	9,714	97%
17	3.500	10,000	9,714	9,429	571	10,000	100%
18	4.000	11,429	10,286	10,000	857	10,857	95%
19	4.000	11,429	10,857	10,571	857	11,429	100%
20	4.500	12,857	11,429	11,143	857	12,000	93%
21	4.500	12,857	12,000	11,714	857	12,571	98%
22	4.500	12,857	12,571	12,286	571	12,857	100%
23	5.000	14,286	13,143	12,857	857	13,714	96%
24	5.000	14,286	13,714	13,429	857	14,286	100%
25	5.500	15,714	14,286	14,000	857	14,857	95%
26	5.500	15,714	14,857	14,571	857	15,429	98%
27	5.500	15,714	15,429	15,143	571	15,714	100%
28	6.000	17,143	16,000	15,714	857	16,571	97%
29	6.000	17,143	16,571	16,286	857	17,143	100%
30	6.500	18,571	17,143	16,857	857	17,714	95%

**MODEL WASTEWATER UTILITY
Key Results**

**Scenario: WWTP - 30 month increments / 18 month MR / CIAC Imputed
Existing plant, CIAC & ERC's at the beginning of Year 6**

(1)	Average Cost per ERC / year:	<u>Rates</u>	<u>Service Availability</u>	<u>AFPI</u>	<u>Total</u>
	Five years	\$236	\$62	\$16	\$298
	Ten years	249	31	31	280
	Fifteen years	256	21	36	277
	Twenty years	261	15	39	277
	Twenty-five years	265	12	40	278
	Total cost per ERC over twenty-five years				\$6,945
(2)	Net Present Value of Revenue Requirement				
	Rates			\$61,128,519	
	CIAC			5,761,827	
	AFPI			652,720	
	Total			<u>\$67,543,066</u>	
(3)	Net Present Value of Return to the Utility				
	Rates			\$18,768,113	
	AFPI			652,720	
	Total			<u>\$19,420,833</u>	
(4)	Average Rate of Return on Investment Earned				<u>9.06%</u>

MODEL WASTEWATER UTILITY
Scenario: WWTP - 30 month increments / 18 month MR / CIAC Imputed
PROJECTED REGULATORY INCOME

a	b	c	d	e	f	g	h	i	j	k	l	m
YEAR	Revenue From Rates	O&M Expense	Allowed Depreciation Expense	Allowed Amortization Expense	Property Taxes	Gross Receipts Tax	Allowed Interest Expense	Allowed Pretax Profit	Income Tax	Allowed Net Profit	Revenue Per ERC	Avg 5 Year Revenue Per ERC
1												
2												
3												
4												
5												
6	4,052,337	(1,000,000)	(865,853)	253,426	(290,889)	(182,355)	(642,497)	1,324,169	(815,526)	508,643	\$203	
7	5,630,764	(1,181,818)	(1,163,556)	298,193	(290,889)	(253,384)	(992,922)	2,046,387	(1,260,323)	786,064	238	
8	6,156,007	(1,363,636)	(1,272,398)	342,960	(415,999)	(277,020)	(1,035,590)	2,134,324	(1,314,481)	819,842	226	\$236
9	8,031,035	(1,545,455)	(1,663,995)	387,727	(415,999)	(361,397)	(1,447,878)	2,984,039	(1,837,802)	1,146,237	260	
10	8,364,100	(1,727,273)	(1,715,619)	432,494	(558,785)	(376,385)	(1,443,506)	2,975,027	(1,832,252)	1,142,775	242	
11	10,364,116	(1,909,091)	(2,145,734)	477,261	(558,785)	(466,385)	(1,882,206)	3,879,177	(2,389,097)	1,490,080	271	
12	10,497,597	(2,090,909)	(2,235,139)	522,028	(558,785)	(472,392)	(1,849,869)	3,812,531	(2,348,051)	1,464,480	251	
13	11,041,053	(2,272,727)	(2,356,865)	566,795	(703,821)	(496,847)	(1,887,500)	3,890,087	(2,395,816)	1,494,271	243	\$257
14	13,044,019	(2,454,545)	(2,815,286)	611,562	(703,821)	(586,981)	(2,317,873)	4,777,075	(2,942,092)	1,834,983	266	
15	13,415,627	(2,636,364)	(2,876,656)	656,329	(869,350)	(603,703)	(2,314,912)	4,770,972	(2,938,333)	1,832,639	254	
16	15,549,966	(2,818,182)	(3,378,044)	701,096	(869,350)	(699,748)	(2,772,235)	5,713,503	(3,518,817)	2,194,686	276	
17	15,496,937	(3,000,000)	(3,477,399)	745,863	(869,350)	(697,362)	(2,678,458)	5,520,231	(3,399,785)	2,120,446	258	
18	16,106,408	(3,181,818)	(3,622,989)	790,630	(1,037,487)	(724,788)	(2,721,342)	5,608,614	(3,454,218)	2,154,396	253	\$264
19	18,199,075	(3,363,636)	(4,149,947)	835,397	(1,037,487)	(818,958)	(3,157,311)	6,507,134	(4,007,596)	2,499,538	271	
20	18,657,717	(3,545,455)	(4,231,483)	880,164	(1,229,379)	(839,597)	(3,166,302)	6,525,665	(4,019,009)	2,506,656	263	
21	20,899,787	(3,727,273)	(4,808,239)	924,931	(1,229,379)	(940,490)	(3,632,615)	7,486,722	(4,610,902)	2,875,820	280	
22	20,615,607	(3,909,091)	(4,917,517)	969,698	(1,229,379)	(927,702)	(3,463,478)	7,138,137	(4,396,217)	2,741,920	264	
23	21,316,359	(4,090,909)	(5,095,057)	1,014,466	(1,424,296)	(959,236)	(3,515,655)	7,245,671	(4,462,444)	2,783,227	261	\$270
24	23,484,551	(4,272,727)	(5,697,185)	1,059,233	(1,424,296)	(1,056,805)	(3,950,629)	8,142,141	(5,014,560)	3,127,581	275	
25	24,060,488	(4,454,545)	(5,807,074)	1,104,000	(1,646,752)	(1,082,722)	(3,976,968)	8,196,426	(5,047,993)	3,148,433	270	
26	26,401,089	(4,636,364)	(6,467,246)	1,148,767	(1,646,752)	(1,188,049)	(4,446,770)	9,164,675	(5,644,315)	3,520,359	285	
27	25,838,333	(4,818,182)	(6,587,010)	1,193,534	(1,646,752)	(1,162,725)	(4,187,295)	8,629,903	(5,314,962)	3,314,942	268	
28	26,649,152	(5,000,000)	(6,804,303)	1,238,301	(1,872,715)	(1,199,212)	(4,250,681)	8,760,541	(5,395,419)	3,365,123	266	\$275
29	28,886,939	(5,181,818)	(7,490,858)	1,283,068	(1,872,715)	(1,299,912)	(4,679,787)	9,644,916	(5,940,085)	3,704,831	279	
30	29,604,817	(5,363,636)	(7,637,097)	1,327,835	(2,130,602)	(1,332,217)	(4,726,960)	9,742,139	(5,999,963)	3,742,177	276	

Net Present Value of Revenue Requirement \$61,128,519

Schedule III

MODEL WASTEWATER UTILITY
Scenario: WWTP - 30 month increments / 18 month MR / CIAC Imputed
PROJECTED RATE BASE & ALLOWED RETURN

a YEAR	b Average Net Plant	c Used & Useful %	e Rate Base				h Allowed Rate of Return	i Allowed Return on Rate Base
			d Net Plant U & U	Average Net CIAC	f Imputed CIAC	g Total		
1								
2								
3								
4								
5								
6	19,269,428	93%	17,984,800	(5,631,332)	(1,645,188)	10,708,280	10.75%	1,151,140
7	24,120,198	100%	24,120,198	(6,474,698)	(1,096,792)	16,548,708	10.75%	1,778,986
8	29,087,021	90%	26,178,319	(7,273,297)	(1,645,188)	17,259,834	10.75%	1,855,432
9	33,803,624	100%	33,803,624	(8,027,129)	(1,645,188)	24,131,307	10.75%	2,594,115
10	39,136,150	88%	34,439,812	(8,736,194)	(1,645,188)	24,058,430	10.75%	2,586,281
11	44,183,104	96%	42,415,780	(9,400,492)	(1,645,188)	31,370,100	10.75%	3,372,286
12	41,947,965	100%	41,947,965	(10,020,023)	(1,096,792)	30,831,149	10.75%	3,314,349
13	46,819,614	93%	43,698,307	(10,594,787)	(1,645,188)	31,458,331	10.75%	3,381,771
14	51,401,191	100%	51,401,191	(11,124,784)	(1,645,188)	38,631,218	10.75%	4,152,856
15	56,696,791	91%	51,837,066	(11,610,014)	(1,645,188)	38,581,864	10.75%	4,147,550
16	61,661,334	97%	59,899,582	(12,050,477)	(1,645,188)	46,203,917	10.75%	4,966,921
17	58,183,935	100%	58,183,935	(12,446,173)	(1,096,792)	44,640,971	10.75%	4,798,904
18	62,945,253	95%	59,797,990	(12,797,101)	(1,645,188)	45,355,701	10.75%	4,875,738
19	67,370,297	100%	67,370,297	(13,103,263)	(1,645,188)	52,621,845	10.75%	5,656,848
20	72,623,089	93%	67,781,550	(13,364,658)	(1,645,188)	52,771,703	10.75%	5,672,958
21	77,492,096	98%	75,770,049	(13,581,286)	(1,645,188)	60,543,575	10.75%	6,508,434
22	72,574,578	100%	72,574,578	(13,753,146)	(1,096,792)	57,724,640	10.75%	6,205,399
23	77,207,991	96%	74,119,672	(13,880,240)	(1,645,188)	58,594,243	10.75%	6,298,881
24	81,451,570	100%	81,451,570	(13,962,567)	(1,645,188)	65,843,815	10.75%	7,078,210
25	86,654,737	95%	81,928,115	(14,000,126)	(1,645,188)	66,282,800	10.75%	7,125,401
26	91,412,991	98%	89,750,936	(13,992,919)	(1,645,188)	74,112,829	10.75%	7,967,129
27	84,825,981	100%	84,825,981	(13,940,945)	(1,096,792)	69,788,244	10.75%	7,502,236
28	89,311,117	97%	86,334,080	(13,844,203)	(1,645,188)	70,844,688	10.75%	7,615,804
29	93,344,329	100%	93,344,329	(13,702,695)	(1,645,188)	77,996,446	10.75%	8,384,618
30	98,489,965	95%	93,944,275	(13,516,419)	(1,645,188)	78,782,667	10.75%	8,469,137
AVG								

Schedule V

MODEL WASTEWATER UTILITY
Scenario: WWTP - 30 month increments / 18 month MR / CIAC Imputed
CALCULATION OF USED & USEFUL %

a YEAR	b Year-end Capacity		d Year-end Connections (ERCs)	e Average Connections (ERCs)	f Margin Reserve (ERCs)	g Total ERCs in Rate Base	h Used & Useful %
	MGD	ERC's					
1	5.000	3,636					
2	5.000	7,273					
3	5.000	10,909					
4	5.000	14,545					
5	5.000	18,182	18,182				
6	7.500	27,273	21,818	20,000	5,455	25,455	93%
7	7.500	27,273	25,455	23,636	3,636	27,273	100%
8	10.000	36,364	29,091	27,273	5,455	32,727	90%
9	10.000	36,364	32,727	30,909	5,455	36,364	100%
10	12.500	45,455	36,364	34,545	5,455	40,000	88%
11	12.500	45,455	40,000	38,182	5,455	43,636	96%
12	12.500	45,455	43,636	41,818	3,636	45,455	100%
13	15.000	54,545	47,273	45,455	5,455	50,909	93%
14	15.000	54,545	50,909	49,091	5,455	54,545	100%
15	17.500	63,636	54,545	52,727	5,455	58,182	91%
16	17.500	63,636	58,182	56,364	5,455	61,818	97%
17	17.500	63,636	61,818	60,000	3,636	63,636	100%
18	20.000	72,727	65,455	63,636	5,455	69,091	95%
19	20.000	72,727	69,091	67,273	5,455	72,727	100%
20	22.500	81,818	72,727	70,909	5,455	76,364	93%
21	22.500	81,818	76,364	74,545	5,455	80,000	98%
22	22.500	81,818	80,000	78,182	3,636	81,818	100%
23	25.000	90,909	83,636	81,818	5,455	87,273	96%
24	25.000	90,909	87,273	85,455	5,455	90,909	100%
25	27.500	100,000	90,909	89,091	5,455	94,545	95%
26	27.500	100,000	94,545	92,727	5,455	98,182	98%
27	27.500	100,000	98,182	96,364	3,636	100,000	100%
28	30.000	109,091	101,818	100,000	5,455	105,455	97%
29	30.000	109,091	105,455	103,636	5,455	109,091	100%
30	32.500	118,182	109,091	107,273	5,455	112,727	95%

**CONSTRUCTION IN 2.5 YEAR INCREMENTS
FWA PROPOSED POLICY: 60 MONTH MARGIN RESERVE PERIOD
WITH NO IMPUTATION OF CIAC**

MODEL WATER UTILITY**Key Results**

**Scenario: WTP - 30 month increments / 60 month MR / CIAC Imputed
Existing plant, CIAC & ERC's at the beginning of Year 6**

(1)	Average Cost per ERC / year:		Service		
		<u>Rates</u>	<u>Availability</u>	<u>AFPI</u>	<u>Total</u>
	Five years	\$272	\$68	\$0	\$340
	Ten years	282	34	0	316
	Fifteen years	288	23	0	311
	Twenty years	292	17	0	309
	Twenty-five years	295	14	0	309
	Total cost per ERC over twenty-five years				\$7,728
(2)	Net Present Value of Revenue Requirement				
	Rates			\$10,746,278	
	CIAC			1,004,626	
	AFPI			0	
	Total			<u>\$11,750,904</u>	
(3)	Net Present Value of Return to the Utility				
	Rates			\$3,396,566	
	AFPI			0	
	Total			<u>\$3,396,566</u>	
(4)	Average Return on Investment to Utility				9.34%

MODEL WATER UTILITY
Scenario: WTP - 30 month Increments / 60 month MR / CIAC Imputed
PROJECTED REGULATORY INCOME

a	b	c	d	e	f	g	h	i	j	k	l	m
YEAR	Revenue From Rates	O&M Expense	Allowed Depreciation Expense	Allowed Amortization Expense	Property Taxes	Gross Receipts Tax	Allowed Interest Expense	Allowed Pretax Profit	Income Tax	Allowed Net Profit	Revenue Per ERC	Avg 5 Year Revenue Per ERC
1												
2												
3												
4												
5												
6	751,387	(157,143)	(174,171)	34,601	(43,543)	(33,812)	(123,268)	254,051	(156,464)	97,587	\$239	
7	907,227	(185,714)	(174,171)	42,406	(43,543)	(40,825)	(165,105)	340,276	(209,568)	130,708	244	
8	1,182,430	(214,286)	(261,427)	50,212	(65,357)	(53,209)	(208,549)	429,814	(264,713)	165,101	276	\$272
9	1,336,533	(242,857)	(261,427)	58,017	(65,357)	(60,144)	(249,844)	514,922	(317,129)	197,793	275	
10	1,642,543	(271,429)	(361,011)	65,823	(90,253)	(73,914)	(297,866)	613,894	(378,083)	235,811	303	
11	1,810,134	(300,000)	(361,011)	73,628	(90,253)	(81,456)	(343,369)	707,674	(435,840)	271,834	302	
12	1,739,834	(328,571)	(361,011)	81,434	(90,253)	(78,293)	(314,652)	648,489	(399,389)	249,099	265	
13	2,036,872	(357,143)	(462,164)	89,239	(115,541)	(91,659)	(359,234)	740,371	(455,978)	284,393	285	\$289
14	2,193,286	(385,714)	(462,164)	97,045	(115,541)	(98,698)	(401,249)	826,964	(509,308)	317,656	284	
15	2,525,562	(414,286)	(577,610)	104,851	(144,402)	(113,650)	(450,989)	929,475	(572,443)	357,033	305	
16	2,697,131	(442,857)	(577,610)	112,656	(144,402)	(121,371)	(497,733)	1,025,814	(631,776)	394,038	305	
17	2,592,682	(471,429)	(577,610)	120,462	(144,402)	(116,671)	(458,361)	944,671	(581,801)	362,870	275	
18	2,913,840	(500,000)	(694,875)	128,267	(173,719)	(131,123)	(503,889)	1,038,502	(639,590)	398,912	291	\$294
19	3,071,736	(528,571)	(694,875)	136,073	(173,719)	(138,228)	(546,367)	1,126,048	(693,508)	432,541	291	
20	3,433,265	(557,143)	(828,707)	143,878	(207,177)	(154,497)	(597,725)	1,231,894	(758,696)	473,199	308	
21	3,608,253	(585,714)	(828,707)	151,684	(207,177)	(162,371)	(645,535)	1,330,431	(819,382)	511,049	308	
22	3,463,020	(614,286)	(828,707)	159,489	(207,177)	(155,836)	(593,440)	1,223,064	(753,257)	469,806	282	
23	3,810,943	(642,857)	(964,649)	167,295	(241,162)	(171,492)	(639,691)	1,318,386	(811,964)	506,422	296	\$299
24	3,969,361	(671,429)	(964,649)	175,100	(241,162)	(178,621)	(682,332)	1,406,268	(866,089)	540,179	296	
25	4,363,608	(700,000)	(1,119,798)	182,906	(279,950)	(196,362)	(735,192)	1,515,211	(933,184)	582,027	312	
26	4,541,363	(728,571)	(1,119,798)	190,711	(279,950)	(204,361)	(783,866)	1,615,527	(994,967)	620,561	312	
27	4,347,655	(757,143)	(1,119,798)	198,517	(279,950)	(195,644)	(716,647)	1,476,990	(909,645)	567,345	287	
28	4,725,411	(785,714)	(1,277,393)	206,322	(319,348)	(212,644)	(763,363)	1,573,272	(968,942)	604,329	301	\$303
29	4,883,240	(814,286)	(1,277,393)	214,128	(319,348)	(219,746)	(805,821)	1,660,775	(1,022,834)	637,941	300	
30	5,314,219	(842,857)	(1,457,253)	221,934	(364,313)	(239,140)	(860,050)	1,772,540	(1,091,667)	680,873	315	

Net Present Value of Revenue Requirement \$10,746,278

Schedule III

MODEL WATER UTILITY
Scenario: WTP - 30 month increments / 60 month MR / CIAC Imputed
PROJECTED RATE BASE & ALLOWED RETURN

YEAR	Average Net Plant	Used & Useful %	Rate Base				Allowed Rate of Return	Allowed Return on Rate Base
			Net Plant U & U	Average Net CIAC	Imputed CIAC	Total		
1								
2								
3								
4								
5								
6	\$2,825,433	100%	\$2,825,433	(\$770,973)	\$0	\$2,054,460	10.75%	220,854
7	3,679,352	100%	3,679,352	(927,608)	0	2,751,745	10.75%	295,813
8	4,552,254	100%	4,552,254	(1,076,437)	0	3,475,817	10.75%	373,650
9	5,381,528	100%	5,381,528	(1,217,461)	0	4,164,067	10.75%	447,637
10	6,315,112	100%	6,315,112	(1,350,679)	0	4,964,433	10.75%	533,677
11	7,198,903	100%	7,198,903	(1,476,092)	0	5,722,812	10.75%	615,202
12	6,837,893	100%	6,837,893	(1,593,699)	0	5,244,194	10.75%	563,751
13	7,690,726	100%	7,690,726	(1,703,500)	0	5,987,225	10.75%	643,627
14	8,492,982	100%	8,492,982	(1,805,497)	0	6,687,486	10.75%	718,905
15	9,416,162	100%	9,416,162	(1,899,687)	0	7,516,475	10.75%	808,021
16	10,281,619	100%	10,281,619	(1,986,072)	0	8,295,547	10.75%	891,771
17	9,704,010	100%	9,704,010	(2,064,652)	0	7,639,358	10.75%	821,231
18	10,533,578	100%	10,533,578	(2,135,426)	0	8,398,152	10.75%	902,801
19	11,304,514	100%	11,304,514	(2,198,394)	0	9,106,119	10.75%	978,908
20	12,215,633	100%	12,215,633	(2,253,557)	0	9,962,076	10.75%	1,070,923
21	13,059,836	100%	13,059,836	(2,300,914)	0	10,758,921	10.75%	1,156,584
22	12,231,128	100%	12,231,128	(2,340,466)	0	9,890,662	10.75%	1,063,246
23	13,033,726	100%	13,033,726	(2,372,213)	0	10,661,513	10.75%	1,146,113
24	13,768,352	100%	13,768,352	(2,396,153)	0	11,372,199	10.75%	1,222,511
25	14,665,489	100%	14,665,489	(2,412,289)	0	12,253,201	10.75%	1,317,219
26	15,485,052	100%	15,485,052	(2,420,618)	0	13,064,434	10.75%	1,404,427
27	14,365,254	100%	14,365,254	(2,421,142)	0	11,944,112	10.75%	1,283,992
28	15,136,585	100%	15,136,585	(2,413,861)	0	12,722,724	10.75%	1,367,693
29	15,829,119	100%	15,829,119	(2,398,774)	0	13,430,345	10.75%	1,443,762
30	16,710,048	100%	16,710,048	(2,375,882)	0	14,334,166	10.75%	1,540,923
AVG								

Schedule V

MODEL WATER UTILITY
Scenario: WTP - 30 month increments / 60 month MR / CIAC Imputed
CALCULATION OF USED & USEFUL %

YEAR	Year-end Capacity		Year-end Connections (ERCs)	Average Connections (ERCs)	Margin Reserve (ERCs)	Total ERCs in Rate Base	Used & Useful %
	MGD	ERC's					
1	1,000	2,857	571				
2	1,000	2,857	1,143				
3	1,000	2,857	1,714				
4	1,000	2,857	2,286				
5	1,000	2,857	2,857				
6	1,500	4,286	3,429	3,143	1,143	4,286	100%
7	1,500	4,286	4,000	3,714	571	4,286	100%
8	2,000	5,714	4,571	4,286	1,429	5,714	100%
9	2,000	5,714	5,143	4,857	857	5,714	100%
10	2,500	7,143	5,714	5,429	1,714	7,143	100%
11	2,500	7,143	6,286	6,000	1,143	7,143	100%
12	2,500	7,143	6,857	6,571	571	7,143	100%
13	3,000	8,571	7,429	7,143	1,429	8,571	100%
14	3,000	8,571	8,000	7,714	857	8,571	100%
15	3,500	10,000	8,571	8,286	1,714	10,000	100%
16	3,500	10,000	9,143	8,857	1,143	10,000	100%
17	3,500	10,000	9,714	9,429	571	10,000	100%
18	4,000	11,429	10,286	10,000	1,429	11,429	100%
19	4,000	11,429	10,857	10,571	857	11,429	100%
20	4,500	12,857	11,429	11,143	1,714	12,857	100%
21	4,500	12,857	12,000	11,714	1,143	12,857	100%
22	4,500	12,857	12,571	12,286	571	12,857	100%
23	5,000	14,286	13,143	12,857	1,429	14,286	100%
24	5,000	14,286	13,714	13,429	857	14,286	100%
25	5,500	15,714	14,286	14,000	1,714	15,714	100%
26	5,500	15,714	14,857	14,571	1,143	15,714	100%
27	5,500	15,714	15,429	15,143	571	15,714	100%
28	6,000	17,143	16,000	15,714	1,429	17,143	100%
29	6,000	17,143	16,571	16,286	857	17,143	100%
30	6,500	18,571	17,143	16,857	1,714	18,571	100%

**MODEL WASTEWATER UTILITY
Key Results**

**Scenario: WWTP - 30 month increments / 60 month MR / No CIAC Imputed
Existing plant, CIAC & ERC's at the beginning of Year 6**

(1)	Average Cost per ERC / year:		Service		
		<u>Rates</u>	<u>Availability</u>	<u>AFPI</u>	<u>Total</u>
	Five years	\$263	\$62	\$0	\$325
	Ten years	270	31	0	301
	Fifteen years	273	21	0	294
	Twenty years	275	15	0	291
	Twenty-five years	278	12	0	290
	Total cost per ERC over twenty-five years				\$7,252
(2)	Net Present Value of Revenue Requirement				
	Rates			\$64,885,354	
	CIAC			5,761,827	
	AFPI			0	
	Total			<u>\$70,647,180</u>	
(3)	Net Present Value of Return to the Utility				
	Rates			\$20,575,729	
	AFPI			0	
	Total			<u>\$20,575,729</u>	
(4)	Average Rate of Return on Investment Earned				<u>9.45%</u>

MODEL WASTEWATER UTILITY
Scenario: WWTP - 30 month increments / 60 month MR / No CIAC Imputed
PROJECTED REGULATORY INCOME

a	b	c	d	e	f	g	h	i	j	k	l	m
YEAR	Revenue From Rates	O&M Expense	Allowed Depreciation Expense	Allowed Amortization Expense	Property Taxes	Gross Receipts Tax	Allowed Interest Expense	Allowed Pretax Profit	Income Tax	Allowed Net Profit	Revenue Per ERC	Avg 5 Year Revenue Per ERC
1												
2												
3												
4												
5												
6	4,680,538	(1,000,000)	(927,700)	253,426	(290,889)	(210,624)	(818,286)	1,686,465	(1,038,656)	647,810	\$234	
7	5,841,690	(1,181,818)	(1,163,556)	298,193	(290,889)	(262,876)	(1,058,730)	2,182,014	(1,343,853)	838,161	247	
8	7,179,816	(1,363,636)	(1,413,775)	342,960	(415,999)	(323,092)	(1,308,823)	2,697,450	(1,661,299)	1,036,152	263	\$263
9	8,347,425	(1,545,455)	(1,663,995)	387,727	(415,999)	(375,634)	(1,546,590)	3,187,480	(1,963,097)	1,224,384	270	
10	9,828,626	(1,727,273)	(1,949,567)	432,494	(558,785)	(442,288)	(1,823,997)	3,759,210	(2,315,212)	1,443,998	285	
11	11,114,003	(1,909,091)	(2,235,139)	477,261	(558,785)	(500,130)	(2,086,957)	4,301,162	(2,648,988)	1,652,174	291	
12	10,708,524	(2,090,909)	(2,235,139)	522,028	(558,785)	(481,884)	(1,915,676)	3,948,158	(2,431,581)	1,516,577	256	
13	12,133,990	(2,272,727)	(2,525,213)	566,795	(703,821)	(546,030)	(2,173,490)	4,479,505	(2,758,825)	1,720,679	267	\$274
14	13,360,409	(2,454,545)	(2,815,286)	611,562	(703,821)	(601,218)	(2,416,584)	4,980,516	(3,067,387)	1,913,129	272	
15	14,948,997	(2,636,364)	(3,146,342)	656,329	(869,350)	(672,705)	(2,705,207)	5,575,359	(3,433,737)	2,141,622	284	
16	16,309,199	(2,818,182)	(3,477,399)	701,096	(869,350)	(733,914)	(2,976,651)	6,134,800	(3,778,284)	2,356,516	289	
17	15,707,864	(3,000,000)	(3,477,399)	745,863	(869,350)	(706,854)	(2,744,266)	5,655,859	(3,483,315)	2,172,544	262	
18	17,227,725	(3,181,818)	(3,813,673)	790,630	(1,037,487)	(775,248)	(3,008,889)	6,201,241	(3,819,203)	2,382,037	271	\$277
19	18,515,466	(3,363,636)	(4,149,947)	835,397	(1,037,487)	(833,196)	(3,256,022)	6,710,575	(4,132,891)	2,577,684	275	
20	20,221,687	(3,545,455)	(4,533,732)	880,164	(1,229,379)	(909,976)	(3,555,506)	7,327,803	(4,513,028)	2,814,775	285	
21	21,661,776	(3,727,273)	(4,917,517)	924,931	(1,229,379)	(974,780)	(3,834,649)	7,903,109	(4,867,346)	3,035,763	291	
22	20,826,534	(3,909,091)	(4,917,517)	969,698	(1,229,379)	(937,194)	(3,529,286)	7,273,765	(4,479,747)	2,794,018	266	
23	22,448,969	(4,090,909)	(5,307,351)	1,014,466	(1,424,296)	(1,010,204)	(3,799,665)	7,831,009	(4,822,941)	3,008,068	274	\$280
24	23,800,942	(4,272,727)	(5,697,185)	1,059,233	(1,424,296)	(1,071,042)	(4,049,340)	8,345,583	(5,139,855)	3,205,728	279	
25	25,636,676	(4,454,545)	(6,142,098)	1,104,000	(1,646,752)	(1,153,650)	(4,359,277)	8,984,354	(5,533,260)	3,451,094	288	
26	27,162,520	(4,636,364)	(6,587,010)	1,148,767	(1,646,752)	(1,222,313)	(4,645,204)	9,573,643	(5,896,190)	3,677,453	293	
27	26,049,260	(4,818,182)	(6,587,010)	1,193,534	(1,646,752)	(1,172,217)	(4,253,102)	8,765,531	(5,398,492)	3,367,039	270	
28	27,783,750	(5,000,000)	(7,038,934)	1,238,301	(1,872,715)	(1,250,269)	(4,528,015)	9,332,119	(5,747,440)	3,584,678	278	\$283
29	29,203,329	(5,181,818)	(7,490,858)	1,283,068	(1,872,715)	(1,314,150)	(4,778,498)	9,848,358	(6,065,380)	3,782,978	282	
30	31,182,350	(5,363,636)	(8,006,634)	1,327,835	(2,130,602)	(1,403,206)	(5,098,413)	10,507,694	(6,471,450)	4,036,243	291	

Net Present Value of Revenue Requirement \$64,885,354

Schedule III

MODEL WASTEWATER UTILITY
Scenario: WWTP - 30 month increments / 60 month MR / No CIAC Imputed
PROJECTED RATE BASE & ALLOWED RETURN

a YEAR	b Average Net Plant	c Used & Useful %	e Rate Base				h Allowed Rate of Return	i Allowed Return on Rate Base
			d Net Plant U & U	e Average Net CIAC	f Imputed CIAC	g Total		
1								
2								
3								
4								
5								
6	19,269,428	100%	19,269,428	(5,631,332)	0	13,638,096	10.75%	1,466,095
7	24,120,198	100%	24,120,198	(6,474,898)	0	17,645,500	10.75%	1,896,891
8	29,087,021	100%	29,087,021	(7,273,297)	0	21,813,724	10.75%	2,344,975
9	33,803,624	100%	33,803,624	(8,027,129)	0	25,776,495	10.75%	2,770,973
10	39,136,150	100%	39,136,150	(8,736,194)	0	30,399,956	10.75%	3,267,995
11	44,183,104	100%	44,183,104	(9,400,492)	0	34,782,612	10.75%	3,739,131
12	41,947,965	100%	41,947,965	(10,020,023)	0	31,927,942	10.75%	3,432,254
13	46,819,614	100%	46,819,614	(10,594,787)	0	36,224,827	10.75%	3,894,169
14	51,401,191	100%	51,401,191	(11,124,784)	0	40,276,407	10.75%	4,329,714
15	56,696,791	100%	56,696,791	(11,610,014)	0	45,086,777	10.75%	4,846,828
16	61,661,334	100%	61,661,334	(12,050,477)	0	49,610,857	10.75%	5,333,167
17	58,183,935	100%	58,183,935	(12,446,173)	0	45,737,763	10.75%	4,916,809
18	62,945,253	100%	62,945,253	(12,797,101)	0	50,148,152	10.75%	5,390,926
19	67,370,297	100%	67,370,297	(13,103,263)	0	54,267,033	10.75%	5,833,706
20	72,623,089	100%	72,623,089	(13,364,658)	0	59,258,431	10.75%	6,370,281
21	77,492,096	100%	77,492,096	(13,581,286)	0	63,910,810	10.75%	6,870,412
22	72,574,578	100%	72,574,578	(13,753,146)	0	58,821,432	10.75%	6,323,304
23	77,207,991	100%	77,207,991	(13,880,240)	0	63,327,751	10.75%	6,807,733
24	81,451,570	100%	81,451,570	(13,962,567)	0	67,489,003	10.75%	7,255,068
25	86,654,737	100%	86,654,737	(14,000,126)	0	72,654,610	10.75%	7,810,371
26	91,412,991	100%	91,412,991	(13,992,919)	0	77,420,072	10.75%	8,322,658
27	84,825,981	100%	84,825,981	(13,940,945)	0	70,885,036	10.75%	7,620,141
28	89,311,117	100%	89,311,117	(13,844,203)	0	75,466,914	10.75%	8,112,693
29	93,344,329	100%	93,344,329	(13,702,695)	0	79,641,634	10.75%	8,561,476
30	98,489,965	100%	98,489,965	(13,516,419)	0	84,973,546	10.75%	9,134,656
AVG								

Schedule V

MODEL WASTEWATER UTILITY
Scenario: WWTP - 30 month increments / 60 month MR / No CIAC Imputed
CALCULATION OF USED & USEFUL %

a YEAR	b Year-end Capacity		d Year-end Connections (ERCs)	e Average Connections (ERCs)	f Margin Reserve (ERCs)	g Total ERCs in Rate Base	h Used & Useful %
	MGD	ERC's					
1	5.000	3,636					
2	5.000	7,273					
3	5.000	10,909					
4	5.000	14,545					
5	5.000	18,182	18,182				
6	7.500	27,273	21,818	20,000	7,273	27,273	100%
7	7.500	27,273	25,455	23,636	3,636	27,273	100%
8	10.000	36,364	29,091	27,273	9,091	36,364	100%
9	10.000	36,364	32,727	30,909	5,455	36,364	100%
10	12.500	45,455	36,364	34,545	10,909	45,455	100%
11	12.500	45,455	40,000	38,182	7,273	45,455	100%
12	12.500	45,455	43,636	41,818	3,636	45,455	100%
13	15.000	54,545	47,273	45,455	9,091	54,545	100%
14	15.000	54,545	50,909	49,091	5,455	54,545	100%
15	17.500	63,636	54,545	52,727	10,909	63,636	100%
16	17.500	63,636	58,182	56,364	7,273	63,636	100%
17	17.500	63,636	61,818	60,000	3,636	63,636	100%
18	20.000	72,727	65,455	63,636	9,091	72,727	100%
19	20.000	72,727	69,091	67,273	5,455	72,727	100%
20	22.500	81,818	72,727	70,909	10,909	81,818	100%
21	22.500	81,818	76,364	74,545	7,273	81,818	100%
22	22.500	81,818	80,000	78,182	3,636	81,818	100%
23	25.000	90,909	83,636	81,818	9,091	90,909	100%
24	25.000	90,909	87,273	85,455	5,455	90,909	100%
25	27.500	100,000	90,909	89,091	10,909	100,000	100%
26	27.500	100,000	94,545	92,727	7,273	100,000	100%
27	27.500	100,000	98,182	96,364	3,636	100,000	100%
28	30.000	109,091	101,818	100,000	9,091	109,091	100%
29	30.000	109,091	105,455	103,636	5,455	109,091	100%
30	32.500	118,182	109,091	107,273	10,909	118,182	100%

**CONSTRUCTION IN 5 YEAR INCREMENTS
PSC PROPOSED POLICY: 18 MONTH MARGIN RESERVE PERIOD
WITH IMPUTATION OF CIAC**

MODEL WATER UTILITY**Key Results**

**Scenario: Water Treatment Plant - 60 month increments / 18 month MR / CIAC Imputed
Existing plant, CIAC & ERC's at the beginning of Year 6**

(1)	Average Cost per ERC / year:				
		<u>Rates</u>	<u>Service Availability</u>	<u>AFPI</u>	<u>Total</u>
	Five Years	\$179	\$54	\$74	\$306
	Ten Years	179	27	107	314
	Fifteen Years	179	18	118	315
	Twenty Years	180	13	122	315
	Twenty-five Years	180	11	124	315
	Total cost per ERC over twenty-five years				<u>\$7,867</u>
(2)	Net Present Value of Revenue Requirement:				
	Rates				\$6,749,596
	CIAC				882,329
	AFPI				325,371
	Total				<u>\$7,957,297</u>
(3)	Net Present Value of Return to the Utility				
	Rates				\$1,794,170
	AFPI				325,371
	Total				<u>\$2,119,541</u>
(4)	Average Rate of Return on Investment Earned				<u>9.22%</u>

MODEL WATER UTILITY
Scenario: Water Treatment Plant - 60 month increments / 18 month MR / CIAC Imputed
PROJECTED REGULATORY INCOME

a	b	c	d	e	f	g	h	i	j	k	l	m
YEAR	Revenue From Rates	O&M Expense	Allowed Depreciation Expense	Allowed Amortization Expense	Property Taxes	Gross Receipts Tax	Allowed Interest Expense	Allowed Pretax Profit	Income Tax	Allowed Net Profit	Revenue Per ERC	Avg 5 Year Revenue Per ERC
1												
2												
3												
4												
5												
6	489,730	(157,143)	(96,519)	33,768	(45,962)	(22,038)	(65,938)	135,897	(83,696)	52,201		\$156
7	752,768	(185,714)	(147,077)	39,907	(45,962)	(33,875)	(124,159)	255,888	(157,596)	98,292		203
8	818,449	(214,286)	(165,462)	46,047	(45,962)	(36,830)	(131,317)	270,640	(166,681)	103,959		191
9	878,241	(242,857)	(183,847)	52,187	(45,962)	(39,521)	(136,637)	281,604	(173,434)	108,171		181
10	885,875	(271,429)	(175,631)	58,326	(73,787)	(39,864)	(125,284)	258,207	(159,024)	99,183		163
11	1,188,992	(300,000)	(236,117)	64,466	(73,787)	(53,505)	(192,765)	397,284	(244,678)	152,606		198
12	1,242,858	(328,571)	(255,794)	70,605	(73,787)	(55,929)	(195,814)	403,568	(248,548)	155,020		189
13	1,290,336	(357,143)	(275,470)	76,745	(73,787)	(58,065)	(196,871)	405,745	(249,889)	155,856		181
14	1,331,427	(385,714)	(295,147)	82,884	(73,787)	(59,914)	(195,934)	403,815	(248,701)	155,115		173
15	1,373,270	(414,286)	(287,728)	89,024	(106,043)	(61,797)	(193,546)	398,894	(245,669)	153,224		166
16	1,721,249	(442,857)	(360,548)	95,164	(106,043)	(77,456)	(270,995)	558,514	(343,976)	214,538		194
17	1,755,111	(471,429)	(381,756)	101,303	(106,043)	(78,980)	(267,303)	550,903	(339,289)	211,615		186
18	1,781,996	(500,000)	(402,965)	107,443	(106,043)	(80,190)	(261,433)	538,807	(331,839)	206,968		178
19	1,801,905	(528,571)	(424,174)	113,582	(106,043)	(81,086)	(253,388)	522,225	(321,627)	200,599		170
20	1,887,750	(557,143)	(419,129)	119,722	(143,438)	(84,949)	(262,274)	540,540	(332,906)	207,634		169
21	2,279,611	(585,714)	(504,901)	125,862	(143,438)	(102,583)	(349,182)	719,655	(443,219)	276,436		195
22	2,289,963	(614,286)	(527,852)	132,001	(143,438)	(103,048)	(337,586)	695,755	(428,500)	267,255		186
23	2,292,668	(642,857)	(550,802)	138,141	(143,438)	(103,170)	(323,604)	666,939	(410,752)	256,186		178
24	2,287,727	(671,429)	(573,752)	144,280	(143,438)	(102,948)	(307,236)	633,205	(389,977)	243,229		170
25	2,426,328	(700,000)	(572,392)	150,420	(186,788)	(109,185)	(329,432)	678,951	(418,150)	260,800		173
26	2,864,380	(728,571)	(672,438)	156,560	(186,788)	(128,897)	(426,088)	878,156	(540,837)	337,320		197
27	2,846,863	(757,143)	(697,343)	162,699	(186,788)	(128,109)	(405,159)	835,021	(514,270)	320,750		188
28	2,820,949	(785,714)	(722,248)	168,839	(186,788)	(126,943)	(381,609)	786,485	(484,379)	302,107		180
29	2,786,636	(814,286)	(747,153)	174,978	(186,788)	(125,399)	(355,439)	732,550	(451,161)	281,389		171
30	2,986,973	(842,857)	(750,788)	181,118	(237,043)	(134,414)	(393,008)	809,980	(498,848)	311,132		177

Net Present Value of Revenue Requirement \$6,749,596

Schedule III

MODEL WATER UTILITY
Scenario: Water Treatment Plant - 60 month increments / 18 month MR / CIAC Imputed
PROJECTED RATE BASE & ALLOWED RETURN

YEAR	Average Net Plant	Used & Useful %	Rate Base				Allowed Rate of Return	Allowed Return on Rate Base
			Net Plant U & U	Average Net CIAC	Imputed CIAC	Total		
1								
2								
3								
4								
5								
6	\$2,964,527	70%	\$2,075,169	(\$750,565)	(\$225,630)	\$1,098,974	10.75%	118,140
7	3,952,703	80%	3,162,163	(867,217)	(225,630)	2,069,315	10.75%	222,451
8	3,768,857	90%	3,391,971	(977,730)	(225,630)	2,188,611	10.75%	235,276
9	3,585,010	100%	3,585,010	(1,082,103)	(225,630)	2,277,277	10.75%	244,807
10	4,764,588	73%	3,494,031	(1,180,336)	(225,630)	2,088,065	10.75%	224,467
11	5,888,516	80%	4,710,813	(1,272,430)	(225,630)	3,212,752	10.75%	345,371
12	5,593,369	87%	4,847,587	(1,358,385)	(225,630)	3,263,572	10.75%	350,834
13	5,298,223	93%	4,945,008	(1,438,199)	(225,630)	3,281,178	10.75%	352,727
14	5,003,076	100%	5,003,076	(1,511,874)	(225,630)	3,265,571	10.75%	351,049
15	6,288,512	80%	5,030,810	(1,579,410)	(225,630)	3,225,770	10.75%	346,770
16	7,509,435	85%	6,383,019	(1,640,806)	(225,630)	4,516,584	10.75%	485,533
17	7,085,261	90%	6,376,735	(1,696,062)	(225,630)	4,455,043	10.75%	478,917
18	6,661,087	95%	6,328,033	(1,745,179)	(225,630)	4,357,224	10.75%	468,402
19	6,236,913	100%	6,236,913	(1,788,156)	(225,630)	4,223,127	10.75%	453,986
20	7,645,068	84%	6,421,857	(1,824,994)	(225,630)	4,371,234	10.75%	469,908
21	8,978,434	88%	7,901,022	(1,855,692)	(225,630)	5,819,700	10.75%	625,618
22	8,404,682	92%	7,732,308	(1,880,250)	(225,630)	5,626,428	10.75%	604,841
23	7,830,931	96%	7,517,694	(1,898,669)	(225,630)	5,393,395	10.75%	579,790
24	7,257,179	100%	7,257,179	(1,910,948)	(225,630)	5,120,601	10.75%	550,465
25	8,807,599	87%	7,633,252	(1,917,087)	(225,630)	5,490,535	10.75%	590,232
26	10,271,317	90%	9,244,185	(1,917,087)	(225,630)	7,101,468	10.75%	763,408
27	9,524,164	93%	8,889,220	(1,910,948)	(225,630)	6,752,642	10.75%	725,909
28	8,777,010	97%	8,484,443	(1,898,669)	(225,630)	6,360,145	10.75%	683,716
29	8,029,857	100%	8,029,857	(1,880,250)	(225,630)	5,923,977	10.75%	636,828
30	9,745,200	89%	8,631,463	(1,855,692)	(225,630)	6,550,142	10.75%	704,140
AVG								

Schedule V

MODEL WATER UTILITY
Scenario: Water Treatment Plant - 60 month increments / 18 month MR / CIAC Imputed
CALCULATION OF USED & USEFUL %

YEAR	Capacity		Year-end Connections (ERCs)	Average Connections (ERCs)	Margin Reserve (ERCs)	Total ERCs in Rate Base	Used & Useful %
	MGD	ERC's					
1	1.000	2,857	571				
2	1.000	2,857	1,143				
3	1.000	2,857	1,714				
4	1.000	2,857	2,286				
5	1.000	2,857	2,857				
6	2.000	5,714	3,429	3,143	857	4,000	70%
7	2.000	5,714	4,000	3,714	857	4,571	80%
8	2.000	5,714	4,571	4,286	857	5,143	90%
9	2.000	5,714	5,143	4,857	857	5,714	100%
10	3.000	8,571	5,714	5,429	857	6,286	73%
11	3.000	8,571	6,286	6,000	857	6,857	80%
12	3.000	8,571	6,857	6,571	857	7,429	87%
13	3.000	8,571	7,429	7,143	857	8,000	93%
14	3.000	8,571	8,000	7,714	857	8,571	100%
15	4.000	11,429	8,571	8,286	857	9,143	80%
16	4.000	11,429	9,143	8,857	857	9,714	85%
17	4.000	11,429	9,714	9,429	857	10,286	90%
18	4.000	11,429	10,286	10,000	857	10,857	95%
19	4.000	11,429	10,857	10,571	857	11,429	100%
20	5.000	14,286	11,429	11,143	857	12,000	84%
21	5.000	14,286	12,000	11,714	857	12,571	88%
22	5.000	14,286	12,571	12,286	857	13,143	92%
23	5.000	14,286	13,143	12,857	857	13,714	96%
24	5.000	14,286	13,714	13,429	857	14,286	100%
25	6.000	17,143	14,286	14,000	857	14,857	87%
26	6.000	17,143	14,857	14,571	857	15,429	90%
27	6.000	17,143	15,429	15,143	857	16,000	93%
28	6.000	17,143	16,000	15,714	857	16,571	97%
29	6.000	17,143	16,571	16,286	857	17,143	100%
30	7.000	20,000	17,143	16,857	857	17,714	89%

MODEL WASTEWATER UTILITY					
Key Results					
Scenario: WWTP - 60 month increments / 18 month MR / CIAC Imputed					
Existing plant, CIAC & ERC's at the beginning of Year 6					
(1)	Average Cost per ERC / year		Service		
		<u>Rates</u>	<u>Availability</u>	<u>AFPI</u>	<u>Total</u>
	Five Years	\$200	\$64	\$86	\$349
	Ten Years	201	32	125	358
	Fifteen Years	201	21	138	360
	Twenty Years	202	16	143	361
	Twenty-five Years	203	13	145	361
	Total cost per ERC over twenty-five years			<u>\$9,013</u>	
(2)	Net Present Value of Revenue Requirement:				
	Rates			\$48,230,729	
	CIAC			5,947,355	
	AFPI			2,424,394	
	Total			<u>\$56,602,478</u>	
(3)	Net Present Value of Return to the Utility				
	Rates			\$13,337,952	
	AFPI			2,424,394	
	Total			<u>\$15,762,346</u>	
(4)	Maximum Rate of Return on Investment Earned			<u>9.24%</u>	

**MODEL WASTEWATER UTILITY
Scenario: WWTP - 60 month increments / 18 month MR / CIAC Imputed
PROJECTED REGULATORY INCOME**

a YEAR	b Revenue From Rates	c O&M Expense	d Allowed Depreciation Expense	e Allowed Amortization Expense	f Property Taxes	g Gross Receipts Tax	h Allowed Interest Expense	i Allowed Pretax Profit	j Income Tax	k Allowed Net Profit	l Revenue Per ERC	m Avg 5 Year Revenue Per ERC
1												
2												
3												
4												
5												
6	3,447,979	(1,000,000)	(726,436)	254,147	(345,922)	(155,159)	(481,745)	992,863	(611,482)	381,381	\$172	
7	5,386,246	(1,181,818)	(1,106,950)	300,355	(345,922)	(242,381)	(917,855)	1,891,675	(1,165,040)	726,635	228	
8	5,839,151	(1,363,636)	(1,245,319)	346,564	(345,922)	(262,762)	(969,651)	1,998,425	(1,230,784)	767,640	214	\$200
9	6,247,722	(1,545,455)	(1,383,688)	392,772	(345,922)	(281,148)	(1,007,615)	2,076,668	(1,278,973)	797,695	202	
10	6,288,135	(1,727,273)	(1,321,853)	438,981	(555,342)	(282,966)	(927,705)	1,911,976	(1,177,543)	734,433	182	
11	8,530,268	(1,909,091)	(1,777,093)	485,189	(555,342)	(383,862)	(1,434,207)	2,955,863	(1,820,449)	1,135,414	223	
12	8,896,459	(2,090,909)	(1,925,184)	531,398	(555,342)	(400,341)	(1,455,772)	3,000,308	(1,847,822)	1,152,487	213	
13	9,214,576	(2,272,727)	(2,073,276)	577,606	(555,342)	(414,656)	(1,462,339)	3,013,843	(1,856,157)	1,157,685	203	\$202
14	9,484,621	(2,454,545)	(2,221,367)	623,815	(555,342)	(426,808)	(1,453,908)	2,996,466	(1,845,455)	1,151,011	193	
15	9,778,066	(2,636,364)	(2,165,533)	670,023	(798,116)	(440,013)	(1,440,085)	2,967,978	(1,827,910)	1,140,068	185	
16	12,358,957	(2,818,182)	(2,713,596)	716,232	(798,116)	(556,153)	(2,021,952)	4,167,190	(2,566,478)	1,600,712	219	
17	12,575,701	(3,000,000)	(2,873,219)	762,440	(798,116)	(565,907)	(1,993,124)	4,107,775	(2,529,885)	1,577,890	210	
18	12,739,936	(3,181,818)	(3,032,843)	808,649	(798,116)	(573,297)	(1,947,913)	4,014,597	(2,472,499)	1,542,098	200	\$201
19	12,851,662	(3,363,636)	(3,192,466)	854,857	(798,116)	(578,325)	(1,886,320)	3,887,656	(2,394,319)	1,493,337	191	
20	13,473,619	(3,545,455)	(3,154,495)	901,066	(1,079,559)	(606,313)	(1,956,523)	4,032,341	(2,483,428)	1,548,914	190	
21	16,385,447	(3,727,273)	(3,800,048)	947,274	(1,079,559)	(737,345)	(2,609,790)	5,378,707	(3,312,624)	2,066,083	220	
22	16,425,910	(3,909,091)	(3,972,777)	993,483	(1,079,559)	(739,166)	(2,521,681)	5,197,119	(3,200,788)	1,996,331	210	
23	16,408,825	(4,090,909)	(4,145,507)	1,039,691	(1,079,559)	(738,397)	(2,415,618)	4,978,526	(3,066,161)	1,912,365	201	\$203
24	16,334,189	(4,272,727)	(4,318,236)	1,085,900	(1,079,559)	(735,039)	(2,291,600)	4,722,928	(2,908,744)	1,814,184	191	
25	17,351,431	(4,454,545)	(4,308,004)	1,132,108	(1,405,828)	(780,814)	(2,461,422)	5,072,925	(3,124,300)	1,948,626	195	
26	20,611,342	(4,636,364)	(5,060,981)	1,178,317	(1,405,828)	(927,510)	(3,188,194)	6,570,783	(4,046,796)	2,523,987	222	
27	20,442,508	(4,818,182)	(5,248,425)	1,224,525	(1,405,828)	(919,913)	(3,029,979)	6,244,707	(3,845,973)	2,398,734	212	
28	20,210,465	(5,000,000)	(5,435,868)	1,270,734	(1,405,828)	(909,471)	(2,852,044)	5,877,987	(3,620,119)	2,257,868	202	\$205
29	19,915,212	(5,181,818)	(5,623,312)	1,316,942	(1,405,828)	(896,185)	(2,654,388)	5,470,623	(3,369,233)	2,101,391	192	
30	21,395,827	(5,363,636)	(5,650,665)	1,363,151	(1,784,063)	(962,812)	(2,939,523)	6,058,278	(3,731,156)	2,327,122	199	

Net Present Value of Revenue Requirement \$48,230,729

Schedule III

MODEL WASTEWATER UTILITY
Scenario: WWTP - 60 month increments / 18 month MR / CIAC Imputed
PROJECTED RATE BASE & ALLOWED RETURN

a YEAR	b Average Net Plant	c Used & Useful %	e Rate Base				g Total	h Allowed Rate of Return	i Allowed Return on Rate Base
			d Net Plant U & U	Average Net CIAC	f Imputed CIAC				
1									
2									
3									
4									
5									
6	\$21,966,047	70%	\$15,376,233	(\$5,648,990)	(\$1,698,163)	\$8,029,081	10.75%	863,126	
7	29,403,370	80%	23,522,696	(6,526,951)	(1,698,163)	15,297,582	10.75%	1,644,490	
8	28,019,682	90%	25,217,714	(7,358,704)	(1,698,163)	16,160,847	10.75%	1,737,291	
9	26,635,994	100%	26,635,994	(8,144,249)	(1,698,163)	16,793,583	10.75%	1,805,310	
10	35,513,871	73%	26,043,505	(8,883,585)	(1,698,163)	15,461,757	10.75%	1,662,139	
11	43,972,907	80%	35,178,326	(9,576,713)	(1,698,163)	23,903,451	10.75%	2,569,621	
12	41,751,541	87%	36,184,668	(10,223,632)	(1,698,163)	24,262,874	10.75%	2,608,259	
13	39,530,174	93%	36,894,829	(10,824,342)	(1,698,163)	24,372,324	10.75%	2,620,025	
14	37,308,807	100%	37,308,807	(11,378,844)	(1,698,163)	24,231,800	10.75%	2,604,919	
15	46,983,406	80%	37,586,725	(11,887,138)	(1,698,163)	24,001,424	10.75%	2,580,153	
16	56,172,455	85%	47,746,586	(12,349,223)	(1,698,163)	33,699,201	10.75%	3,622,664	
17	52,979,989	90%	47,681,990	(12,765,100)	(1,698,163)	33,218,728	10.75%	3,571,013	
18	49,787,523	95%	47,298,147	(13,134,768)	(1,698,163)	32,465,216	10.75%	3,490,011	
19	46,595,057	100%	46,595,057	(13,458,227)	(1,698,163)	31,438,667	10.75%	3,379,657	
20	57,193,275	84%	48,042,351	(13,735,478)	(1,698,163)	32,608,710	10.75%	3,505,436	
21	67,228,608	88%	59,161,175	(13,966,521)	(1,698,163)	43,496,492	10.75%	4,675,873	
22	62,910,372	92%	57,877,542	(14,151,355)	(1,698,163)	42,028,025	10.75%	4,518,013	
23	58,592,136	96%	56,248,451	(14,289,980)	(1,698,163)	40,260,308	10.75%	4,327,983	
24	54,273,900	100%	54,273,900	(14,382,397)	(1,698,163)	38,193,340	10.75%	4,105,784	
25	65,942,846	87%	57,150,467	(14,428,606)	(1,698,163)	41,023,699	10.75%	4,410,048	
26	76,959,255	90%	69,263,329	(14,428,606)	(1,698,163)	53,136,561	10.75%	5,712,180	
27	71,335,943	93%	66,580,213	(14,382,397)	(1,698,163)	50,499,653	10.75%	5,428,713	
28	65,712,631	97%	63,522,210	(14,289,980)	(1,698,163)	47,534,067	10.75%	5,109,912	
29	60,089,318	100%	60,089,318	(14,151,355)	(1,698,163)	44,239,801	10.75%	4,755,779	
30	72,999,532	89%	64,656,729	(13,966,521)	(1,698,163)	48,992,045	10.75%	5,266,645	
AVG									

Schedule V

MODEL WASTEWATER UTILITY
Scenario: WWTP - 60 month increments / 18 month MR / CIAC Imputed
CALCULATION OF USED & USEFUL %

a YEAR	b Capacity		d Year-end Connections (ERCs)	e Average Connections (ERCs)	f Margin Reserve (ERCs)	g Total ERCs in Rate Base	h Used & Useful %
	MGD	c ERC's					
1	5.000	18,182	3,636				
2	5.000	18,182	7,273				
3	5.000	18,182	10,909				
4	5.000	18,182	14,545				
5	5.000	18,182	18,182				
6	10.000	36,364	21,818	20,000	5,455	25,455	70%
7	10.000	36,364	25,455	23,636	5,455	29,091	80%
8	10.000	36,364	29,091	27,273	5,455	32,727	90%
9	10.000	36,364	32,727	30,909	5,455	36,364	100%
10	15.000	54,545	36,364	34,545	5,455	40,000	73%
11	15.000	54,545	40,000	38,182	5,455	43,636	80%
12	15.000	54,545	43,636	41,818	5,455	47,273	87%
13	15.000	54,545	47,273	45,455	5,455	50,909	93%
14	15.000	54,545	50,909	49,091	5,455	54,545	100%
15	20.000	72,727	54,545	52,727	5,455	58,182	80%
16	20.000	72,727	58,182	56,364	5,455	61,818	85%
17	20.000	72,727	61,818	60,000	5,455	65,455	90%
18	20.000	72,727	65,455	63,636	5,455	69,091	95%
19	20.000	72,727	69,091	67,273	5,455	72,727	100%
20	25.000	90,909	72,727	70,909	5,455	76,364	84%
21	25.000	90,909	76,364	74,545	5,455	80,000	88%
22	25.000	90,909	80,000	78,182	5,455	83,636	92%
23	25.000	90,909	83,636	81,818	5,455	87,273	96%
24	25.000	90,909	87,273	85,455	5,455	90,909	100%
25	30.000	109,091	90,909	89,091	5,455	94,545	87%
26	30.000	109,091	94,545	92,727	5,455	98,182	90%
27	30.000	109,091	98,182	96,364	5,455	101,818	93%
28	30.000	109,091	101,818	100,000	5,455	105,455	97%
29	30.000	109,091	105,455	103,636	5,455	109,091	100%
30	35.000	127,273	109,091	107,273	5,455	112,727	89%

**CONSTRUCTION IN 5 YEAR INCREMENTS
FWA PROPOSED POLICY: 60 MONTH MARGIN RESERVE PERIOD
WITH NO IMPUTATION OF CIAC**

**MODEL WATER UTILITY
Key Results**

Scenario: Water Treatment Plant - 60 month increments / 60 month MR / No CIAC Imputed

(1)	Average Cost per ERC / year:	<u>Rates</u>	<u>Service Availability</u>	<u>AFPI</u>	<u>Total</u>
	Five Years	\$225	\$54	\$0	\$278
	Ten Years	215	27	72	314
	Fifteen Years	208	18	95	321
	Twenty Years	204	13	106	323
	Twenty-five Years	201	11	111	323
	Total cost per ERC over twenty-five years				<u>\$8,075</u>
(2)	Net Present Value of Revenue Requirement:				
	Rates			\$7,818,831	
	CIAC			882,329	
	AFPI			230,976	
	Total			<u>\$8,932,136</u>	
(3)	Net Present Value of Return to the Utility				
	Rates			\$2,283,280	
	AFPI			230,976	
	Total			<u>\$2,514,255</u>	
(4)	Average Rate of Return on Investment Earned				<u>10.69%</u>

MODEL WATER UTILITY
Scenario: Water Treatment Plant - 60 month increments / 60 month MR / No CIAC Imputed
PROJECTED REGULATORY INCOME

a	b	c	d	e	f	g	h	i	j	k	l	m
YEAR	Revenue From Rates	O&M Expense	Allowed Depreciation Expense	Allowed Amortization Expense	Property Taxes	Gross Receipts Tax	Allowed Interest Expense	Allowed Pretax Profit	Income Tax	Allowed Net Profit	Revenue Per ERC	Avg 5 Year Revenue Per ERC
1												
2												
3												
4												
5												
6	747,471	(157,143)	(137,885)	33,768	(45,962)	(33,636)	(132,838)	273,775	(168,612)	105,163	\$238	
7	986,692	(185,714)	(183,847)	39,907	(45,962)	(44,401)	(185,129)	381,546	(234,986)	146,561	266	
8	953,572	(214,286)	(183,847)	46,047	(45,962)	(42,911)	(167,468)	345,146	(212,568)	132,579	223	\$225
9	921,632	(242,857)	(183,847)	52,187	(45,962)	(41,473)	(150,174)	309,505	(190,617)	118,888	190	
10	1,201,583	(271,429)	(231,513)	58,326	(73,787)	(54,071)	(205,526)	423,583	(260,875)	162,708	221	
11	1,520,681	(300,000)	(295,147)	64,466	(73,787)	(68,431)	(276,965)	570,818	(351,554)	219,264	253	
12	1,470,880	(328,571)	(295,147)	70,605	(73,787)	(66,190)	(254,099)	523,691	(322,530)	201,162	224	
13	1,422,259	(357,143)	(295,147)	76,745	(73,787)	(64,002)	(231,601)	477,324	(293,973)	183,351	199	\$210
14	1,374,818	(385,714)	(295,147)	82,884	(73,787)	(61,867)	(209,472)	431,716	(265,884)	165,832	178	
15	1,694,206	(414,286)	(350,669)	89,024	(106,043)	(76,239)	(273,113)	562,879	(346,665)	216,215	204	
16	2,047,889	(442,857)	(424,174)	95,164	(106,043)	(92,155)	(352,118)	725,705	(446,945)	278,760	231	
17	1,979,177	(471,429)	(424,174)	101,303	(106,043)	(89,063)	(323,352)	666,420	(410,433)	255,987	210	
18	1,911,646	(500,000)	(424,174)	107,443	(106,043)	(86,024)	(294,954)	607,893	(374,388)	233,506	191	\$200
19	1,845,296	(528,571)	(424,174)	113,582	(106,043)	(83,038)	(266,925)	550,126	(338,810)	211,316	175	
20	2,210,122	(557,143)	(488,983)	119,722	(143,438)	(99,455)	(340,030)	700,794	(431,603)	269,191	198	
21	2,602,297	(585,714)	(573,752)	125,862	(143,438)	(117,103)	(427,365)	880,787	(542,457)	338,330	222	
22	2,510,724	(614,286)	(573,752)	132,001	(143,438)	(112,983)	(391,466)	806,801	(496,890)	309,911	204	
23	2,420,331	(642,857)	(573,752)	138,141	(143,438)	(108,915)	(355,936)	733,574	(451,792)	281,782	188	\$196
24	2,331,118	(671,429)	(573,752)	144,280	(143,438)	(104,900)	(320,774)	661,106	(407,160)	253,946	174	
25	2,748,014	(700,000)	(649,445)	150,420	(186,788)	(123,661)	(404,623)	833,917	(513,591)	320,327	196	
26	3,183,537	(728,571)	(747,153)	156,560	(186,788)	(143,259)	(501,254)	1,033,071	(636,245)	396,826	218	
27	3,064,520	(757,143)	(747,153)	162,699	(186,788)	(137,903)	(456,793)	941,438	(579,810)	361,628	202	
28	2,946,683	(785,714)	(747,153)	168,839	(186,788)	(132,601)	(412,701)	850,565	(523,844)	326,721	188	\$195
29	2,830,027	(814,286)	(747,153)	174,978	(186,788)	(127,351)	(368,976)	760,451	(468,344)	292,106	174	
30	3,306,537	(842,857)	(835,554)	181,118	(237,043)	(148,794)	(465,017)	958,389	(590,250)	368,139	196	

Net Present Value of Revenue Requirement \$7,818,831

Schedule III

MODEL WATER UTILITY
Scenario: Water Treatment Plant - 60 month increments / 60 month MR / No CIAC Imputed
PROJECTED RATE BASE & ALLOWED RETURN

YEAR	Average Net Plant	Used & Useful %	Rate Base				Allowed Rate of Return	Allowed Return on Rate Base
			Net Plant U & U	Average Net CIAC	Imputed CIAC	Total		
1								
2								
3								
4								
5								
6	\$2,964,527	100%	\$2,964,527	(\$750,565)	\$0	\$2,213,962	10.75%	238,001
7	3,952,703	100%	3,952,703	(867,217)	0	3,085,486	10.75%	331,690
8	3,768,857	100%	3,768,857	(977,730)	0	2,791,127	10.75%	300,046
9	3,585,010	100%	3,585,010	(1,082,103)	0	2,502,907	10.75%	269,062
10	4,764,588	97%	4,605,768	(1,180,336)	0	3,425,432	10.75%	368,234
11	5,888,516	100%	5,888,516	(1,272,430)	0	4,616,085	10.75%	496,229
12	5,593,369	100%	5,593,369	(1,358,385)	0	4,234,985	10.75%	455,261
13	5,298,223	100%	5,298,223	(1,438,199)	0	3,860,023	10.75%	414,952
14	5,003,076	100%	5,003,076	(1,511,874)	0	3,491,201	10.75%	375,304
15	6,288,512	98%	6,131,299	(1,579,410)	0	4,551,889	10.75%	489,328
16	7,509,435	100%	7,509,435	(1,640,806)	0	5,868,629	10.75%	630,878
17	7,085,261	100%	7,085,261	(1,696,062)	0	5,389,199	10.75%	579,339
18	6,661,087	100%	6,661,087	(1,745,179)	0	4,915,908	10.75%	528,460
19	6,236,913	100%	6,236,913	(1,788,156)	0	4,448,757	10.75%	478,241
20	7,645,068	98%	7,492,167	(1,824,994)	0	5,667,173	10.75%	609,221
21	8,978,434	100%	8,978,434	(1,855,692)	0	7,122,743	10.75%	765,695
22	8,404,682	100%	8,404,682	(1,880,250)	0	6,524,432	10.75%	701,376
23	7,830,931	100%	7,830,931	(1,898,669)	0	5,932,262	10.75%	637,718
24	7,257,179	100%	7,257,179	(1,910,948)	0	5,346,231	10.75%	574,720
25	8,807,599	98%	8,660,805	(1,917,087)	0	6,743,718	10.75%	724,950
26	10,271,317	100%	10,271,317	(1,917,087)	0	8,354,230	10.75%	898,080
27	9,524,164	100%	9,524,164	(1,910,948)	0	7,613,216	10.75%	818,421
28	8,777,010	100%	8,777,010	(1,898,669)	0	6,878,342	10.75%	739,422
29	8,029,857	100%	8,029,857	(1,880,250)	0	6,149,607	10.75%	661,083
30	9,745,200	99%	9,605,983	(1,855,692)	0	7,750,292	10.75%	833,156
AVG								

Schedule V

MODEL WATER UTILITY
Scenario: Water Treatment Plant - 60 month increments / 60 month MR / No CIAC Imputed
CALCULATION OF USED & USEFUL %

YEAR	Capacity		Year-end Connections (ERCs)	Average Connections (ERCs)	Margin Reserve (ERCs)	Total ERCs in Rate Base	Used & Useful %
	MGD	ERC's					
1	1.000	2,857	571				
2	1.000	2,857	1,143				
3	1.000	2,857	1,714				
4	1.000	2,857	2,286				
5	1.000	2,857	2,857				
6	2.000	5,714	3,429	3,143	2,571	5,714	100%
7	2.000	5,714	4,000	3,714	2,000	5,714	100%
8	2.000	5,714	4,571	4,286	1,429	5,714	100%
9	2.000	5,714	5,143	4,857	857	5,714	100%
10	3.000	8,571	5,714	5,429	2,857	8,286	97%
11	3.000	8,571	6,286	6,000	2,571	8,571	100%
12	3.000	8,571	6,857	6,571	2,000	8,571	100%
13	3.000	8,571	7,429	7,143	1,429	8,571	100%
14	3.000	8,571	8,000	7,714	857	8,571	100%
15	4.000	11,429	8,571	8,286	2,857	11,143	98%
16	4.000	11,429	9,143	8,857	2,571	11,429	100%
17	4.000	11,429	9,714	9,429	2,000	11,429	100%
18	4.000	11,429	10,286	10,000	1,429	11,429	100%
19	4.000	11,429	10,857	10,571	857	11,429	100%
20	5.000	14,286	11,429	11,143	2,857	14,000	98%
21	5.000	14,286	12,000	11,714	2,571	14,286	100%
22	5.000	14,286	12,571	12,286	2,000	14,286	100%
23	5.000	14,286	13,143	12,857	1,429	14,286	100%
24	5.000	14,286	13,714	13,429	857	14,286	100%
25	6.000	17,143	14,286	14,000	2,857	16,857	98%
26	6.000	17,143	14,857	14,571	2,571	17,143	100%
27	6.000	17,143	15,429	15,143	2,000	17,143	100%
28	6.000	17,143	16,000	15,714	1,429	17,143	100%
29	6.000	17,143	16,571	16,286	857	17,143	100%
30	7.000	20,000	17,143	16,857	2,857	19,714	99%

**MODEL WASTEWATER UTILITY
Key Results**

**Scenario: WWTP - 60 month increments / 60 month MR / No CIAC Imputed
Existing plant, CIAC & ERC's at the beginning of Year 6**

(1)	Average Cost per ERC / year	<u>Rates</u>	<u>Service Availability</u>	<u>AFPI</u>	<u>Total</u>
	Five Years	\$254	\$64	\$0	\$317
	Ten Years	243	32	84	359
	Fifteen Years	235	21	112	368
	Twenty Years	230	16	125	370
	Twenty-five Years	227	13	131	371
	Total cost per ERC over twenty-five years				<u>\$9,267</u>
(2)	Net Present Value of Revenue Requirement:				
	Rates			\$56,233,246	
	CIAC			5,947,355	
	AFPI			1,726,903	
	Total			<u>\$63,907,504</u>	
(3)	Net Present Value of Return to the Utility				
	Rates			\$16,994,054	
	AFPI			1,726,903	
	Total			<u>\$18,720,957</u>	
(4)	Average Rate of Return on Investment Earned				<u>10.67%</u>

MODEL WASTEWATER UTILITY
Scenario: WWTP - 60 month increments / 60 month MR / No CIAC Imputed
PROJECTED REGULATORY INCOME

a	b	c	d	e	f	g	h	i	j	k	l	m
YEAR	Revenue From Rates	O&M Expense	Allowed Depreciation Expense	Allowed Amortization Expense	Property Taxes	Gross Receipts Tax	Allowed Interest Expense	Allowed Pretax Profit	Income Tax	Allowed Net Profit	Revenue Per ERC	Avg 5 Year Revenue Per ERC
1												
2												
3												
4												
5												
6	5,367,860	(1,000,000)	(1,037,766)	254,147	(345,922)	(241,554)	(979,023)	2,017,741	(1,242,681)	775,060	\$268	
7	7,133,528	(1,181,818)	(1,383,688)	300,355	(345,922)	(321,009)	(1,372,585)	2,828,862	(1,742,232)	1,086,630	302	
8	6,849,471	(1,363,636)	(1,383,688)	346,564	(345,922)	(308,226)	(1,239,659)	2,554,904	(1,573,507)	981,396	251	\$254
9	6,574,300	(1,545,455)	(1,383,688)	392,772	(345,922)	(295,844)	(1,109,505)	2,286,660	(1,408,302)	878,358	213	
10	8,648,731	(1,727,273)	(1,742,443)	438,981	(555,342)	(389,193)	(1,526,789)	3,146,672	(1,937,964)	1,208,708	250	
11	11,013,362	(1,909,091)	(2,221,367)	485,189	(555,342)	(495,601)	(2,063,772)	4,253,379	(2,619,559)	1,633,819	288	
12	10,603,754	(2,090,909)	(2,221,367)	531,398	(555,342)	(477,169)	(1,891,675)	3,898,691	(2,401,115)	1,497,576	254	
13	10,203,033	(2,272,727)	(2,221,367)	577,606	(555,342)	(459,136)	(1,722,350)	3,549,717	(2,186,190)	1,363,527	224	\$237
14	9,811,199	(2,454,545)	(2,221,367)	623,815	(555,342)	(441,504)	(1,555,798)	3,206,458	(1,974,785)	1,231,673	200	
15	12,181,887	(2,636,364)	(2,639,243)	670,023	(798,116)	(548,185)	(2,035,301)	4,194,701	(2,583,421)	1,611,280	231	
16	14,807,369	(2,818,182)	(3,192,466)	716,232	(798,116)	(666,332)	(2,629,394)	5,419,111	(3,337,508)	2,081,603	263	
17	14,255,439	(3,000,000)	(3,192,466)	762,440	(798,116)	(641,495)	(2,412,893)	4,972,909	(3,062,702)	1,910,207	238	
18	13,712,396	(3,181,818)	(3,192,466)	808,649	(798,116)	(617,058)	(2,199,165)	4,532,421	(2,791,416)	1,741,006	215	\$226
19	13,178,240	(3,363,636)	(3,192,466)	854,857	(798,116)	(593,021)	(1,988,210)	4,097,648	(2,523,648)	1,573,999	196	
20	15,890,577	(3,545,455)	(3,680,244)	901,066	(1,079,559)	(715,076)	(2,538,836)	5,232,473	(3,222,562)	2,009,912	224	
21	18,806,098	(3,727,273)	(4,318,236)	947,274	(1,079,559)	(846,274)	(3,195,725)	6,586,305	(4,056,356)	2,529,949	252	
22	18,082,101	(3,909,091)	(4,318,236)	993,483	(1,079,559)	(813,695)	(2,925,541)	6,029,463	(3,713,409)	2,316,053	231	
23	17,366,991	(4,090,909)	(4,318,236)	1,039,691	(1,079,559)	(781,515)	(2,658,129)	5,478,334	(3,373,982)	2,104,352	212	\$222
24	16,660,767	(4,272,727)	(4,318,236)	1,085,900	(1,079,559)	(749,735)	(2,393,490)	4,932,920	(3,038,073)	1,894,846	195	
25	19,764,782	(4,454,545)	(4,887,928)	1,132,108	(1,405,828)	(889,415)	(3,024,912)	6,234,263	(3,839,541)	2,394,722	222	
26	23,006,771	(4,636,364)	(5,623,312)	1,178,317	(1,405,828)	(1,035,305)	(3,751,839)	7,732,441	(4,762,235)	2,970,206	248	
27	22,076,224	(4,818,182)	(5,623,312)	1,224,525	(1,405,828)	(993,430)	(3,417,213)	7,042,785	(4,337,491)	2,705,293	229	
28	21,154,564	(5,000,000)	(5,623,312)	1,270,734	(1,405,828)	(951,955)	(3,085,359)	6,358,843	(3,916,267)	2,442,576	212	\$221
29	20,241,790	(5,181,818)	(5,623,312)	1,316,942	(1,405,828)	(910,881)	(2,756,278)	5,680,616	(3,498,562)	2,182,053	195	
30	23,794,317	(5,363,636)	(6,288,643)	1,363,151	(1,784,063)	(1,070,744)	(3,479,410)	7,170,971	(4,416,438)	2,754,533	222	

Net Present Value of Revenue Requirement \$56,233,246

Schedule III

MODEL WASTEWATER UTILITY
Scenario: WWTP - 60 month increments / 60 month MR / No CIAC Imputed
PROJECTED RATE BASE & ALLOWED RETURN

a YEAR	b Average Net Plant	c Used & Useful %	d e f g Rate Base				h Allowed Rate of Return	i Allowed Return on Rate Base
			Net Plant U & U	Average Net CIAC	Imputed CIAC	Total		
1								
2								
3								
4								
5								
6	\$21,966,047	100%	\$21,966,047	(\$5,648,990)	\$0	\$16,317,058	10.75%	1,754,084
7	29,403,370	100%	29,403,370	(6,526,951)	0	22,876,419	10.75%	2,459,215
8	28,019,682	100%	28,019,682	(7,358,704)	0	20,660,978	10.75%	2,221,055
9	26,635,994	100%	26,635,994	(8,144,249)	0	18,491,745	10.75%	1,987,863
10	35,513,871	97%	34,330,075	(8,883,585)	0	25,446,490	10.75%	2,735,498
11	43,972,907	100%	43,972,907	(9,576,713)	0	34,396,195	10.75%	3,697,591
12	41,751,541	100%	41,751,541	(10,223,632)	0	31,527,909	10.75%	3,389,250
13	39,530,174	100%	39,530,174	(10,824,342)	0	28,705,831	10.75%	3,085,877
14	37,308,807	100%	37,308,807	(11,378,844)	0	25,929,963	10.75%	2,787,471
15	46,983,406	98%	45,808,821	(11,887,138)	0	33,921,683	10.75%	3,646,581
16	56,172,455	100%	56,172,455	(12,349,223)	0	43,823,232	10.75%	4,710,997
17	52,979,989	100%	52,979,989	(12,765,100)	0	40,214,889	10.75%	4,323,101
18	49,787,523	100%	49,787,523	(13,134,768)	0	36,652,755	10.75%	3,940,171
19	46,595,057	100%	46,595,057	(13,458,227)	0	33,136,830	10.75%	3,562,209
20	57,193,275	98%	56,049,410	(13,735,478)	0	42,313,931	10.75%	4,548,748
21	67,228,608	100%	67,228,608	(13,966,521)	0	53,262,087	10.75%	5,725,674
22	62,910,372	100%	62,910,372	(14,151,355)	0	48,759,017	10.75%	5,241,594
23	58,592,136	100%	58,592,136	(14,289,980)	0	44,302,156	10.75%	4,762,482
24	54,273,900	100%	54,273,900	(14,382,397)	0	39,891,503	10.75%	4,288,337
25	65,942,846	98%	64,843,799	(14,428,606)	0	50,415,193	10.75%	5,419,633
26	76,959,255	100%	76,959,255	(14,428,606)	0	62,530,649	10.75%	6,722,045
27	71,335,943	100%	71,335,943	(14,382,397)	0	56,953,545	10.75%	6,122,506
28	65,712,631	100%	65,712,631	(14,289,980)	0	51,422,650	10.75%	5,527,935
29	60,089,318	100%	60,089,318	(14,151,355)	0	45,937,964	10.75%	4,938,331
30	72,999,532	99%	71,956,682	(13,966,521)	0	57,990,161	10.75%	6,233,942
AVG								

Schedule V

MODEL WASTEWATER UTILITY
Scenario: WWTP - 60 month increments / 60 month MR / No CIAC Imputed
CALCULATION OF USED & USEFUL %

a YEAR	b Capacity c		d Year-end Connections (ERCs)	e Average Connections (ERCs)	f Margin Reserve (ERCs)	g Total ERCs in Rate Base	h Used & Useful %
	MGD	ERC's					
1	5.000	18,182	3,636				
2	5.000	18,182	7,273				
3	5.000	18,182	10,909				
4	5.000	18,182	14,545				
5	5.000	18,182	18,182				
6	10.000	36,364	21,818	20,000	16,364	36,364	100%
7	10.000	36,364	25,455	23,636	12,727	36,364	100%
8	10.000	36,364	29,091	27,273	9,091	36,364	100%
9	10.000	36,364	32,727	30,909	5,455	36,364	100%
10	15.000	54,545	36,364	34,545	18,182	52,727	97%
11	15.000	54,545	40,000	38,182	16,364	54,545	100%
12	15.000	54,545	43,636	41,818	12,727	54,545	100%
13	15.000	54,545	47,273	45,455	9,091	54,545	100%
14	15.000	54,545	50,909	49,091	5,455	54,545	100%
15	20.000	72,727	54,545	52,727	18,182	70,909	98%
16	20.000	72,727	58,182	56,364	16,364	72,727	100%
17	20.000	72,727	61,818	60,000	12,727	72,727	100%
18	20.000	72,727	65,455	63,636	9,091	72,727	100%
19	20.000	72,727	69,091	67,273	5,455	72,727	100%
20	25.000	90,909	72,727	70,909	18,182	89,091	98%
21	25.000	90,909	76,364	74,545	16,364	90,909	100%
22	25.000	90,909	80,000	78,182	12,727	90,909	100%
23	25.000	90,909	83,636	81,818	9,091	90,909	100%
24	25.000	90,909	87,273	85,455	5,455	90,909	100%
25	30.000	109,091	90,909	89,091	18,182	107,273	98%
26	30.000	109,091	94,545	92,727	16,364	109,091	100%
27	30.000	109,091	98,182	96,364	12,727	109,091	100%
28	30.000	109,091	101,818	100,000	9,091	109,091	100%
29	30.000	109,091	105,455	103,636	5,455	109,091	100%
30	35.000	127,273	109,091	107,273	18,182	125,455	99%