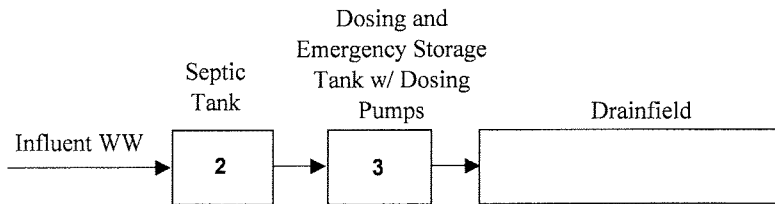


GRISWOLDVILLE TITLE V SYSTEM
Franklin Regional Council of Governments
Present Worth Analysis for Title V System

I. Parameters			
Existing Users (EDUs)	39	PW Interest Rate (%)	5.875%
Future Connections (EDUs)	0	Bond Rate (%)	1.0%
Design Flow (gpd)	9,900	Bond Term (yrs)	40
Equipment Maintenance	1%	Development Cost (%)	40%
Planning Period (yrs)	20	Bond Amort. Factor	0.0305
Useful Life (yrs)	50	Grant % of Capital Cost	25%

II. CONSTRUCTION COST BASED ON PERMITTED FLOW						
Item No	Item Description	Size	Quantity	Units	Unit Cost	Total Cost
1	Mobilization/Demobilization		1	EA	\$ 3,100	\$ 3,100
2	Septic Tank	20,000	1	EA	\$ 40,000	\$ 40,000
3	Dosing / Emergency Storage Tank	12,000	1	EA	\$ 24,000	\$ 24,000
4	Dosing Pump Stations (inside tank)	1/4	1	EA	\$ 10,000	\$ 10,000
5	Discharge Pipe to Drainfield		100	LF	\$ 45	\$ 4,500
Subtotal Treatment System						\$ 81,600
Miscellaneous (@ 10%)						\$ 8,160
Subtotal						\$ 89,760
Contingency (@ 10%)						\$ 8,976
Subtotal Treatment System Construction Cost						\$ 98,736



III. ANNUAL OPERATION & MAINTENANCE		
1	Maintenance Visits	\$ 1,200
	# hours per visit	6
	# visits per year	4
	hourly rate	\$50.00
2	Septage Hauling	\$ 1,980
	Annual Sludge Generation (gal)	19,800
	Disposal Unit Cost (\$/gal)	\$0.10
3	Electricity	\$ 500
4	Equipment Maintenance	\$ 500
6	Administration	\$ 3,000
7	Annual Misc. O&M Costs	\$ 2,000
Total O & M Cost		\$ 9,180

IV. LIFE CYCLE COSTS

1. Construction Cost	\$ 98,736		
2. Development Cost (30%)	\$ 39,494		
		Total Capital Cost	\$ 138,230
3. O & M Cost	<u>PWF</u> 11.587		\$ 106,371
4. Salvage Value at year 20	0.6	\$ (82,938)	
5. PW of Salvage	0.319		\$ (26,478)
TOTAL LIFE CYCLE COST			\$ 218,123

V. USER COSTS

	<u>Per Existing</u>		<u>Existing & Future</u>
1. Capital Cost			
Treatment	\$ 2,532	\$	2,532
Development	\$ 1,013	\$	1,013
Total	\$ 3,544	\$	3,544
Grant funding	\$ 886	\$	886
Total Capital Cost	\$ 2,658	\$	2,658
Annual Capital Cost	\$ 81	\$	81
2. Total Life Cycle Cost	\$ 5,593	\$	5,593
3. Annual O & M	\$ 235	\$	235
Monthly O & M	\$ 19.62	\$	19.62
4. Total Annual User Cost	\$ 316	\$	316

Griswoldville Collection System Upgrades and Dispersal System Costs
Collection System Upgrades and New Title V System

I. ANALYSIS CRITERIA

Parameters			
Existing Connections	39	Bond Rate (%)	5%
Future Connections	0	Bond Term (yrs)	20
LF of Connection Pipe per House	75	Development Cost (%)	30%
Design Flow (gpd)	50,000	Bond Amort. Factor	0.0802
Planning Period (yrs)	20	% of Operator Cost	25%
Useful Life (yrs)	50	Equipment Maintenance	5%
PW Interest Rate (%)	5.875%	STEP Pump Annual O & M	\$ 50

II. CONSTRUCTION COST

COLLECTION SYSTEM

Item No	Item Description	Quantity	Units	Unit Cost	Total Cost
1	Mobilization/Demobilization	1	EA	\$ 10,000	\$ 10,000
2	Erosion and Sediment Control	1	EA	\$ 5,000	\$ 5,000
10	4" PVC SDR 21 House Connection	0	LF	\$ 25	-
11	4" PVC SDR 21 Gravity Sewer	0	LF	\$ 32	-
12	1.5" PVC SDR 21 Force Main	0	LF	\$ 25	-
13	2" PVC SDR 21 Force Main	1,000	LF	\$ 25	\$ 25,000
14	Asphalt Pavement Restoration	0	Ton	\$ 150	-
15	PVC Sewer Cleanouts 4'-8' deep	4	EA	\$ 400	\$ 1,600
16	Highway Crossing	0	LF	\$ 125	-
17	Railroad Crossing	0	LF	\$ 95	-
18	Stream Crossing	0	LF	\$ 150	-
19	Pump Station Rehab	1	EA	\$ 10,000	\$ 10,000
20	Area Pump Station	0	EA	\$ 125,000	-
21	Miscellaneous	1	EA	\$ 5,000	\$ 5,000

Subtotal Collection System Construction Cost \$ 56,600

TREATMENT SYSTEM

Item No	Item Description	Size	Quantity	Units	Unit Cost	Total Cost
1	Mobilization/Demobilization		1	EA	\$ 3,100	\$ 3,100
2	Septic Tank	20,000	1	EA	\$ 40,000	\$ 40,000
3	Dosing / Emergency Storage Tank	12,000	1	EA	\$ 24,000	\$ 24,000
4	Dosing Pump Stations (inside tank)	1/4	1	EA	\$ 10,000	\$ 10,000
5	Discharge Pipe to Drainfield		100	LF	\$ 45	\$ 4,500

Subtotal Treatment System \$ 81,600

Miscellaneous (@ 10%) \$ 8,160

Subtotal \$ 89,760

Contingency (@ 10%) \$ 8,976

Subtotal Treatment System Construction Cost \$ 98,736

DISPERSAL SYSTEM

Item No	Item Description	Quantity	Units	Unit Cost	Total Cost
1	Drainfield	20,000	SF	\$ 10	\$ 200,000
2	Site Work and Appurtenances	1	EA	\$ 10,000	\$ 10,000

Subtotal Dispersal System Construction Cost \$ 210,000

Total Construction Cost \$ 266,645

Item No	Item Description	Total Cost
1	Land, Rights of Way, Appraisals	
2	Permit - DEP, MEPA	
5	Administrative Costs	
6	Legal	
7	Engineering - Basic Services	
8	Engineering - Special Services	
	Record Drawings	
	Property Surveys	
	Easments Maps	
	O&M Manual	
9	Engineering - On Site Representation	
12	Accountant	
13	Bond Counsel	
14	Environmental Clearance	
15	Equipment	
16	Interim Financing	
17	Capitalized Interest	
18	Project Contingency	
Total Development Costs		\$ 146,134

III. ANNUAL OPERATION & MAINTENANCE

1	Pipeline Maintenance		\$	500
2	Maintenance Visits		\$	1,200
	# hours per visit	6		
	# visits per year	4		
	hourly rate	\$50.00		
4	Electricity		\$	200
5	Equipment Maintenance		\$	500
8	Annual Misc. O&M Costs		\$	1,000
Total O & M Cost				\$ 3,400

Griswoldville Collection System Upgrades and Dispersal System Costs
STEP Collection System with Recirculating Media Filter Treatment System

I. ANALYSIS CRITERIA

Parameters			
Existing Connections	40	Bond Rate (%)	5%
Future Connections	0	Bond Term (yrs)	20
LF of Connection Pipe per House	75	Development Cost (%)	30%
Design Flow (gpd)	50,000	Bond Amort. Factor	0.0802
Planning Period (yrs)	20	% of Operator Cost	25%
Useful Life (yrs)	50	Equipment Maintenance	5%
PW Interest Rate (%)	5.875%	STEP Pump Annual O & M	\$ 50

II. CONSTRUCTION COST

COLLECTION SYSTEM

Item No	Item Description	Quantity	Units	Unit Cost	Total Cost
1	Mobilization/Demobilization	1	EA	\$ 10,000	\$ 10,000
2	Erosion and Sediment Control	1	EA	\$ 5,000	\$ 5,000
10	4" PVC SDR 21 House Connection	0	LF	\$ 25	\$ -
11	4" PVC SDR 21 Gravity Sewer	0	LF	\$ 32	\$ -
12	1.5" PVC SDR 21 Force Main	0	LF	\$ 25	\$ -
13	2" PVC SDR 21 Force Main	1,000	LF	\$ 25	\$ 25,000
14	Asphalt Pavement Restoration	0	Ton	\$ 150	\$ -
15	PVC Sewer Cleanouts 4'-8' deep	4	EA	\$ 400	\$ 1,600
16	Highway Crossing	0	LF	\$ 125	\$ -
17	Railroad Crossing	0	LF	\$ 95	\$ -
18	Stream Crossing	0	LF	\$ 150	\$ -
19	Pump Station Rehab	1	EA	\$ 10,000	\$ 10,000
20	Area Pump Station	0	EA	\$ 125,000	\$ -
21	Miscellaneous	1	EA	\$ 5,000	\$ 5,000

Subtotal Collection System Construction Cost \$ 56,600

TREATMENT SYSTEM

Item No	Item Description	Size	Quantity	Units	Unit Cost	Total Cost
1	Mobilization/Demobilization	0	1	EA	\$ 23,500	\$ 23,500
2	Septic Tank	30,000	1	EA	\$ 60,000	\$ 60,000
3	Equalization Tank	10,000	1	EA	\$ 20,000	\$ 20,000
4	Recirculation Tank	10,000	1	EA	\$ 20,000	\$ 20,000
5	Treatment Facility Building	500	1	SF	\$ 17,500	\$ 17,500
6	Recirculating Media Filter Units	100	4	EA	\$ 18,000	\$ 72,000
7	Dosing Pump Stations (inside tank)	1/4	3	EA	\$ 10,000	\$ 30,000
8	Pump Station	1/2	1	EA	\$ 50,000	\$ 50,000
9	Instrumentation and Electrical	0	1	EA	\$ 30,000	\$ 30,000
10	Emergency Generator	6	1	EA	\$ 9,000	\$ 9,000
11	Discharge Pipe to Drainfield	0	1,000	LF	\$ 45	\$ 45,000

Subtotal Treatment System \$ 377,000

Miscellaneous (@ 10%) \$ 37,700

Subtotal \$ 414,700

Contingency (@ 10%) \$ 41,470

Subtotal Treatment System Construction Cost \$ 456,170

DISPERSAL SYSTEM

Item No	Item Description	Quantity	Units	Unit Cost	Total Cost
1	Pipe to Existing Discharge	200	LF	\$ 40	\$ 8,000
2	Site Work and Appurtenances	1	EA	\$ 5,000	\$ 5,000

Subtotal Dispersal System Construction Cost \$ 13,000

Total Construction Cost \$ 69,645

Item No	Item Description	Total Cost
1	Land, Rights of Way, Appraisals	
2	Permit - DEP, MEPA	
5	Administrative Costs	
6	Legal	
7	Engineering - Basic Services	
8	Engineering - Special Services	
	Record Drawings	
	Property Surveys	
	Easements Maps	
	O&M Manual	
9	Engineering - On Site Representation	
12	Accountant	
13	Bond Counsel	
14	Environmental Clearance	
15	Equipment	
16	Interim Financing	
17	Capitalized Interest	
18	Project Contingency	
Total Development Costs		\$ 27,858

III. ANNUAL OPERATION & MAINTENANCE

1	Septic Pumping / Hauling		\$	2,000
	Cost per pump-out	\$	250.00	
	Frequency of pump-out (years)		5	
2	Pipeline Maintenance		\$	500
6	Equipment Maintenance		\$	5,000
Total O & M Cost				\$ 7,500

IV. PRESENT WORTH ANALYSIS

1. Capital Cost				
Collection	\$	56,600		
Treatment	\$	45		
Dispersal	\$	13,000		
Total	\$	69,645		
1a. Development Cost	\$	27,858		
			Total Capital Cost	\$ 97,503
2. O & M Cost		<u>PWF</u> 11.587	\$	86,904
3. Salvage Value at year 20		0.6	\$	(58,502)
4. PW of Salvage		0.319	\$	(18,677)
TOTAL PRESENT WORTH				\$ 165,730

V. USER COSTS

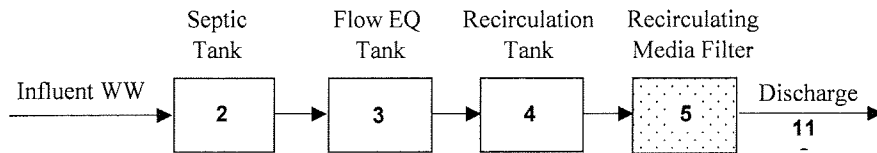
	Per Existing	Existing & Future
1. Capital Cost		
Collection	\$ 1,415	\$ 1,415
Treatment	\$ 1	\$ 1
Dispersal	\$ 325	\$ 325
Development	\$ 696	\$ 696
Total	\$ 2,438	\$ 2,438
2. Total Present Worth	\$ 4,143	\$ 4,143
3. Annual O & M	\$ 188	\$ 188
Monthly O & M	\$ 15.63	\$ 15.63

GRISWOLDVILLE WASTEWATER TREATMENT SYSTEM
Franklin Regional Council of Governments
Present Worth Analysis for New High-Rate Recirculating Media Filter System

I. Parameters			
Existing Users (EDUs)	39	Useful Life (yrs)	50
Future Connections (EDUs)	0	PW Interest Rate (%)	5.875%
Design Flow (gpd)	9,750	Bond Rate (%)	1.0%
Design Loading Rate (gpd/S.F.)	25	Bond Term (yrs)	40
Total Treatment Area Required (S.F.)	390	Development Cost (%)	40%
Equipment Maintenance	1%	Bond Amort. Factor	0.0305
Planning Period (yrs)	20	Grant % of Capital Cost	25%

II. CONSTRUCTION COST BASED ON PERMITTED FLOW						
Item No	Item Description	Size	Quantity	Units	Unit Cost	Total Cost
1	Mobilization/Demobilization		1	EA	\$ 23,500	\$ 23,500
2	Septic Tank	30,000	1	EA	\$ 60,000	\$ 60,000
3	Equalization Tank	10,000	1	EA	\$ 20,000	\$ 20,000
4	Recirculation Tank	10,000	1	EA	\$ 20,000	\$ 20,000
5	Treatment Facility Building	500	1	SF	\$ 17,500	\$ 17,500
6	Recirculating Media Filter Units	100	4	EA	\$ 18,000	\$ 72,000
7	Dosing Pump Stations (inside tank)	1/4	3	EA	\$ 10,000	\$ 30,000
8	Pump Station	1/2	1	EA	\$ 50,000	\$ 50,000
9	Instrumentation and Electrical		1	EA	\$ 30,000	\$ 30,000
10	Emergency Generator	6	1	EA	\$ 9,000	\$ 9,000
11	Discharge Pipe to Drainfield		1,000	LF	\$ 45	\$ 45,000

Subtotal Treatment System	\$ 377,000
Miscellaneous (@ 10%)	\$ 37,700
Subtotal	\$ 414,700
Contingency (@ 10%)	\$ 41,470
Subtotal Treatment System Construction Cost	\$ 456,170



III. ANNUAL OPERATION & MAINTENANCE

1	Contract Operations		\$ 8,320
	# hours per visit	4	
	# visits per week	1	
	hourly rate	\$40.00	
2	Sludge Disposal		\$ 1,950
	Annual Sludge Generation (gal)	19,500	
	Disposal Unit Cost (\$/gal)	\$0.10	
3	Electricity		\$ 1,800
		Influent Pump Station	
	Design Flow (gpd)	9,750	
	Pump Flow Rate (gpm)	7	
	Design TDH (feet)	25	
	Pump Power (hp)	0.10	
	Pump Power (kW)	0.08	
	Avg. Daily Pump Run Time (hours)	12	
	Power Unit Cost (\$/kWh)	\$0.15	
	Annual Total Power Cost / Station	\$52.56	
	<i>Total Pump Cost</i>	<i>\$52.56</i>	
	Annual Power for UV System (kWh)	2,628	
	<i>Annual Power Cost, UV System</i>	<i>\$394.20</i>	
	Miscellaneous Power for Plant (kWh)	1.00	
	<i>Annual Misc. Power Cost for System</i>	<i>\$1,314.00</i>	
4	Equipment Maintenance (1% of Construction Cost for Treatment)		\$ 4,562
5	Sampling		\$ 4,320
	# of samples per location	10	
	# of locations to be sampled	2	
	# of sampling trips per year	12	
	Sample Cost (\$/sample)	\$18.00	
6	Administration		\$ 5,000
7	Annual Misc. O&M Costs		\$ 2,000
Total O & M Cost			\$ 27,952

IV. LIFE CYCLE COSTS

1. Construction Cost	\$ 456,170	
2. Development Cost (30%)	\$ 182,468	
		Total Capital Cost \$ 638,638
3. O & M Cost	<u>PWF</u> 11.587	\$ 323,883
4. Salvage Value at year 20	0.6	\$ (383,183)
5. PW of Salvage	0.319	\$ (122,331)
TOTAL LIFE CYCLE COST		\$ 840,189

V. USER COSTS

	<u>Per Existing</u>	<u>Existing & Future</u>
1. Capital Cost		
Treatment	\$ 11,697	\$ 11,697
Development	\$ 4,679	\$ 4,679
Total	\$ 16,375	\$ 16,375
Grant funding	\$ 4,094	\$ 4,094
Total Capital Cost	\$ 12,282	\$ 12,282
Annual Capital Cost	\$ 374	\$ 374
2. Total Life Cycle Cost	\$ 21,543	\$ 21,543
3. Annual O & M	\$ 717	\$ 717
Monthly O & M	\$ 59.73	\$ 59.73
4. Total Annual User Cost	\$ 1,091	\$ 1,091

Shutesbury STEP Collection and Dispersal System
 Construction to House Foundation Wall

I. ANALYSIS CRITERIA

Existing Connections	200	Bond Rate (%)	5%
Future Connections	0	Bond Term (yrs)	20
LF of Connection Pipe per House	75	Development Cost (%)	30%
Design Flow (gpd)	50,000	Bond Amort. Factor	0.0802
Planning Period (yrs)	20	% of Operator Cost	25%
Useful Life (yrs)	50	Equipment Maintenance	5%
PW Interest Rate (%)	5.875%	STEP Pump Annual O & M	\$ 50

II. CONSTRUCTION COST

COLLECTION SYSTEM

Item No	Item Description	Quantity	Units	Unit Cost	Total Cost
1	Mobilization/Demobilization	1	EA	\$ 99,000	\$ 99,000
2	Erosion and Sediment Control	1	EA	\$ 75,000	\$ 75,000
3	Engineer's Field Office	12	Month	\$ 1,000	\$ 12,000
4	New STEG Tank Materials		EA	\$ 1,000	\$ -
5	New STEG Tank Installation		EA	\$ 1,000	\$ -
6	New STEP Tank Materials	150	EA	\$ 1,500	\$ 225,000
7	New STEP Tank Installation	150	EA	\$ 1,200	\$ 180,000
8	New STEP Tank Pump and Controls	150	EA	\$ 1,200	\$ 180,000
9	New STEP Tank Electrical Installation	150	EA	\$ 700	\$ 105,000
10	4" PVC SDR 21 House Connection	15,000	LF	\$ 25	\$ 375,000
11	4" PVC SDR 21 Gravity Sewer	0	LF	\$ 32	\$ -
12	1.5" PVC SDR 21 Force Main	0	LF	\$ 25	\$ -
13	2" PVC SDR 21 Force Main	21,000	LF	\$ 25	\$ 525,000
14	Asphalt Pavement Restoration	0	Ton	\$ 150	\$ -
15	PVC Sewer Cleanouts 4'-8' deep	70	EA	\$ 400	\$ 28,000
16	Highway Crossing	0	LF	\$ 125	\$ -
17	Railroad Crossing	0	LF	\$ 95	\$ -
18	Stream Crossing	50	LF	\$ 150	\$ 7,500
19	Pump Stations	0	EA	\$ 40,000	\$ -
20	Area Pump Station	0	EA	\$ 125,000	\$ -
21	Miscellaneous	1	EA	\$ 172,000	\$ 172,000

Subtotal Collection System Construction Cost \$ 1,983,500

II. TREATMENT SYSTEM

Item No	Item Description	Size	Quantity	Units	Unit Cost	Total Cost
1	Mobilization/Demobilization	0	1	EA	73000	73000
2	Equalization Tank	50000	1	EA	\$ 100,000	\$ 100,000
3	Recirculation Tank	50,000	1	EA	\$ 100,000	\$ 100,000
4	Treatment Facility Building	2,400	1	EA	\$ 84,000	\$ 84,000
5	Recirculating Media Filter Units	100	20	EA	\$ 18,000	\$ 360,000
6	Dosing Pump Stations (inside tank)	1/4	6	EA	\$ 10,000	\$ 60,000
7	Pump Station	1/2	2	EA	\$ 50,000	\$ 100,000
8	Instrumentation and Electrical	0	1	EA	\$ 40,000	\$ 40,000
9	Emergency Generator	15	1	EA	\$ 22,500	\$ 22,500
10	Discharge Pipe to Drainfield	0	1000	LF	\$ 45	\$ 45,000

Subtotal Treatment System \$ 984,500

Miscellaneous (@ 10%) \$ 98,450

Subtotal \$ 1,082,950

Contingency (@ 10%) \$ 108,295

Subtotal Treatment System Construction Cost \$ 1,191,245

III. DISPERSAL SYSTEM

Item No	Item Description	Quantity	Units	Unit Cost	Total Cost
1	Drainfield	25,000	SF	\$ 10	\$ 250,000
2	Site Work and Appurtenances	1	EA	\$ 10,000	\$ 10,000
Subtotal Dispersal System Construction Cost					\$ 260,000
Total Construction Cost					\$ 2,243,500

IV. DEVELOPMENT COSTS

Item No	Item Description	Total Cost
1	Land, Rights of Way, Appraisals	
2	Permit - DEP, MEPA	
5	Administrative Costs	
6	Legal	
7	Engineering - Basic Services	
8	Engineering - Special Services	
	Soils Investigation	
	Record Drawings	
	Property Surveys	
	Easements Maps	
	O&M Manual	
9	Engineering - On Site Representation	
12	Accountant	
13	Bond Counsel	
14	Environmental Clearance	
15	Equipment	
16	Interim Financing	
17	Capitalized Interest	
18	Project Contingency	
Total Development Costs		\$ 897,400

III. ANNUAL OPERATION & MAINTENANCE

1	Septic Pumping / Hauling		\$	10,000
	Cost per pump-out	\$	250.00	
	Frequency of pump-out (years)		5	
2	Pipeline Maintenance		\$	3,600
3	Contract Operations		\$	10,000
4	Electricity		\$	10,700
	# of pump Stations (total, trt. and collection)		7	
	Power for UV (kWh)		3	
5	STEP Pump			
6	Equipment Maintenance		\$	5,200
	(2% of Capital Cost for Treatment and Dispersal)			
7	Sampling		\$	10,000
8	Administrative/Management Fee		\$	8,000
9	Annual Misc. O&M Costs		\$	3,000
Total O & M Cost				\$ 60,500

IV. PRESENT WORTH ANALYSIS

1. Capital Cost			
Collection	\$	1,983,500	
Treatment	\$	-	
Dispersal	\$	260,000	
Total	\$	2,243,500	
1a. Development Cost	\$	897,400	
			Total Capital Cost \$ 3,140,900
		<u>PWF</u>	
2. O & M Cost		11.587	\$ 701,027
3. Salvage Value at year 20		0.6	\$ (1,884,540)
4. PW of Salvage		0.319	\$ (601,640)
			TOTAL PRESENT WORTH \$ 3,240,287

V. USER COSTS

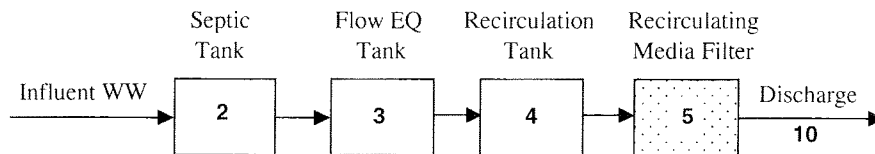
	<u>Per Existing</u>	<u>Existing & Future</u>	
1. Capital Cost			
Collection	\$ 9,918	\$ 9,918	
Treatment	\$ -	\$ -	
Dispersal	\$ 1,300	\$ 1,300	
Development	\$ 4,487	\$ 4,487	
Total	\$ 15,705	\$ 15,705	
2. Total Present Worth	\$ 16,201	\$ 16,201	
3. Annual O & M	\$ 303	\$ 303	
Monthly O & M	\$ 25.21	\$ 25.21	

SHUTESBURY WASTEWATER TREATMENT SYSTEM
Franklin Regional Council of Governments
Present Worth Analysis for New High-Rate Recirculating Media Filter System

I. Parameters			
Existing Users (EDUs)	200	Useful Life (yrs)	50
Future Connections (EDUs)	0	PW Interest Rate (%)	5.875%
Design Flow (gpd)	50,000	Bond Rate (%)	1.0%
Design Loading Rate (gpd/S.F.)	25	Bond Term (yrs)	40
Total Treatment Area Required (S.F.)	2,000	Development Cost (%)	30%
Equipment Maintenance	1%	Bond Amort. Factor	0.0305
Planning Period (yrs)	20	Grant % of Capital Cost	25%

II. CONSTRUCTION COST BASED ON PERMITTED FLOW						
Item No	Item Description	Size	Quantity	Units	Unit Cost	Total Cost
1	Mobilization/Demobilization		1	EA	\$ 73,000	\$ 73,000
2	Equalization Tank	50,000	1	EA	\$ 100,000	\$ 100,000
3	Recirculation Tank	50,000	1	EA	\$ 100,000	\$ 100,000
4	Treatment Facility Building	2,400	1	EA	\$ 84,000	\$ 84,000
5	Recirculating Media Filter Units	100	20	EA	\$ 18,000	\$ 360,000
6	Dosing Pump Stations (inside tank)	1/4	6	EA	\$ 10,000	\$ 60,000
7	Pump Station	1/2	2	EA	\$ 50,000	\$ 100,000
8	Instrumentation and Electrical		1	EA	\$ 40,000	\$ 40,000
9	Emergency Generator	15	1	EA	\$ 22,500	\$ 22,500
10	Discharge Pipe to Drainfield		1,000	LF	\$ 45	\$ 45,000

Subtotal Treatment System	\$ 984,500
Miscellaneous (@ 10%)	\$ 98,450
Subtotal	\$ 1,082,950
Contingency (@ 10%)	\$ 108,295
Subtotal Treatment System Construction Cost	\$ 1,191,245



III. ANNUAL OPERATION & MAINTENANCE

1	Contract Operations		\$	8,320
	# hours per visit	4		
	# visits per week	1		
	hourly rate	\$40.00		
2	Sludge Disposal		\$	10,000
	Annual Sludge Generation (gal)	100,000		
	Disposal Unit Cost (\$/gal)	\$0.10		
3	Electricity		\$	5,200
		Influent Pump Station	RMF Feed 1 & 2	Disinfection Feed / Discharge Pump
	Design Flow (gpd)	50,000	50,000	50,000
	Pump Flow Rate (gpm)	35	35	35
	Design TDH (feet)	25	25	25
	Pump Power (hp)	0.50	0.50	0.50
	Pump Power (kW)	0.38	0.38	0.38
	Avg. Daily Pump Run Time (hours)	12	16	12
	Power Unit Cost (\$/kWh)	\$0.15	\$0.15	\$0.15
	Annual Total Power Cost / Station	\$249.66	\$332.88	\$249.66
	<i>Total Pump Cost</i>	<i>\$2,163.72</i>		
	Annual Power for UV System (kWh)	11,388		
	<i>Annual Power Cost, UV System</i>	<i>\$1,708.20</i>		
	Miscellaneous Power for Plant (kWh)	1.00		
	<i>Annual Misc. Power Cost for System</i>	<i>\$1,314.00</i>		
4	Equipment Maintenance (1% of Construction Cost for Treatment)		\$	11,912
5	Sampling		\$	4,320
	# of samples per location	10		
	# of locations to be sampled	2		
	# of sampling trips per year	12		
	Sample Cost (\$/sample)	\$18.00		
6	Administration		\$	10,000
7	Annual Misc. O&M Costs		\$	3,000
Total O & M Cost			\$	52,752

IV. LIFE CYCLE COSTS

1. Construction Cost	\$ 1,191,245	
2. Development Cost (30%)	\$ 357,374	
	<u>PWF</u>	
3. O & M Cost	11.587	Total Capital Cost \$ 1,548,619
4. Salvage Value at year 20	0.6	\$ (929,171)
5. PW of Salvage	0.319	\$ (296,638)
		TOTAL LIFE CYCLE COST \$ 1,863,235

V. USER COSTS

	<u>Per Existing</u>	<u>Existing & Future</u>
1. Capital Cost		
Treatment	\$ 5,956	\$ 5,956
Development	\$ 1,787	\$ 1,787
Total	\$ 7,743	\$ 7,743
Grant funding	\$ 1,936	\$ 1,936
Total Capital Cost	\$ 5,807	\$ 5,807
Annual Capital Cost	\$ 177	\$ 177
2. Total Life Cycle Cost	\$ 9,316	\$ 9,316
3. Annual O & M	\$ 264	\$ 264
Monthly O & M	\$ 21.98	\$ 21.98
4. Total Annual User Cost	\$ 441	\$ 441
