

BOROUGH OF WEST CHESTER

SEWER RATE STUDY PRESENTATION

AUGUST 21, 2019

PRESENTED BY

KEYSTONE ALLIANCE CONSULTING, INC.

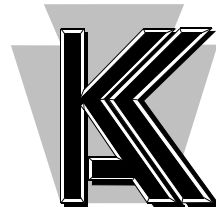




Exhibit No. 1
Borough of West Chester - Sewer System
Allocation of Fixed and Variable Costs
For Year Ending December 31, 2019

EXPENSES	Total	Fixed	Variable	Fixed Percentage	Variable Percentage
Paroll Related Expenses					
Salaries Wastewater	\$820,477	\$820,477	\$0	100.0%	0.0%
Salary Wastewater Director	95,620	95,620	-	100.0%	0.0%
Salaries - Longevity	20,000	20,000	-	100.0%	0.0%
Salaries - OT Regular	8,500	8,500	-	100.0%	0.0%
Ins Workers Comp	70,800	70,800	-	100.0%	0.0%
Ins Employee Benefit (Adjusted)	329,895	329,895	-	100.0%	0.0%
FICA	72,262	72,262	-	100.0%	0.0%
	\$1,321,934	\$1,321,934	\$0	100.0%	0.0%
Wastewater					
Office Supplies/Expense	\$18,000	\$18,000	\$0	100.0%	0.0%
Postage/Printing	600	60	540	10.0%	90.0%
Other Expense	1,000	1,000	-	100.0%	0.0%
Utilities	30,000	3,000	27,000	10.0%	90.0%
Repair/Maint Building - Pest Ctrl	6,000	6,000	-	100.0%	0.0%
Professional Fees	85,000	85,000	-	100.0%	0.0%
Uniforms	18,000	18,000	-	100.0%	0.0%
Mat & Supplies - Lab - TR	15,000	-	15,000	0.0%	100.0%
Maint Mains & Sanitary	-	-	-	100.0%	0.0%
Sludge Removal TR	140,000	-	140,000	0.0%	100.0%
Fleet Fuel & Oil	-	-	-	10.0%	90.0%
IT Allocation	1,500	1,500	-	100.0%	0.0%
Payroll Processing Fees	2,500	2,500	-	100.0%	0.0%
Costs from Other Depts	1,500	1,500	-	100.0%	0.0%
Electricity Goose Creek	185,000	-	185,000	0.0%	100.0%
Electricity Pumping Stations	17,500	-	17,500	0.0%	100.0%
Electricity Taylor Run	100,000	-	100,000	0.0%	100.0%
Equip Major - Pumping Stations	60,000	60,000	-	100.0%	0.0%
Fuel Oil Costs - Goose Creek	12,000	-	12,000	0.0%	100.0%
Fuel Oil Costs - Taylor Run	23,000	-	23,000	0.0%	100.0%
Grit Removal - Goose Creek	2,500	-	2,500	0.0%	100.0%
Grit Removal - Taylor Run	8,000	-	8,000	0.0%	100.0%
Repair/Maint Pump Stations	12,500	12,500	-	100.0%	0.0%
Mat & Supplies - Alm Sulfate - TR	100,000	-	100,000	0.0%	100.0%



Exhibit No. 1
Borough of West Chester - Sewer System
Allocation of Fixed and Variable Costs
For Year Ending December 31, 2019

	Total	Fixed	Variable	Fixed Percentage	Variable Percentage
Mat & Supplies - Chlorine - GC	4,500	-	4,500	0.0%	100.0%
Mat & Supplies - Chlorine - TR	2,000	-	2,000	0.0%	100.0%
Mat & Supplies - Lab - GC	22,000	-	22,000	0.0%	100.0%
Mat & Supplies - Liquid Bio - TR	10,000	-	10,000	0.0%	100.0%
Mat & Supplies - New Equip - TR	40,000	-	40,000	0.0%	100.0%
Mat & Supplies - New Equip - GC	50,000	-	50,000	0.0%	100.0%
Mat & Supplies - Polymer - GC	12,026	-	12,026	0.0%	100.0%
Mat & Supplies - Polymer - TR	6,000	-	6,000	0.0%	100.0%
Mat & Supplies - Soda Ash - GC	45,000	-	45,000	0.0%	100.0%
Mat & Supplies - Soda Ash - TR	50,000	-	50,000	0.0%	100.0%
Mat & Supplies - Sodium Bi - TR	5,000	-	5,000	0.0%	100.0%
Mat & Supplies - Sulphur Di - GC	4,500	-	4,500	0.0%	100.0%
Mat & Supplies - State Application Fees	9,000	9,000	-	100.0%	0.0%
Prof Fees - Lab Related	50,000	50,000	-	100.0%	0.0%
Prof Fees - Phosphorus Study	82,000	82,000	-	100.0%	0.0%
Seminars/Conf/Meals Staff	1,000	1,000	-	100.0%	0.0%
Sewer Billing Expenses	116,400	-	116,400	0.0%	100.0%
Sludge Removal GC	460,000	-	460,000	0.0%	100.0%
Repairs to Plants - TR	45,000	45,000	-	100.0%	0.0%
Repairs to Plants - GC	130,000	130,000	-	100.0%	0.0%
Maint - Generators	10,000	10,000	-	100.0%	0.0%
Maint - HVAC	18,000	18,000	-	100.0%	0.0%
Maint - Instrumentation - TR	4,000	4,000	-	100.0%	0.0%
Training/Mileage	8,000	8,000	-	100.0%	0.0%
Emergency Contingency	50,000	50,000	-	100.0%	0.0%
Ins General & Liability	44,352	44,352	-	100.0%	0.0%
Refunds	-	-	-	100.0%	0.0%
	<u>\$2,118,378</u>	<u>\$660,412</u>	<u>\$1,457,966</u>	<u>31.2%</u>	<u>68.8%</u>
Interfund Operating Transfers					
TRF to Pension Fund	\$115,000	\$115,000	\$0	100.0%	0.0%
TRF to Capital Imp Fund	730,000	730,000	-	100.0%	0.0%
TRF to General Fund	1,000,000	1,000,000	-	100.0%	0.0%
	<u>\$1,845,000</u>	<u>\$1,845,000</u>	<u>\$0</u>	<u>100.0%</u>	<u>0.0%</u>
TOTAL EXPENSES	<u><u>\$5,285,312</u></u>	<u><u>\$3,827,346</u></u>	<u><u>\$1,457,966</u></u>	<u><u>72.4%</u></u>	<u><u>27.6%</u></u>



Exhibit No. 1
Borough of West Chester - Sewer System
Allocation of Fixed and Variable Costs
For Year Ending December 31, 2019

	<u>Total</u>	<u>Fixed</u>	<u>Variable</u>	<u>Fixed Percentage</u>	<u>Variable Percentage</u>
LESS: NON-RATE REVENUE					
Interest Income	\$1,000	\$724	\$276	72.4%	27.6%
Industrial Sewer Surcharge	200,000	144,830	55,170	72.4%	27.6%
Sewer Hookups Revenue	50,000	36,207	13,793	72.4%	27.6%
Outside Plant Effluent Revenue	300,000	217,244	82,756	72.4%	27.6%
Delinquent Sewer Collections Inc	-	-	-	72.4%	27.6%
Miscellaneous Revenue	1,000	724	276	72.4%	27.6%
Tax Revenue - Certs	2,000	1,448	552	72.4%	27.6%
TOTAL NON-RATE REVENUE	<u>\$554,000</u>	<u>\$401,178</u>	<u>\$152,822</u>	72.4%	27.6%
REQUIRED REVENUES FROM RATES	<u>\$4,731,312</u>	<u>\$3,426,168</u>	<u>\$1,305,144</u>	72.4%	27.6%



Exhibit No. 2
Borough of West Chester - Sewer System
Capital Plan

	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
CAPITAL EXPENSES						
Electrical Sub-Station Testing, Upgrade	\$125,000					
Replace/rebuild Clarifier Drives	80,000	80,000	80,000		80,000	
Methane Gas Recirculating System - TR	150,000					
Blower System Upgrade - GC	125,000					
Replace Emergency Generators at Miner and College Ave. Pump Station	250,000					
Taylor Run RBC Gear Reducer		30,000	30,000			
Goose Creek Driveway Replacement		200,000				
Taylor Run Driveway Replacement			200,000			
Goose Creek Phosphorus Removal Upgrade				100,000	100,000	
Sludge Dewatering Project		600,000	600,000			
Vehicle Replacement 08-01				50,000		
Vehicle Replacement 08-11					50,000	
Worthington St. Pump Station Emergency Generator Purchase				100,000		
Taylor Run Sludge Pump Replacement				50,000		
Taylor Run Digester Clean Out					100,000	
Taylor Run Sludge Heater System Rebuild/Replace Flock Mixers				100,000 75,000		
Taylor Run HVAC replacement (Control Building)					60,000	
Total Capital Expenses	<u>\$730,000</u>	<u>\$910,000</u>	<u>\$910,000</u>	<u>\$475,000</u>	<u>\$390,000</u>	<u>\$600,000</u>
Less: Capital from Reserves						
Total Capital Projects - Funded by Rates	<u>\$730,000</u>	<u>\$910,000</u>	<u>\$910,000</u>	<u>\$475,000</u>	<u>\$390,000</u>	<u>\$600,000</u>



Exhibit No. 6
Borough of West Chester - Sewer System
Cash Flow Summary

Current Rates

	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
EXPENSES						
Payroll Related Expenses	\$1,321,934	\$1,368,200	\$1,416,080	\$1,465,640	\$1,516,940	\$1,570,020
Wastewater	2,118,378	2,192,580	2,269,280	2,348,670	2,430,890	2,515,930
Pension Fund	115,000	119,030	123,200	127,510	131,970	136,590
Capital Improvement	730,000	910,000	910,000	475,000	390,000	600,000
General Fund - Administration	1,000,000	1,035,000	1,071,230	1,108,720	1,147,530	1,187,690
TOTAL EXPENSES	<u>\$5,285,312</u>	<u>\$5,624,810</u>	<u>\$5,789,790</u>	<u>\$5,525,540</u>	<u>\$5,617,330</u>	<u>\$6,010,230</u>
Non-Rate Revenue						
Non-Operating Revenue	\$554,000	\$554,000	\$554,000	\$554,000	\$554,000	\$554,000
Total Non-Rate Revenues	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>
Required Revenues From Rates	<u>\$4,731,312</u>	<u>\$5,070,810</u>	<u>\$5,235,790</u>	<u>\$4,971,540</u>	<u>\$5,063,330</u>	<u>\$5,456,230</u>
Projected Revenues at Current Rates						
Revenue from Rates (West Chester)	\$3,563,444	\$3,563,444	\$3,563,444	\$3,563,444	\$3,563,444	\$3,563,444
East Bradford Flat Rate Revenue (Single)	267,018	\$267,018	\$267,018	\$267,018	\$267,018	\$267,018
East Bradford Flat Rate Revenue (Townhomes)	392,674	\$392,674	\$392,674	\$392,674	\$392,674	\$392,674
East Bradford Commercial	210,285	210,285	210,285	210,285	210,285	210,285
	<u>\$4,433,421</u>	<u>\$4,433,421</u>	<u>\$4,433,421</u>	<u>\$4,433,421</u>	<u>\$4,433,421</u>	<u>\$4,433,421</u>
Surplus / (Deficit)	(\$297,891)	(\$637,389)	(\$802,369)	(\$538,119)	(\$629,909)	(\$1,022,809)
Revenue Carryover	\$922,925	\$625,034	(\$12,354)	(\$814,723)	(\$1,352,842)	(\$1,982,750)
Cumulative Surplus / (Deficit)	<u><u>\$625,034</u></u>	<u><u>(\$12,354)</u></u>	<u><u>(\$814,723)</u></u>	<u><u>(\$1,352,842)</u></u>	<u><u>(\$1,982,750)</u></u>	<u><u>(\$3,005,559)</u></u>
Annual Increase of Expenses		7.2%	3.3%	-5.0%	1.8%	7.8%
Required Cumulative Increase	6.7%	14.4%	18.1%	12.1%	14.2%	23.1%



\$ per 1,000 Gallons Current Rates

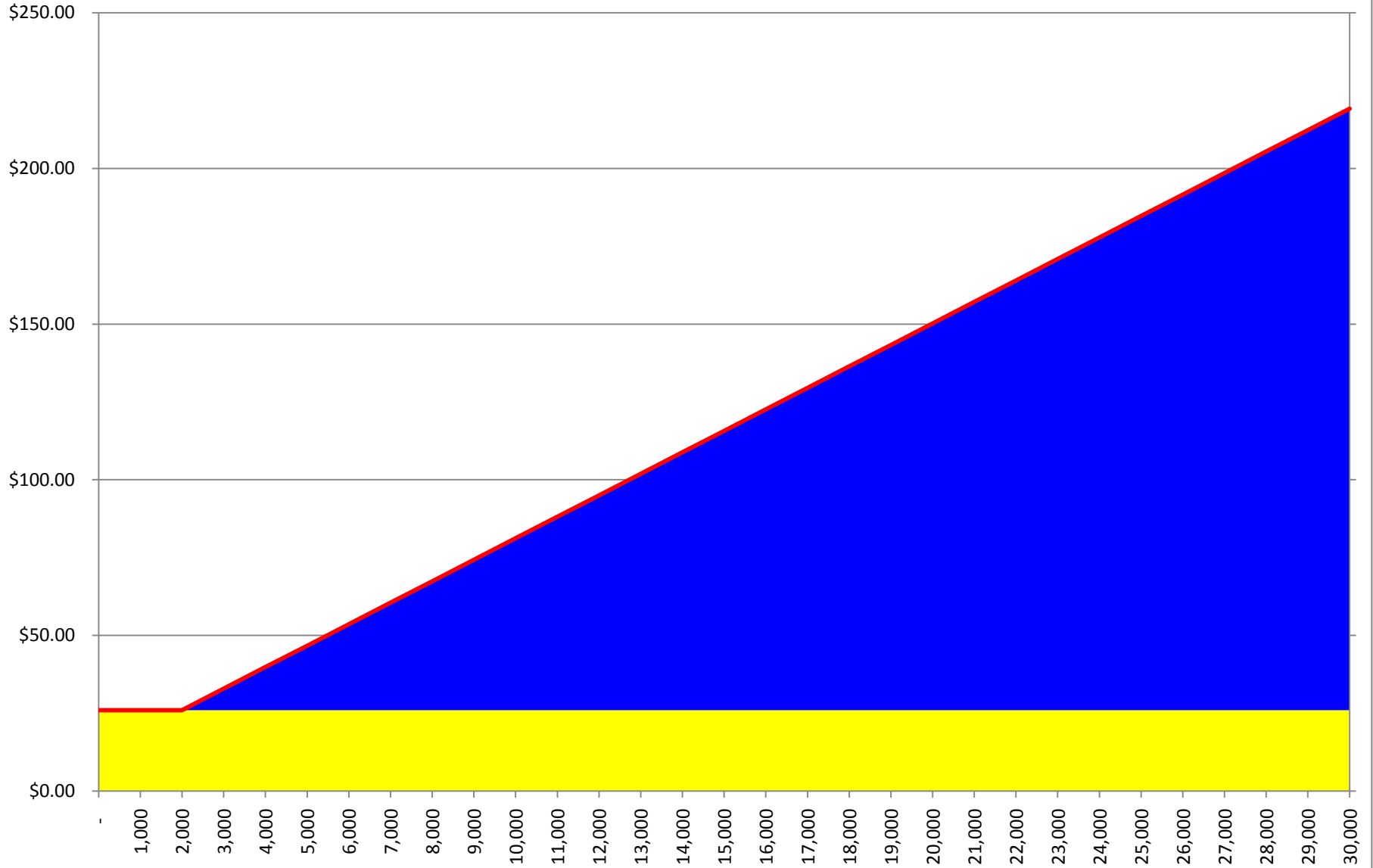




Exhibit No. 8A
Borough of West Chester - Sewer System
Cash Flow Summary

Proposed Rates
Rate Scenario No. 1

	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
EXPENSES						
Payroll Related Expenses	\$1,321,934	\$1,368,200	\$1,416,080	\$1,465,640	\$1,516,940	\$1,570,020
Wastewater	2,118,378	2,192,580	2,269,280	2,348,670	2,430,890	2,515,930
Pension Fund	115,000	119,030	123,200	127,510	131,970	136,590
Capital Improvement	730,000	910,000	910,000	475,000	390,000	600,000
General Fund - Administration	1,000,000	1,035,000	1,071,230	1,108,720	1,147,530	1,187,690
TOTAL EXPENSES	<u>\$5,285,312</u>	<u>\$5,624,810</u>	<u>\$5,789,790</u>	<u>\$5,525,540</u>	<u>\$5,617,330</u>	<u>\$6,010,230</u>
Non-Rate Revenue						
Non-Operating Revenue	\$554,000	\$554,000	\$554,000	\$554,000	\$554,000	\$554,000
Total Non-Rate Revenues	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>
Required Revenues From Rates	<u>\$4,731,312</u>	<u>\$5,070,810</u>	<u>\$5,235,790</u>	<u>\$4,971,540</u>	<u>\$5,063,330</u>	<u>\$5,456,230</u>
Projected Revenues at Proposed Rates						
Revenue from Rates (West Chester)	\$3,563,444	\$4,208,988	\$4,208,988	\$4,208,988	\$4,208,988	\$4,208,988
East Bradford Flat Rate Revenue (Single)	267,018	315,343	315,343	315,343	315,343	315,343
East Bradford Flat Rate Revenue (Townhomes)	392,674	463,740	463,740	463,740	463,740	463,740
East Bradford Commercial	210,285	248,381	248,381	248,381	248,381	248,381
	<u>\$4,433,421</u>	<u>\$5,236,453</u>	<u>\$5,236,453</u>	<u>\$5,236,453</u>	<u>\$5,236,453</u>	<u>\$5,236,453</u>
Surplus / (Deficit)	(\$297,891)	\$165,643	\$663	\$264,913	\$173,123	(\$219,777)
Revenue Carryover	\$922,925	\$625,034	\$790,677	\$791,340	\$1,056,252	\$1,229,375
Cumulative Surplus / (Deficit)	<u><u>\$625,034</u></u>	<u><u>\$790,677</u></u>	<u><u>\$791,340</u></u>	<u><u>\$1,056,252</u></u>	<u><u>\$1,229,375</u></u>	<u><u>\$1,009,597</u></u>
Annual Increase of Expenses		7.2%	3.3%	-5.0%	1.8%	7.8%
Required Cumulative Increase	6.7%					4.2%



Exhibit No. 9A
Borough of West Chester - Sewer System
Comparison of Current vs. Proposed Rates

Current Rates

\$26.00	Minimum Charge per Month
2,000	Allowance per Month
\$6.90	Per 1,000 gallons for Over Allowance

Rate Scenario No. 1

2021

\$30.71	Minimum Charge per Month
2,000	Allowance per Month
\$8.15	Per 1,000 gallons for Over Allowance

Usage Quarterly	Number of Bills	%	Cumulative %	Current Rates			Proposed Rates			Increase / (Decrease)	
				Min. Chg.	Usage	Total	Min. Chg.	Usage	Total	\$	%
-	1,692	3.3%	3.3%	\$26.00	\$0.00	\$26.00	\$30.71	\$0.00	\$30.71	\$4.71	18.1%
1,000	4,791	9.3%	12.5%	26.00	-	26.00	30.71	-	30.71	4.71	18.1%
2,000	7,954	15.4%	27.9%	26.00	-	26.00	30.71	-	30.71	4.71	18.1%
3,000	9,237	17.9%	45.8%	26.00	6.90	32.90	30.71	8.15	38.86	5.96	18.1%
4,000	7,737	15.0%	60.7%	26.00	13.80	39.80	30.71	16.30	47.01	7.21	18.1%
5,000	5,488	10.6%	71.3%	26.00	20.70	46.70	30.71	24.45	55.16	8.46	18.1%
6,000	3,590	6.9%	78.3%	26.00	27.60	53.60	30.71	32.60	63.31	9.71	18.1%
7,000	2,363	4.6%	82.8%	26.00	34.50	60.50	30.71	40.75	71.46	10.96	18.1%
8,000	1,660	3.2%	86.1%	26.00	41.40	67.40	30.71	48.90	79.61	12.21	18.1%
9,000	1,128	2.2%	88.2%	26.00	48.30	74.30	30.71	57.05	87.76	13.46	18.1%
10,000	821	1.6%	89.8%	26.00	55.20	81.20	30.71	65.20	95.91	14.71	18.1%
20,000	2,856	5.5%	95.3%	26.00	124.20	150.20	30.71	146.70	177.41	27.21	18.1%
30,000	761	1.5%	96.8%	26.00	193.20	219.20	30.71	228.20	258.91	39.71	18.1%
40,000	347	0.7%	97.5%	26.00	262.20	288.20	30.71	309.70	340.41	52.21	18.1%
50,000	243	0.5%	98.0%	26.00	331.20	357.20	30.71	391.20	421.91	64.71	18.1%
60,000	159	0.3%	98.3%	26.00	400.20	426.20	30.71	472.70	503.41	77.21	18.1%
70,000	132	0.3%	98.5%	26.00	469.20	495.20	30.71	554.20	584.91	89.71	18.1%
80,000	117	0.2%	98.7%	26.00	538.20	564.20	30.71	635.70	666.41	102.21	18.1%
90,000	69	0.1%	98.9%	26.00	607.20	633.20	30.71	717.20	747.91	114.71	18.1%
100,000	45	0.1%	99.0%	26.00	676.20	702.20	30.71	798.70	829.41	127.21	18.1%
200,000	283	0.5%	99.5%	26.00	1,366.20	1,392.20	30.71	1,613.70	1,644.41	252.21	18.1%
300,000	114	0.2%	99.7%	26.00	2,056.20	2,082.20	30.71	2,428.70	2,459.41	377.21	18.1%
400,000	50	0.1%	99.8%	26.00	2,746.20	2,772.20	30.71	3,243.70	3,274.41	502.21	18.1%
500,000	34	0.1%	99.9%	26.00	3,436.20	3,462.20	30.71	4,058.70	4,089.41	627.21	18.1%
600,000	21	0.0%	99.9%	26.00	4,126.20	4,152.20	30.71	4,873.70	4,904.41	752.21	18.1%
700,000	12	0.0%	100.0%	26.00	4,816.20	4,842.20	30.71	5,688.70	5,719.41	877.21	18.1%
800,000	9	0.0%	100.0%	26.00	5,506.20	5,532.20	30.71	6,503.70	6,534.41	1,002.21	18.1%
900,000	6	0.0%	100.0%	26.00	6,196.20	6,222.20	30.71	7,318.70	7,349.41	1,127.21	18.1%
1,000,000	3	0.0%	100.0%	26.00	6,886.20	6,912.20	30.71	8,133.70	8,164.41	1,252.21	18.1%
1,100,000	3	0.0%	100.0%	26.00	7,576.20	7,602.20	30.71	8,948.70	8,979.41	1,377.21	18.1%
1,200,000	1	0.0%	100.0%	26.00	8,266.20	8,292.20	30.71	9,763.70	9,794.41	1,502.21	18.1%
1,300,000	-	0.0%	100.0%	26.00	8,956.20	8,982.20	30.71	10,578.70	10,609.41	1,627.21	18.1%



\$ per 1,000 Gallons Scenario 1

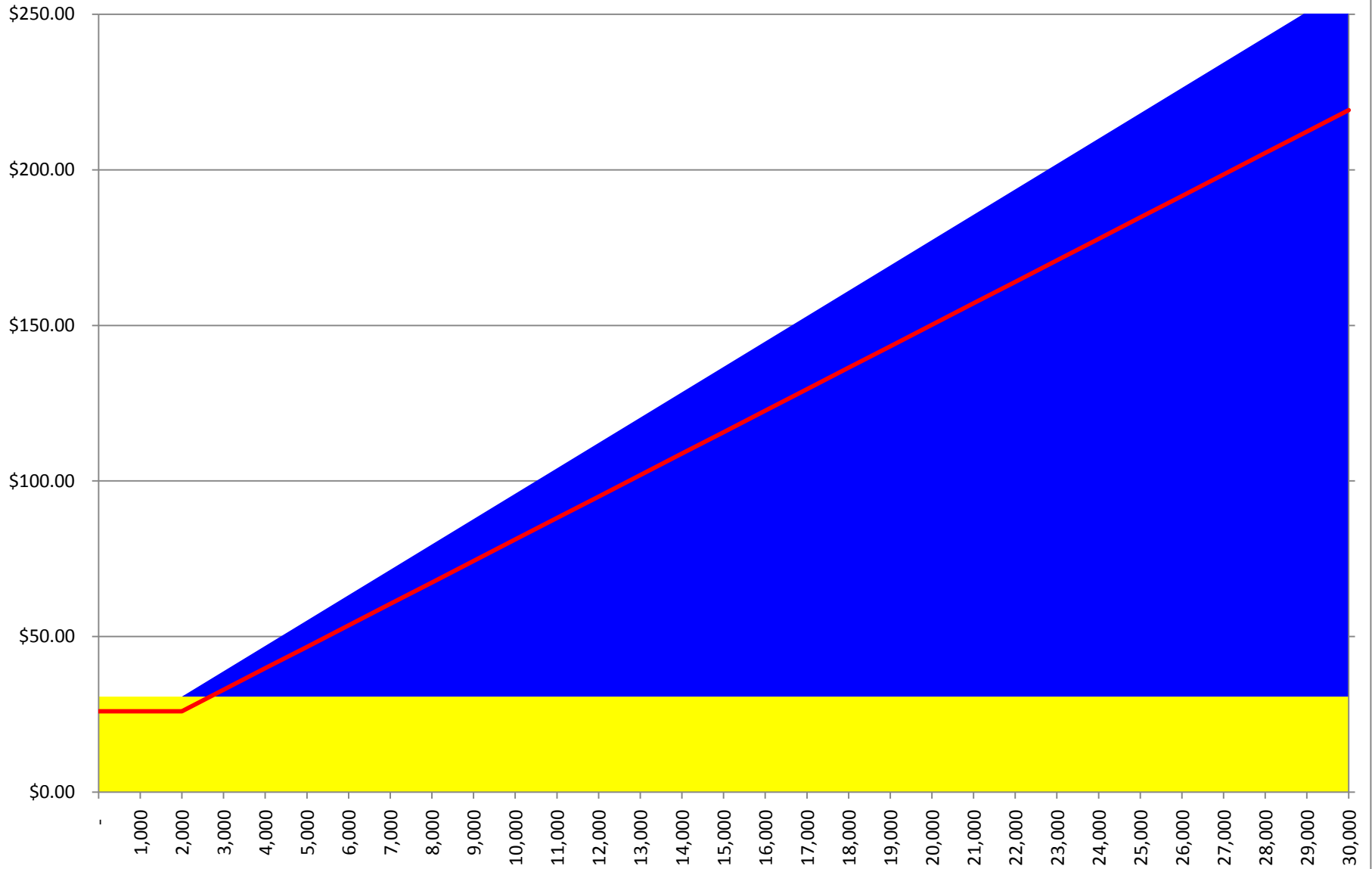




Exhibit No. 8E
Borough of West Chester - Sewer System
Cash Flow Summary

Proposed Rates
Rate Scenario No. 5

	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
EXPENSES						
Payroll Related Expenses	\$1,321,934	\$1,368,200	\$1,416,080	\$1,465,640	\$1,516,940	\$1,570,020
Wastewater	2,118,378	2,192,580	2,269,280	2,348,670	2,430,890	2,515,930
Pension Fund	115,000	119,030	123,200	127,510	131,970	136,590
Capital Improvement	730,000	910,000	910,000	475,000	390,000	600,000
General Fund - Administration	1,000,000	1,035,000	1,071,230	1,108,720	1,147,530	1,187,690
TOTAL EXPENSES	<u>\$5,285,312</u>	<u>\$5,624,810</u>	<u>\$5,789,790</u>	<u>\$5,525,540</u>	<u>\$5,617,330</u>	<u>\$6,010,230</u>
Non-Rate Revenue						
Non-Operating Revenue	\$554,000	\$554,000	\$554,000	\$554,000	\$554,000	\$554,000
Total Non-Rate Revenues	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>
Required Revenues From Rates	<u>\$4,731,312</u>	<u>\$5,070,810</u>	<u>\$5,235,790</u>	<u>\$4,971,540</u>	<u>\$5,063,330</u>	<u>\$5,456,230</u>
Projected Revenues at Proposed Rates						
Revenue from Rates (West Chester)	\$3,563,444	\$4,241,419	\$4,241,419	\$4,241,419	\$4,241,419	\$4,241,419
East Bradford Flat Rate Revenue (Single)	267,018	315,343	315,343	315,343	315,343	315,343
East Bradford Flat Rate Revenue (Townhomes)	392,674	463,740	463,740	463,740	463,740	463,740
East Bradford Commercial	210,285	215,323	215,323	215,323	215,323	215,323
	<u>\$4,433,421</u>	<u>\$5,235,826</u>	<u>\$5,235,826</u>	<u>\$5,235,826</u>	<u>\$5,235,826</u>	<u>\$5,235,826</u>
Surplus / (Deficit)	(\$297,891)	\$165,016	\$36	\$264,286	\$172,496	(\$220,404)
Revenue Carryover	\$922,925	\$625,034	\$790,051	\$790,087	\$1,054,373	\$1,226,870
Cumulative Surplus / (Deficit)	<u><u>\$625,034</u></u>	<u><u>\$790,051</u></u>	<u><u>\$790,087</u></u>	<u><u>\$1,054,373</u></u>	<u><u>\$1,226,870</u></u>	<u><u>\$1,006,466</u></u>
Annual Increase of Expenses		7.2%	3.3%	-5.0%	1.8%	7.8%
Required Cumulative Increase	6.7%					4.2%



Exhibit No. 9E
Borough of West Chester - Sewer System
Comparison of Current vs. Proposed Rates

Current Rates

\$26.00	Minimum Charge per Month
2,000	Allowance per Month
\$6.90	Per 1,000 gallons for Over Allowance

Rate Scenario No. 5

2021

\$27.11	Service Charge per Month
\$6.90	Per 1,000 gallons for All Usage

Usage Quarterly	Number of Bills	%	Cumulative %	Current Rates			Proposed Rates			Increase / (Decrease)	
				Min. Chg.	Usage	Total	Ser. Chg.	Usage	Total	\$	%
-	1,692	3.3%	3.3%	\$26.00	\$0.00	\$26.00	\$27.11	\$0.00	\$27.11	\$1.11	4.3%
1,000	4,791	9.3%	12.5%	26.00	-	26.00	27.11	6.90	34.01	8.01	30.8%
2,000	7,954	15.4%	27.9%	26.00	-	26.00	27.11	13.80	40.91	14.91	57.3%
3,000	9,237	17.9%	45.8%	26.00	6.90	32.90	27.11	20.70	47.81	14.91	45.3%
4,000	7,737	15.0%	60.7%	26.00	13.80	39.80	27.11	27.60	54.71	14.91	37.5%
5,000	5,488	10.6%	71.3%	26.00	20.70	46.70	27.11	34.50	61.61	14.91	31.9%
6,000	3,590	6.9%	78.3%	26.00	27.60	53.60	27.11	41.40	68.51	14.91	27.8%
7,000	2,363	4.6%	82.8%	26.00	34.50	60.50	27.11	48.30	75.41	14.91	24.6%
8,000	1,660	3.2%	86.1%	26.00	41.40	67.40	27.11	55.20	82.31	14.91	22.1%
9,000	1,128	2.2%	88.2%	26.00	48.30	74.30	27.11	62.10	89.21	14.91	20.1%
10,000	821	1.6%	89.8%	26.00	55.20	81.20	27.11	69.00	96.11	14.91	18.4%
20,000	2,856	5.5%	95.3%	26.00	124.20	150.20	27.11	138.00	165.11	14.91	9.9%
30,000	761	1.5%	96.8%	26.00	193.20	219.20	27.11	207.00	234.11	14.91	6.8%
40,000	347	0.7%	97.5%	26.00	262.20	288.20	27.11	276.00	303.11	14.91	5.2%
50,000	243	0.5%	98.0%	26.00	331.20	357.20	27.11	345.00	372.11	14.91	4.2%
60,000	159	0.3%	98.3%	26.00	400.20	426.20	27.11	414.00	441.11	14.91	3.5%
70,000	132	0.3%	98.5%	26.00	469.20	495.20	27.11	483.00	510.11	14.91	3.0%
80,000	117	0.2%	98.7%	26.00	538.20	564.20	27.11	552.00	579.11	14.91	2.6%
90,000	69	0.1%	98.9%	26.00	607.20	633.20	27.11	621.00	648.11	14.91	2.4%
100,000	45	0.1%	99.0%	26.00	676.20	702.20	27.11	690.00	717.11	14.91	2.1%
200,000	283	0.5%	99.5%	26.00	1,366.20	1,392.20	27.11	1,380.00	1,407.11	14.91	1.1%
300,000	114	0.2%	99.7%	26.00	2,056.20	2,082.20	27.11	2,070.00	2,097.11	14.91	0.7%
400,000	50	0.1%	99.8%	26.00	2,746.20	2,772.20	27.11	2,760.00	2,787.11	14.91	0.5%
500,000	34	0.1%	99.9%	26.00	3,436.20	3,462.20	27.11	3,450.00	3,477.11	14.91	0.4%
600,000	21	0.0%	99.9%	26.00	4,126.20	4,152.20	27.11	4,140.00	4,167.11	14.91	0.4%
700,000	12	0.0%	100.0%	26.00	4,816.20	4,842.20	27.11	4,830.00	4,857.11	14.91	0.3%
800,000	9	0.0%	100.0%	26.00	5,506.20	5,532.20	27.11	5,520.00	5,547.11	14.91	0.3%
900,000	6	0.0%	100.0%	26.00	6,196.20	6,222.20	27.11	6,210.00	6,237.11	14.91	0.2%
1,000,000	3	0.0%	100.0%	26.00	6,886.20	6,912.20	27.11	6,900.00	6,927.11	14.91	0.2%
1,100,000	3	0.0%	100.0%	26.00	7,576.20	7,602.20	27.11	7,590.00	7,617.11	14.91	0.2%
1,200,000	1	0.0%	100.0%	26.00	8,266.20	8,292.20	27.11	8,280.00	8,307.11	14.91	0.2%
1,300,000	-	0.0%	100.0%	26.00	8,956.20	8,982.20	27.11	8,970.00	8,997.11	14.91	0.2%



\$ per 1,000 Gallons Scenario 5

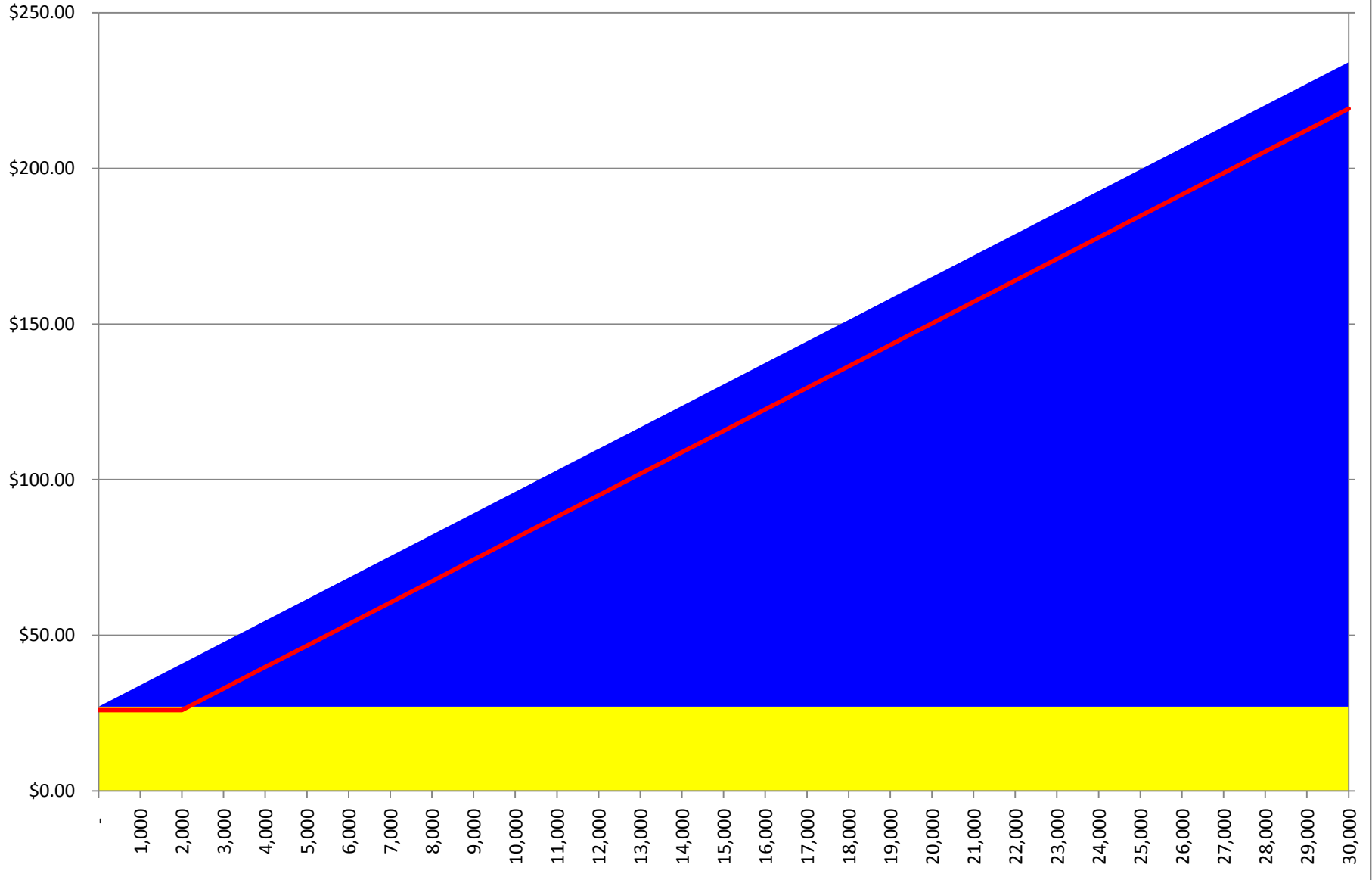




Exhibit No. 8F
Borough of West Chester - Sewer System
Cash Flow Summary

Proposed Rates
Rate Scenario No. 6

	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>
EXPENSES						
Payroll Related Expenses	\$1,321,934	\$1,368,200	\$1,416,080	\$1,465,640	\$1,516,940	\$1,570,020
Wastewater	2,118,378	2,192,580	2,269,280	2,348,670	2,430,890	2,515,930
Pension Fund	115,000	119,030	123,200	127,510	131,970	136,590
Capital Improvement	730,000	910,000	910,000	475,000	390,000	600,000
General Fund - Administration	1,000,000	1,035,000	1,071,230	1,108,720	1,147,530	1,187,690
TOTAL EXPENSES	<u>\$5,285,312</u>	<u>\$5,624,810</u>	<u>\$5,789,790</u>	<u>\$5,525,540</u>	<u>\$5,617,330</u>	<u>\$6,010,230</u>
Non-Rate Revenue						
Non-Operating Revenue	\$554,000	\$554,000	\$554,000	\$554,000	\$554,000	\$554,000
Total Non-Rate Revenues	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>	<u>\$554,000</u>
Required Revenues From Rates	<u>\$4,731,312</u>	<u>\$5,070,810</u>	<u>\$5,235,790</u>	<u>\$4,971,540</u>	<u>\$5,063,330</u>	<u>\$5,456,230</u>
Projected Revenues at Proposed Rates						
Revenue from Rates (West Chester)	\$3,563,444	\$4,205,903	\$4,205,903	\$4,205,903	\$4,205,903	\$4,205,903
East Bradford Flat Rate Revenue (Single)	267,018	315,343	315,343	315,343	315,343	315,343
East Bradford Flat Rate Revenue (Townhomes)	392,674	463,740	463,740	463,740	463,740	463,740
East Bradford Commercial	210,285	250,915	250,915	250,915	250,915	250,915
	<u>\$4,433,421</u>	<u>\$5,235,902</u>	<u>\$5,235,902</u>	<u>\$5,235,902</u>	<u>\$5,235,902</u>	<u>\$5,235,902</u>
Surplus / (Deficit)	(\$297,891)	\$165,092	\$112	\$264,362	\$172,572	(\$220,328)
Revenue Carryover	\$922,925	\$625,034	\$790,126	\$790,239	\$1,054,601	\$1,227,173
Cumulative Surplus / (Deficit)	<u><u>\$625,034</u></u>	<u><u>\$790,126</u></u>	<u><u>\$790,239</u></u>	<u><u>\$1,054,601</u></u>	<u><u>\$1,227,173</u></u>	<u><u>\$1,006,845</u></u>
Annual Increase of Expenses		7.2%	3.3%	-5.0%	1.8%	7.8%
Required Cumulative Increase	6.7%					4.2%



Exhibit No. 9F
Borough of West Chester - Sewer System
Comparison of Current vs. Proposed Rates
Customers with 5/8" and 3/4" Meters

Current Rates

\$26.00	Minimum Charge per Month
2,000	Allowance per Month
\$6.90	Per 1,000 gallons for Over Allowance

Rate Scenario No. 6

2021

\$31.67	Service Charge per Month
\$4.50	Per 1,000 gallons for All Usage

Usage Quarterly	Number of Bills	%	Cumulative %	Current Rates			Proposed Rates			Increase / (Decrease)	
				Min. Chg.	Usage	Total	Ser. Chg.	Usage	Total	\$	%
-	1,481	3.2%	3.2%	\$26.00	\$0.00	\$26.00	\$31.67	\$0.00	\$31.67	\$5.67	21.8%
1,000	4,595	9.9%	13.1%	26.00	-	26.00	31.67	4.50	36.17	10.17	39.1%
2,000	7,435	16.1%	29.2%	26.00	-	26.00	31.67	9.00	40.67	14.67	56.4%
3,000	8,593	18.6%	47.8%	26.00	6.90	32.90	31.67	13.50	45.17	12.27	37.3%
4,000	7,335	15.9%	63.7%	26.00	13.80	39.80	31.67	18.00	49.67	9.87	24.8%
5,000	5,181	11.2%	74.9%	26.00	20.70	46.70	31.67	22.50	54.17	7.47	16.0%
6,000	3,339	7.2%	82.1%	26.00	27.60	53.60	31.67	27.00	58.67	5.07	9.5%
7,000	2,204	4.8%	86.9%	26.00	34.50	60.50	31.67	31.50	63.17	2.67	4.4%
8,000	1,515	3.3%	90.2%	26.00	41.40	67.40	31.67	36.00	67.67	0.27	0.4%
9,000	1,025	2.2%	92.4%	26.00	48.30	74.30	31.67	40.50	72.17	(2.13)	(2.9%)
10,000	717	1.6%	93.9%	26.00	55.20	81.20	31.67	45.00	76.67	(4.53)	(5.6%)
20,000	2,174	4.7%	98.6%	26.00	124.20	150.20	31.67	90.00	121.67	(28.53)	(19.0%)
30,000	346	0.7%	99.4%	26.00	193.20	219.20	31.67	135.00	166.67	(52.53)	(24.0%)
40,000	123	0.3%	99.7%	26.00	262.20	288.20	31.67	180.00	211.67	(76.53)	(26.6%)
50,000	57	0.1%	99.8%	26.00	331.20	357.20	31.67	225.00	256.67	(100.53)	(28.1%)
60,000	17	0.0%	99.8%	26.00	400.20	426.20	31.67	270.00	301.67	(124.53)	(29.2%)
70,000	20	0.0%	99.9%	26.00	469.20	495.20	31.67	315.00	346.67	(148.53)	(30.0%)
80,000	19	0.0%	99.9%	26.00	538.20	564.20	31.67	360.00	391.67	(172.53)	(30.6%)
90,000	19	0.0%	99.9%	26.00	607.20	633.20	31.67	405.00	436.67	(196.53)	(31.0%)
100,000	5	0.0%	100.0%	26.00	676.20	702.20	31.67	450.00	481.67	(220.53)	(31.4%)
200,000	18	0.0%	100.0%	26.00	1,366.20	1,392.20	31.67	900.00	931.67	(460.53)	(33.1%)
300,000	1	0.0%	100.0%	26.00	2,056.20	2,082.20	31.67	1,350.00	1,381.67	(700.53)	(33.6%)
400,000	-	0.0%	100.0%	26.00	2,746.20	2,772.20	31.67	1,800.00	1,831.67	(940.53)	(33.9%)
500,000	-	0.0%	100.0%	26.00	3,436.20	3,462.20	31.67	2,250.00	2,281.67	(1,180.53)	(34.1%)
600,000	-	0.0%	100.0%	26.00	4,126.20	4,152.20	31.67	2,700.00	2,731.67	(1,420.53)	(34.2%)
700,000	-	0.0%	100.0%	26.00	4,816.20	4,842.20	31.67	3,150.00	3,181.67	(1,660.53)	(34.3%)
800,000	-	0.0%	100.0%	26.00	5,506.20	5,532.20	31.67	3,600.00	3,631.67	(1,900.53)	(34.4%)
900,000	-	0.0%	100.0%	26.00	6,196.20	6,222.20	31.67	4,050.00	4,081.67	(2,140.53)	(34.4%)
1,000,000	-	0.0%	100.0%	26.00	6,886.20	6,912.20	31.67	4,500.00	4,531.67	(2,380.53)	(34.4%)
1,100,000	-	0.0%	100.0%	26.00	7,576.20	7,602.20	31.67	4,950.00	4,981.67	(2,620.53)	(34.5%)
1,200,000	-	0.0%	100.0%	26.00	8,266.20	8,292.20	31.67	5,400.00	5,431.67	(2,860.53)	(34.5%)
1,300,000	-	0.0%	100.0%	26.00	8,956.20	8,982.20	31.67	5,850.00	5,881.67	(3,100.53)	(34.5%)



\$ per 1,000 Gallons Scenario 6 - 5/8" & 3/4" Meters

