

APPENDIX J:

Total Project Costs and Operation and Maintenance Costs

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 1

This Alternative consists of a Collection System for each study area.					
Study Area 2 drains to a Pump Station that pumps to the high point on SR 115, then flows by gravity to SA 1.					
SA 1 (and SA 2) drain to an EQ Tank with a pump station which will pump down SR 115 to					
a connection with the Plains Township Sewer Authority on East Mountain Blvd.					
Conveyance through Plains Township to WVSA Pump station and ultimate					
Treatment at WVSA.					
Construction Cost Estimate					
1 Sewage Collection System (Study Areas 1 and 2)					
Item	Description	Quantity	Units	Unit Price	Total Price
1	8" PVC Gravity Sewer Main (S.H.) (Open Trench)	21,110	L.F.	\$75.00	\$ 1,583,250.00
2	8" PVC Gravity Sewer Main (S.H.) (Bored)	460	L.F.	\$500.00	\$ 230,000.00
3	8" PVC Gravity Sewer Main (N.S.H.)	20,540	L.F.	\$60.00	\$ 1,232,400.00
4	2" PVC Low Pressure Sewer Main (N.S.H.)	8,700	L.F.	\$30.00	\$ 261,000.00
5	3" PVC Low Pressure Sewer Main (N.S.H.)	1,250	L.F.	\$35.00	\$ 43,750.00
6	4" PVC Low Pressure Sewer Main (N.S.H.)	400	L.F.	\$40.00	\$ 16,000.00
7	3" PVC Low Pressure Sewer Main (S.H.)	700	L.F.	\$40.00	\$ 28,000.00
8	4" PVC Low Pressure Sewer Main (S.H.)	5,100	L.F.	\$40.00	\$ 204,000.00
9	4" PVC Lateral (S.H.) (Bored)	960	L.F.	\$350.00	\$ 336,000.00
10	4" PVC Lateral (S.H.) (Open Trench)	1,050	L.F.	\$50.00	\$ 52,500.00
11	4" PVC Lateral (N.S.H.)	9,530	L.F.	\$35.00	\$ 333,550.00
12	1-1/4" PVC Pressure Lateral (S.H.) (Open Trench)	240	L.F.	\$40.00	\$ 9,600.00
13	1-1/4" PVC Pressure Lateral (S.H.) (Bored)	150	L.F.	\$350.00	\$ 52,500.00
14	1-1/4" PVC Pressure Lateral (N.S.H.)	800	L.F.	\$25.00	\$ 20,000.00
15	Turnpike Bridge Crossing	200	L.F.	\$280.00	\$ 56,000.00
16	Route 115 Crossing	210	L.F.	\$250.00	\$ 52,500.00
17	Stream Crossing	100	L.F.	\$175.00	\$ 17,500.00
18	Standard Manhole (S.H.)	74	Each	\$2,500.00	\$ 185,000.00
19	Standard Manhole (N.S.H.)	93	Each	\$2,500.00	\$ 232,500.00
20	Bituminous Pavement Restoration (S.H.)	2,000	S.Y.	\$40.00	\$ 80,000.00
21	Bituminous Pavement Restoration (N.S.H.)	15,240	S.Y.	\$30.00	\$ 457,200.00
22	Gravel Pavement Restoration (N.S.H.)	4,000	S.Y.	\$10.00	\$ 40,000.00
23	Bituminous Driveway Restoration (N.S.H.)	650	S.Y.	\$20.00	\$ 13,000.00
24	Gravel Driveway Restoration	800	S.Y.	\$8.00	\$ 6,400.00
25	Shoulder Restoration (S.H.)(2A)	8,150	S.Y.	\$30.00	\$ 244,500.00
26	Lawn Restoration	8,050	S.Y.	\$4.00	\$ 32,200.00
27	Vacuum Test Each Standard Manhole	146	Each	\$120.00	\$ 17,520.00
28	Air Test Each Sewer Line	203	Each	\$120.00	\$ 24,360.00
29	Grinder Pump Unit	84	Each	\$6,200.00	\$ 520,800.00
30	Pump Station	1	Each	\$125,000.00	\$ 125,000.00
31	Booster Pump Station	1	Each	\$75,000.00	\$ 75,000.00
32	4" Plug Valve w/Box	7	Each	\$575.00	\$ 4,025.00
33	3" Plug Valve w/Box	7	Each	\$450.00	\$ 3,150.00
34	2" Ball Valve w/Box	13	Each	\$350.00	\$ 4,550.00
35	LPS Cleanout/Manhole(S.H.)	5	Each	\$2,000.00	\$ 10,000.00
36	LPS Cleanout/Manhole(N.S.H.)	17	Each	\$2,000.00	\$ 34,000.00
37	LPS Air Valve/Manhole(S.H.)	2	Each	\$3,400.00	\$ 6,800.00
38	Water Test Each LPS Main	1	LS	\$50,000.00	\$ 50,000.00
39	6" D.I. Force Main	10,480	LF	\$50.00	\$ 524,000.00
40	Land Purchase for Pump Stations	0.50	Acres	\$15,000.00	\$ 7,500.00
Subtotal					\$ 7,226,055.00
20% Contingency					\$ 1,445,211.00
Total Construction Cost					\$ 8,671,266.00
20% Soft Costs					\$ 1,734,253.20
Total Project Cost					\$ 10,405,519.20

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 1

2 State Route 115 Corridor Sewage Collection System					
Item	Description	Quantity	Units	Unit Price	Total Price
1	8" PVC Gravity Sewer Main (S.H.) (Open Trench)	3100	L.F.	\$75.00	\$ 232,500.00
2	8" PVC Gravity Sewer Main (N.S.H.)	3000	L.F.	\$60.00	\$ 180,000.00
3	Standard Manhole (S.H.)	4	Each	\$2,500.00	\$ 10,000.00
4	Standard Manhole(NS.H.)	12	Each	\$2,500.00	\$ 30,000.00
5	4" PVC Lateral (S.H.) (Bored)	40	L.F.	\$350.00	\$ 14,000.00
6	4" PVC Lateral (S.H.) (Open Trench)	40	L.F.	\$50.00	\$ 2,000.00
7	4" PVC Lateral (N.S.H.)	195	L.F.	\$35.00	\$ 6,825.00
9	Bituminous Pavement Restoration (N.S.H.)	1600	SY	\$30.00	\$ 48,000.00
10	Shoulder Restoration (S.H.)(2A)	3200	SY	\$30.00	\$ 96,000.00
11	Lawn Restoration	100	SY	\$4.00	\$ 400.00
12	Vacuum Test Each Standard Manhole	16	Each	\$120.00	\$ 1,920.00
13	Air Test Each Sewer Line	33	Each	\$120.00	\$ 3,960.00
14	2" PVC Low Pressure Sewer Main (S.H.)	1,700	L.F.	\$35.00	\$ 59,500.00
15	LPS Cleanout/Manhole(S.H.)	3	Each	\$2,000.00	\$ 6,000.00
16	1-1/4" PVC Pressure Lateral (S.H.) (Open Trench)	60	L.F.	\$40.00	\$ 2,400.00
17	1-1/4" PVC Pressure Lateral (S.H.) (Bored)	60	L.F.	\$350.00	\$ 21,000.00
18	2" Ball Valve w/Box	3	Each	\$350.00	\$ 1,050.00
19	Grinder Pump Unit	4	Each	\$6,200.00	\$ 24,800.00
	Subtotal				\$ 740,355.00
	20% Contingency				\$ 148,071.00
	Total Construction Cost				\$ 888,426.00
	20% Soft Costs				\$ 177,685.20
	Total Project Cost				\$ 1,066,111.20
3 Sewage Conveyance System to Plains					
Item	Description	Quantity	Units	Unit Price	Total Price
1	6" D.I. Force Main	7,000	LF	\$50.00	\$ 350,000.00
2	Railroad Crossing (jack and bore)	100	LF	\$650.00	\$ 65,000.00
3	Traffic Control during Construction	1	LS	\$50,000.00	\$ 50,000.00
4	Shoulder Restoration (S.H.) 2A	6,700	SY	\$30.00	\$ 201,000.00
5	Air Valve/Manhole(S.H.)	6	Each	\$3,400.00	\$ 20,400.00
	Subtotal				\$ 686,400.00
	20% Contingency				\$ 137,280.00
	Total Construction Cost				\$ 823,680.00
	20% Soft Costs				\$ 164,736.00
	Total Project Cost				\$ 988,416.00
4 Equalization Tank/Pump Station Construction Cost Estimate					
Item	Description	Quantity	Units	Unit Price	Total Price
1	Concrete Eq Tank 210,000 Gallons (40'x75'x12')	1	L.S.	\$ -	\$ 295,000.00
2	Site Work (clearing, grading, access road)	1	L.S.	\$ -	\$ 90,000.00
3	Site Piping	1	L.S.	\$ -	\$ 60,000.00
4	15 HP Pumps, controls, guiderails, valves, ect.	1	L.S.	\$ -	\$ 50,000.00
5	Site Electrical (lights, pumps, distribution panels)	1	L.S.	\$ -	\$ 25,000.00
6	Electical service by Utility Co.	1	L.S.	\$ -	\$ 15,000.00
7	Emergency Generator and ATS	1	L.S.	\$ -	\$ 40,000.00
8	Land Purchase	0.5	Acre	\$ 15,000.00	\$ 7,500.00
	Subtotal				\$ 582,500.00
	20% Contingency				\$ 116,500.00
	Total Construction Cost				\$ 699,000.00
	20% Soft Costs				\$ 139,800.00
	Total Project Cost				\$ 838,800.00
5 Connection Fee to Plains					
Item	Description	Quantity	Units	Unit Price	Total Price
1	Connection Fee (600 EDUs x \$350/EDU)	1	LS	\$ 210,000.00	\$ 210,000.00

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 1

Total Project Cost Estimate Summary - Alternative No. 1	
1 Sewage Collection and Conveyance System	\$ 10,405,519.20
2 State Route 115 Corridor Sewage Collection System	\$ 1,066,111.20
3 Sewage Conveyance System	\$ 988,416.00
4 Equalization Tank/Pump Station	\$ 838,800.00
5 Connection Fee to Plains	\$ 210,000.00
Total	\$ 13,508,846.40

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 1

Operation and Maintenance Costs			
Item	Description	Bear Creek Township Costs	
1	Administration	\$	4,000.00
2	Labor and Salaries	\$	18,000.00
3	Maintenance and Supplies	\$	2,000.00
4	Electrical and Utilities	\$	10,000.00
5	Insurance	\$	3,000.00
6	Chemical	\$	-
7	Sludge Disposal	\$	-
8	Repairs/Maintenance	\$	10,000.00
9	Professional Fees (legal, engineering, accounting)	\$	10,000.00
10	Routine Wastewater Collection System Maintenance	\$	10,000.00
	Subtotal	\$	67,000.00
	15% Contingency	\$	10,050.00
	Total O&M Cost for Sewage Collection/Conveyance System	\$	77,050.00
Item	Description	Bear Creek Township Residents Costs	
1	Annual Treatment Fee to WVSA (\$160/EDU)	\$ 160.00	480 \$ 76,800.00
2	Annual Conveyance Fee to Plains Twp. (\$89/EDU)	\$ 89.00	480 \$ 42,720.00
	Subtotal		\$ 119,520.00
	Total O&M Cost		\$ 196,570.00

Bear Creek Twp, Luzerne County, PA
Sewage Facilities Alternative 2

This Alternative consists of a Collection System for each study area.					
Study Area 2 drains to a Pump Station that pumps to the high point on SR 115, then flows by gravity to SA 1.					
Study Area 2 (and SA 1) drain to a WWTP on the lower side of SA 1 off SR 115.					
The WWTP will consist of an SBR with effluent filters and UV Disinfection					
that will meet the DEP limits and reduce TP to 1 mg/l and TN to 8 mg/l to assist in meeting the					
Chesapeake Bay requirements of zero net load to the Bay. Additional nutrient credits					
will need to be purchased annually to meet the zero requirement.					
Discharge will be pumped to Deep Hollow below its confluence with Laurel Run.					
Construction Cost Estimate					
1 Sewage Collection System (Study Areas 1 and 2)					
Item	Description	Quantity	Units	Unit Price	Total Price
1	8" PVC Gravity Sewer Main (S.H.) (Open Trench)	21,110	L.F.	\$75.00	\$ 1,583,250.00
2	8" PVC Gravity Sewer Main (S.H.) (Bored)	460	L.F.	\$500.00	\$ 230,000.00
3	8" PVC Gravity Sewer Main (N.S.H.)	20,540	L.F.	\$60.00	\$ 1,232,400.00
4	2" PVC Low Pressure Sewer Main (N.S.H.)	8,700	L.F.	\$30.00	\$ 261,000.00
5	3" PVC Low Pressure Sewer Main (N.S.H.)	1,250	L.F.	\$35.00	\$ 43,750.00
6	4" PVC Low Pressure Sewer Main (N.S.H.)	400	L.F.	\$40.00	\$ 16,000.00
7	3" PVC Low Pressure Sewer Main (S.H.)	700	L.F.	\$40.00	\$ 28,000.00
8	4" PVC Low Pressure Sewer Main (S.H.)	5,100	L.F.	\$40.00	\$ 204,000.00
9	4" PVC Lateral (S.H.) (Bored)	960	L.F.	\$350.00	\$ 336,000.00
10	4" PVC Lateral (S.H.) (Open Trench)	1,050	L.F.	\$50.00	\$ 52,500.00
11	4" PVC Lateral (N.S.H.)	9,530	L.F.	\$35.00	\$ 333,550.00
12	1-1/4" PVC Pressure Lateral (S.H.) (Open Trench)	240	L.F.	\$40.00	\$ 9,600.00
13	1-1/4" PVC Pressure Lateral (S.H.) (Bored)	150	L.F.	\$350.00	\$ 52,500.00
14	1-1/4" PVC Pressure Lateral (N.S.H.)	800	L.F.	\$25.00	\$ 20,000.00
15	Turnpike Bridge Crossing	200	L.F.	\$280.00	\$ 56,000.00
16	Route 115 Crossing	210	L.F.	\$250.00	\$ 52,500.00
17	Stream Crossing	100	L.F.	\$175.00	\$ 17,500.00
18	Standard Manhole (S.H.)	74	Each	\$2,500.00	\$ 185,000.00
19	Standard Manhole(NS.H.)	93	Each	\$2,500.00	\$ 232,500.00
20	Bituminous Pavement Restoration (S.H.)	2,000	S.Y.	\$40.00	\$ 80,000.00
21	Bituminous Pavement Restoration (N.S.H.)	15,240	S.Y.	\$30.00	\$ 457,200.00
22	Gravel Pavement Restoration (N.S.H.)	4,000	S.Y.	\$10.00	\$ 40,000.00
23	Bituminous Driveway Restoration (N.S.H.)	650	S.Y.	\$20.00	\$ 13,000.00
24	Gravel Driveway Restoration	800	S.Y.	\$8.00	\$ 6,400.00
25	Shoulder Restoration (S.H.)(2A)	8,150	S.Y.	\$30.00	\$ 244,500.00
26	Lawn Restoration	8,050	S.Y.	\$4.00	\$ 32,200.00
27	Vacuum Test Each Standard Manhole	146	Each	\$120.00	\$ 17,520.00
28	Air Test Each Sewer Line	203	Each	\$120.00	\$ 24,360.00
29	Grinder Pump Unit	84	Each	\$6,200.00	\$ 520,800.00
30	Pump Station	1	Each	\$125,000.00	\$ 125,000.00
31	Booster Pump Station	1	Each	\$75,000.00	\$ 75,000.00
32	4" Plug Valve w/Box	7	Each	\$575.00	\$ 4,025.00
33	3" Plug Valve w/Box	7	Each	\$450.00	\$ 3,150.00
34	2" Ball Valve w/Box	13	Each	\$350.00	\$ 4,550.00
35	LPS Cleanout/Manhole(S.H.)	5	Each	\$2,000.00	\$ 10,000.00
36	LPS Cleanout/Manhole(N.S.H.)	17	Each	\$2,000.00	\$ 34,000.00
37	LPS Air Valve/Manhole(S.H.)	2	Each	\$3,400.00	\$ 6,800.00
38	Water Test Each LPS Main	1	LS	\$50,000.00	\$ 50,000.00
39	6" D.I. Force Main	10,480	LF	\$50.00	\$ 524,000.00
40	Land Purchase for Pump Stations	0.50	Acres	\$15,000.00	\$ 7,500.00
Subtotal					\$ 7,226,055.00
20% Contingency					\$ 1,445,211.00
Total Construction Cost					\$ 8,671,266.00
20% Soft Costs					\$ 1,734,253.20
Total Project Cost					\$ 10,405,519.20

Bear Creek Twp, Luzerne County, PA
Sewage Facilities Alternative 2

2 State Route 115 Corridor Sewage Collection System					
Item	Description	Quantity	Units	Unit Price	Total Price
1	8" PVC Gravity Sewer Main (S.H.) (Open Trench)	3100	L.F.	\$75.00	\$ 232,500.00
2	8" PVC Gravity Sewer Main (N.S.H.)	3000	L.F.	\$60.00	\$ 180,000.00
3	Standard Manhole (S.H.)	4	Each	\$2,500.00	\$ 10,000.00
4	Standard Manhole (NS.H.)	12	Each	\$2,500.00	\$ 30,000.00
5	4" PVC Lateral (S.H.) (Bored)	40	L.F.	\$350.00	\$ 14,000.00
6	4" PVC Lateral (S.H.) (Open Trench)	40	L.F.	\$50.00	\$ 2,000.00
7	4" PVC Lateral (N.S.H.)	195	L.F.	\$35.00	\$ 6,825.00
9	Bituminous Pavement Restoration (N.S.H.)	1600	SY	\$30.00	\$ 48,000.00
10	Shoulder Restoration (S.H.)(2A)	3200	SY	\$30.00	\$ 96,000.00
11	Lawn Restoration	100	SY	\$4.00	\$ 400.00
12	Vacuum Test Each Standard Manhole	16	Each	\$120.00	\$ 1,920.00
13	Air Test Each Sewer Line	33	Each	\$120.00	\$ 3,960.00
14	2" PVC Low Pressure Sewer Main (S.H.)	1,700	L.F.	\$35.00	\$ 59,500.00
15	LPS Cleanout/Manhole(S.H.)	3	Each	\$2,000.00	\$ 6,000.00
16	1-1/4" PVC Pressure Lateral (S.H.) (Open Trench)	60	L.F.	\$40.00	\$ 2,400.00
17	1-1/4" PVC Pressure Lateral (S.H.) (Bored)	60	L.F.	\$350.00	\$ 21,000.00
18	2" Ball Valve w/Box	3	Each	\$350.00	\$ 1,050.00
19	Grinder Pump Unit	4	Each	\$6,200.00	\$ 24,800.00
	Subtotal				\$ 740,355.00
	20% Contingency				\$ 148,071.00
	Total Construction Cost				\$ 888,426.00
	20% Soft Costs				\$ 177,685.20
	Total Project Cost				\$ 1,066,111.20
3 Wastewater Treatment Plant (0.15 MGD SBR)					
Item	Description	Quantity	Units	Unit Price	Total Price
1	Land Purchase	3	Acres	\$ 15,000	\$ 45,000
2	Mechanical Bar Screen with Bypass	1	LS	\$ 75,000	\$ 75,000
3	Influent Flow Meter	1	LS	\$ 8,500	\$ 8,500
4	SBR Tanks (25'x25'x20') per tank (no equipment)	2	Each	\$ 135,000	\$ 270,000
5	Sludge Holding Tank (25'x10'x20') no equipment	1	Each	\$ 85,000	\$ 85,000
6	Post Equalization Tank (25'x11'x20') no equipment	1	Each	\$ 85,000	\$ 85,000
7	Miscellaneous Metals (stairs, handrail etc.)	1	LF	\$ 75,000	\$ 75,000
8	Process Equipment for SBR/Sludge/Post Eq.	1	LS	\$ 637,500	\$ 637,500
9	Disk Filters	2	Each	\$ 145,000	\$ 290,000
10	UV Disinfection System	1	Each	\$ 26,000	\$ 26,000
11	Utility Water System	1	LS	\$ 35,000	\$ 35,000
12	Control Building (including electrical, HVAC, etc.)	1	LS	\$ 230,000	\$ 230,000
13	Emergency Generator	1	LS	\$ 60,000	\$ 60,000
14	Electrical Work	1	LS	\$ 200,000	\$ 200,000
15	Yard Piping	1	LS	\$ 60,000	\$ 60,000
16	Site Work (Grading/Parking/E&S, etc.)	1	LS	\$ 195,000	\$ 195,000
17	Potable Well	1	LS	\$ 10,000	\$ 10,000
18	Beit Filter Press inc. Chem Feed and Conveyor	1	Each	\$ 200,000	\$ 200,000
19	6" D.I. Effluent Pipe	4000	LF	\$ 50	\$ 200,000
20	Shoulder Restoration (S.H.)(2A)	900	SY	\$30.00	\$ 27,000.00
21	Electrical Service by Utility Company	1	LS	\$15,000.00	\$ 15,000.00
	Subtotal				\$ 2,829,000.00
	20% Contingency				\$ 565,800.00
	Total Construction Cost				\$ 3,394,800.00

Bear Creek Twp, Luzerne County, PA
Sewage Facilities Alternative 2

20% Soft Costs		\$ 678,960.00
Total Project Cost		\$ 4,073,760.00
Total Project Cost Estimate Summary - Alternative No. 2		
1 Sewage Collection and Conveyance System		\$ 10,405,519.20
2 State Route 115 Corridor Sewage Collection System		\$ 1,066,111.20
3 Wastewater Treatment Plant (0.15 MGD SBR)		\$ 4,073,760.00
	Total	\$ 15,545,390.40

Bear Creek Twp, Luzerne County, PA
Sewage Facilities Alternative 2

Operation and Maintenance Costs		
Item	Description	Bear Creek Township Costs
1	Administration	\$ 15,000.00
2	Labor, Salaries and Benefits	\$ 80,000.00
3	Maintenance and Supplies	\$ 10,000.00
4	Electrical and Utilities	\$ 35,000.00
5	Insurance	\$ 3,000.00
6	Chemical	\$ 12,000.00
7	Sludge Disposal	\$ 12,000.00
8	Repairs	\$ 20,000.00
9	Purchase Nutrient Credits (Phosphorus)	\$ 1,200.00
10	Professional Fees (legal, engineering, accounting)	\$ 10,000.00
11	Laboratory Fees	\$ 4,000.00
12	Routine Wastewater Collection System Maintenance	\$ 10,000.00
	Subtotal	\$ 212,200.00
	15% Contingency	\$ 31,830.00
	Total O&M Cost	\$ 244,030.00

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 3

This Alternative consists of a Collection System for each study area.					
Study Area 1 drains to a Pump Station along SR 115 on the North side of the study area.					
This pump Station pumps to a second pump station for SA 1 along SR 115					
on the South side of the study area. This second pump station will pump up and over the mountain					
to SA 2. The Gravity sewer for SA 2 drains to a WWTP site on the south side of Forest Park.					
Treatment and discharge to the Bear Creek would require meeting very Strict Effluent Limits, that					
would be very costly. As an alternative, we propose seasonal spray irrigation with seasonal					
discharge with effluent limits that are not as low. This approach would also require an SEJ to DEP.					
The WWTP would be an SBR similar to the Deep Hollow Discharge.					
Construction Cost Estimate					
1 Sewage Collection System (Study Areas 1 and 2)					
Item	Description	Quantity	Units	Unit Price	Total Price
1	8" PVC Gravity Sewer Main (S.H.) (Open Trench)	21,110	L.F.	\$75.00	\$ 1,583,250.00
2	8" PVC Gravity Sewer Main (S.H.) (Bored)	460	L.F.	\$500.00	\$ 230,000.00
3	8" PVC Gravity Sewer Main (N.S.H.)	20,540	L.F.	\$60.00	\$ 1,232,400.00
4	2" PVC Low Pressure Sewer Main (N.S.H.)	8,700	L.F.	\$30.00	\$ 261,000.00
5	3" PVC Low Pressure Sewer Main (N.S.H.)	1,250	L.F.	\$35.00	\$ 43,750.00
6	4" PVC Low Pressure Sewer Main (N.S.H.)	400	L.F.	\$40.00	\$ 16,000.00
7	3" PVC Low Pressure Sewer Main (S.H.)	700	L.F.	\$40.00	\$ 28,000.00
8	4" PVC Low Pressure Sewer Main (S.H.)	5,100	L.F.	\$40.00	\$ 204,000.00
9	4" PVC Lateral (S.H.) (Bored)	960	L.F.	\$350.00	\$ 336,000.00
10	4" PVC Lateral (S.H.) (Open Trench)	1,050	L.F.	\$50.00	\$ 52,500.00
11	4" PVC Lateral (N.S.H.)	9,530	L.F.	\$35.00	\$ 333,550.00
12	1-1/4" PVC Pressure Lateral (S.H.) (Open Trench)	240	L.F.	\$40.00	\$ 9,600.00
13	1-1/4" PVC Pressure Lateral (S.H.) (Bored)	150	L.F.	\$350.00	\$ 52,500.00
14	1-1/4" PVC Pressure Lateral (N.S.H.)	800	L.F.	\$25.00	\$ 20,000.00
15	Turnpike Bridge Crossing	200	L.F.	\$280.00	\$ 56,000.00
16	Route 115 Crossing	210	L.F.	\$250.00	\$ 52,500.00
17	Stream Crossing	100	L.F.	\$175.00	\$ 17,500.00
18	Standard Manhole (S.H.)	74	Each	\$2,500.00	\$ 185,000.00
19	Standard Manhole(NS.H.)	82	Each	\$2,500.00	\$ 205,000.00
20	Bituminous Pavement Restoration (S.H.)	2,000	S.Y.	\$40.00	\$ 80,000.00
21	Bituminous Pavement Restoration (N.S.H.)	15,240	S.Y.	\$30.00	\$ 457,200.00
22	Gravel Pavement Restoration (N.S.H.)	4,000	S.Y.	\$10.00	\$ 40,000.00
23	Bituminous Driveway Restoration (N.S.H.)	650	S.Y.	\$20.00	\$ 13,000.00
24	Gravel Driveway Restoration	800	S.Y.	\$8.00	\$ 6,400.00
25	Shoulder Restoration (S.H.)(2A)	7,900	S.Y.	\$30.00	\$ 237,000.00
26	Lawn Restoration	8,060	S.Y.	\$4.00	\$ 32,240.00
27	Vacuum Test Each Standard Manhole	146	Each	\$120.00	\$ 17,520.00
28	Air Test Each Sewer Line	203	Each	\$120.00	\$ 24,360.00
29	Grinder Pump Unit	84	Each	\$6,200.00	\$ 520,800.00
30	Pump Station	2	Each	\$125,000.00	\$ 250,000.00
31	Booster Pump Station	1	Each	\$75,000.00	\$ 75,000.00
32	4" Plug Valve w/Box	7	Each	\$575.00	\$ 4,025.00
33	3" Plug Valve w/Box	7	Each	\$450.00	\$ 3,150.00
34	2" Ball Valve w/Box	13	Each	\$350.00	\$ 4,550.00
35	LPS Cleanout/Manhole(S.H.)	5	Each	\$2,000.00	\$ 10,000.00
36	LPS Cleanout/Manhole(N.S.H.)	17	Each	\$2,000.00	\$ 34,000.00
37	LPS Air Valve/Manhole(S.H.)	2	Each	\$3,400.00	\$ 6,800.00
38	Water Test Each LPS Main	1	LS	\$50,000.00	\$ 50,000.00
39	6" D.I. Force Main	16,100	LF	\$50.00	\$ 805,000.00
40	Land Purchase for Pump Stations	0.50	Acres	\$15,000.00	\$ 7,500.00
Subtotal					\$ 7,597,095.00
20% Contingency					\$ 1,519,419.00
Total Construction Cost					\$ 9,116,514.00

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 3

20% Soft Costs					\$ 1,823,302.80
Total Project Cost					\$ 10,939,816.80
2 Wastewater Treatment Plant (0.15 MGD SBR)					
Item	Description	Quantity	Units	Unit Price	Total Price
1	Mechanical Bar Screen with Bypass	1	LS	\$ 75,000	\$ 75,000
2	Influent Flow Meter	1	LS	\$ 8,500	\$ 8,500
3	SBR Tanks (25'x25'x20') per tank (no equipment)	2	Each	\$ 135,000	\$ 270,000
4	Sludge Holding Tank (25'x10'x20') no equipment	1	Each	\$ 85,000	\$ 85,000
5	Post Equalization Tank (25'x11'x20') no equipment	1	Each	\$ 85,000	\$ 85,000
6	Miscellaneous Metals (stairs, handrail etc.)	1	LS	\$ 75,000	\$ 75,000
7	Process Equipment for SBR/Sludge/Post Eq.	1	LS	\$ 637,500	\$ 637,500
8	Deep Bed Sand Filters	2	Each	\$ 187,500	\$ 375,000
9	UV Disinfection System	1	Each	\$ 26,000	\$ 26,000
10	Utility Water System	1	LS	\$ 35,000	\$ 35,000
11	Control Building (Including electrical, HVAC, etc.)	1	LS	\$ 230,000	\$ 230,000
12	Emergency Generator	1	LS	\$ 60,000	\$ 60,000
13	Electrical Work	1	LS	\$ 200,000	\$ 200,000
14	Yard Piping	1	LS	\$ 60,000	\$ 60,000
15	Site Work (Grading/Parking/E&S, etc.)	1	LS	\$ 195,000	\$ 195,000
16	Potable Well	1	LS	\$ 10,000	\$ 10,000
17	Belt Filter Press inc. Chem Feed and Conveyor	1	Each	\$ 200,000	\$ 200,000
18	6" FM Effluent Pipe from WWTP to Bear Creek	11,200	LF	\$ 50	\$ 560,000
19	Electrical Service by Utility Company	1	LS	\$15,000.00	\$ 15,000.00
Subtotal					\$ 3,202,000.00
20% Contingency					\$ 640,400.00
Total Construction Cost					\$ 3,842,400.00
20% Soft Costs					\$ 768,480.00
Total Project Cost					\$ 4,610,880.00
Irrigate on Parcel 6A because close by - would require 70 Acres for Irrigation and Holding (Holding volume 8.45 MG)					
3 Spray Irrigation System					
Item	Description	Quantity	Units	Unit Price	Total Price
1	Land Purchase (includes land for WWTP)	84	Acres	\$10,000.00	\$ 840,000.00
2	Storage Pond	3.2	Ac-Ft	\$10,000.00	\$ 32,000.00
3	Impervious Liner	1,670	S.Y.	\$7.00	\$ 11,690.00
4	Spray Irrigation Piping	51	Acres	\$12,000.00	\$ 612,000.00
5	Pump Station	1	L.S.	\$125,000.00	\$ 125,000.00
6	Control Building	800	SF	\$120.00	\$ 96,000.00
7	Selective Clearing for Spray System and Storage Pond	12	Acres	\$10,000.00	\$ 120,000.00
8	Aerator	3	Each	\$25,000.00	\$ 75,000.00
9	Detailed Soils Evaluation	1	L.S.	\$74,500.00	\$ 74,500.00
10	Hydrogeological Study	1	L.S.	\$25,000.00	\$ 25,000.00
11	Monitoring Wells	15	Each	\$8,000.00	\$ 120,000.00
12	Lysimeters	40	Each	\$1,200.00	\$ 48,000.00
13	E&S Controls and Stabilization	1	L.S.	\$60,000.00	\$ 60,000.00
14	Access Road and Electrical Utility	800	LF	\$15.00	\$ 12,000.00
Subtotal					\$ 2,251,190.00
20% Contingency					\$ 450,238.00
Total					\$ 2,701,428.00

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 3

20% Soft Costs			\$ 540,285.60
Total Project Cost			\$ 3,241,713.60
Total Project Cost Estimate Summary - Alternative No. 3			
1 Sewage Collection and Conveyance System			\$ 10,939,816.80
2 Wastewater Treatment Plant (0.15 MGD SBR)			\$ 4,610,880.00
3 Spray Irrigation System			\$ 3,241,713.60
		Total	\$ 18,792,410.40

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 3

Operation and Maintenance Costs		
Item	Description	Bear Creek Township Costs
1	Administration	\$ 15,000.00
2	Labor and Salaries	\$ 80,000.00
3	Maintenance and Supplies	\$ 10,000.00
4	Electrical and Utilities	\$ 40,000.00
5	Insurance	\$ 3,000.00
6	Chemical	\$ 14,000.00
7	Sludge Disposal	\$ 12,000.00
8	Repairs	\$ 23,000.00
9	Spray Irrigation - Monitoring, winterization, spring startup	\$ 20,000.00
10	Professional Fees (legal, engineering, accounting)	\$ 10,000.00
11	Laboratory Fees	\$ 6,000.00
12	Routine Wastewater Collection System Maintenance	\$ 10,000.00
	Subtotal	\$ 243,000.00
	15% Contingency	\$ 36,450.00
	Total O&M Cost	\$ 279,450.00

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 4

This Alternative consists of a Collection System for each study area.					
Study Area 1 drains to a Pump Station along SR 115 on the North side of the study area.					
This pump Station pumps to a second pump station for SA 1 along SR 115					
on the South side of the study area. This second pump station pump up and over the mtn					
to SA 2. The Gravity sewer for SA 2 drains to a pump station on the south side of Forest Park.					
This pump station pumps to a WWTP located on parcel 6. This WWTP would meet secondary treatment levels					
for disposal of effluent by Spray irrigation. The WWTP would be a extended aeration package plant					
and provide storage for year round Irrigation. Spray Irrigation on Parcel 6.					
Construction Cost Estimate					
1 Sewage Collection System (Study Areas 1 and 2)					
Item	Description	Quantity	Units	Unit Price	Total Price
1	8" PVC Gravity Sewer Main (S.H.) (Open Trench)	21,110	L.F.	\$75.00	\$ 1,583,250.00
2	8" PVC Gravity Sewer Main (S.H.) (Bored)	460	L.F.	\$500.00	\$ 230,000.00
3	8" PVC Gravity Sewer Main (N.S.H.)	20,540	L.F.	\$60.00	\$ 1,232,400.00
4	2" PVC Low Pressure Sewer Main (N.S.H.)	8,700	L.F.	\$30.00	\$ 261,000.00
5	3" PVC Low Pressure Sewer Main (N.S.H.)	1,250	L.F.	\$35.00	\$ 43,750.00
6	4" PVC Low Pressure Sewer Main (N.S.H.)	400	L.F.	\$40.00	\$ 16,000.00
7	3" PVC Low Pressure Sewer Main (S.H.)	700	L.F.	\$40.00	\$ 28,000.00
8	4" PVC Low Pressure Sewer Main (S.H.)	5,100	L.F.	\$40.00	\$ 204,000.00
9	4" PVC Lateral (S.H.) (Bored)	960	L.F.	\$350.00	\$ 336,000.00
10	4" PVC Lateral (S.H.) (Open Trench)	1,050	L.F.	\$50.00	\$ 52,500.00
11	4" PVC Lateral (N.S.H.)	9,530	L.F.	\$35.00	\$ 333,550.00
12	1-1/4" PVC Pressure Lateral (S.H.) (Open Trench)	240	L.F.	\$40.00	\$ 9,600.00
13	1-1/4" PVC Pressure Lateral (S.H.) (Bored)	150	L.F.	\$350.00	\$ 52,500.00
14	1-1/4" PVC Pressure Lateral (N.S.H.)	800	L.F.	\$25.00	\$ 20,000.00
15	Turnpike Bridge Crossing	200	L.F.	\$280.00	\$ 56,000.00
16	Route 115 Crossing	210	L.F.	\$250.00	\$ 52,500.00
17	Stream Crossing	100	L.F.	\$175.00	\$ 17,500.00
18	Standard Manhole (S.H.)	74	Each	\$2,500.00	\$ 185,000.00
19	Standard Manhole(NS.H.)	82	Each	\$2,500.00	\$ 205,000.00
20	Bituminous Pavement Restoration (S.H.)	2,000	S.Y.	\$40.00	\$ 80,000.00
21	Bituminous Pavement Restoration (N.S.H.)	15,240	S.Y.	\$30.00	\$ 457,200.00
22	Gravel Pavement Restoration (N.S.H.)	4,000	S.Y.	\$10.00	\$ 40,000.00
23	Bituminous Driveway Restoration (N.S.H.)	650	S.Y.	\$20.00	\$ 13,000.00
24	Gravel Driveway Restoration	800	S.Y.	\$8.00	\$ 6,400.00
25	Shoulder Restoration (S.H.)(2A)	7,900	S.Y.	\$30.00	\$ 237,000.00
26	Lawn Restoration	8,060	S.Y.	\$4.00	\$ 32,240.00
27	Vacuum Test Each Standard Manhole	146	Each	\$120.00	\$ 17,520.00
28	Air Test Each Sewer Line	203	Each	\$120.00	\$ 24,360.00
29	Grinder Pump Unit	84	Each	\$6,200.00	\$ 520,800.00
30	Pump Station	3	Each	\$125,000.00	\$ 375,000.00
31	Booster Pump Station	1	Each	\$75,000.00	\$ 75,000.00
32	4" Plug Valve w/Box	7	Each	\$575.00	\$ 4,025.00
33	3" Plug Valve w/Box	7	Each	\$450.00	\$ 3,150.00
34	2" Ball Valve w/Box	13	Each	\$350.00	\$ 4,550.00
35	LPS Cleanout/Manhole(S.H.)	5	Each	\$2,000.00	\$ 10,000.00
36	LPS Cleanout/Manhole(N.S.H.)	17	Each	\$2,000.00	\$ 34,000.00
37	LPS Air Valve/Manhole(S.H.)	2	Each	\$3,400.00	\$ 6,800.00
38	Water Test Each LPS Main	1	LS	\$50,000.00	\$ 50,000.00
39	6" D.I. Force Main	16,100	LF	\$50.00	\$ 805,000.00
40	Land Purchase for Pump Stations	0.50	Acres	\$15,000.00	\$ 7,500.00
Subtotal					\$ 7,722,095.00
20% Contingency					\$ 1,544,419.00
Total Construction Cost					\$ 9,266,514.00
20% Soft Costs					\$ 1,853,302.80
Total Project Cost					\$ 11,119,816.80

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 4

2 Wastewater Treatment Plant (0.15 MGD Extended Aeration)					
Item	Description	Quantity	Units	Unit Price	Total Price
1	Mechanical Bar Screen with Bypass	1	LS	\$ 75,000	\$ 75,000
2	Influent Flow Meter	1	LS	\$ 8,500	\$ 8,500
3	Extended Aeration Tanks (no equipment)	2	Each	\$ 110,000	\$ 220,000
4	Sludge Holding Tank	1	Each	\$ 85,000	\$ 85,000
5	Clarifiers	2	Each	\$ 75,000	\$ 150,000
6	Miscellaneous Metals (stairs, handrail etc.)	1	LS	\$ 75,000	\$ 75,000
7	Process Equipment for Extended aeration/Sludge	1	LS	\$ 400,000	\$ 400,000
8	Chlorine Disinfection System	1	Each	\$ 50,000	\$ 50,000
9	Utility Water System	1	LS	\$ 35,000	\$ 35,000
10	Control Building (including electrical, HVAC, etc.)	1	LS	\$ 230,000	\$ 230,000
11	Emergency Generator	1	LS	\$ 60,000	\$ 60,000
12	Electrical Work	1	LS	\$ 200,000	\$ 200,000
13	Yard Piping	1	LS	\$ 60,000	\$ 60,000
14	Site Work (Grading/Parking/E&S, etc.)	1	LS	\$ 195,000	\$ 195,000
15	Potable Well	1	LS	\$ 10,000	\$ 10,000
16	Belt Filter Press inc. Chem Feed and Conveyor	1	Each	\$ 200,000	\$ 200,000
17	6" FM Effluent Pipe from pump station to WWTP	10,000	LF	\$ 50	\$ 500,000
18	Electrical Service by Utility Company	1	LS	\$15,000.00	\$ 15,000.00
Subtotal					\$ 2,568,500.00
20% Contingency					\$ 513,700.00
Total Construction Cost					\$ 3,082,200.00
20% Soft Costs					\$ 616,440.00
Total Project Cost					\$ 3,698,640.00
Irrigate on Parcel 6 - Requires 105 acres including storage pond (storage vol of 32.2 MG) and buffers					
3 Spray Irrigation System					
Item	Description	Quantity	Units	Unit Price	Total Price
1	Land Purchase (includes land for WWTP)	122	Acres	\$10,000.00	\$ 1,220,000.00
2	Storage Pond	12.4	Ac-Ft	\$10,000.00	\$ 124,000.00
3	Impervious Liner	76,230	S.Y.	\$2.50	\$ 190,575.00
4	Spray Irrigation Piping	70	Acres	\$10,000.00	\$ 700,000.00
5	Pump Station	1	L.S.	\$125,000.00	\$ 125,000.00
6	Control Building	800	SF	\$120.00	\$ 96,000.00
7	Selective Clearing for Spray System and Storage Pond	15	Acres	\$10,000.00	\$ 150,000.00
8	Aerator	4	Each	\$25,000.00	\$ 100,000.00
9	Detailed Soils Evaluation	1	L.S.	\$105,000.00	\$ 105,000.00
10	Hydrogeological Study	1	L.S.	\$25,000.00	\$ 25,000.00
11	Monitoring Wells	20	Each	\$8,000.00	\$ 160,000.00
12	Lysimeters	60	Each	\$1,200.00	\$ 72,000.00
13	E&S Controls and Stabilization	1	L.S.	\$75,000.00	\$ 75,000.00
14	Access Road and Electrical Utility	800	LF	\$15.00	\$ 12,000.00
Subtotal					\$ 3,154,575.00
20% Contingency					\$ 630,915.00
Total					\$ 3,785,490.00
20% Soft Costs					\$ 757,098.00
Total Project Cost					\$ 4,542,588.00

Total Project Cost Estimate Summary - Alternative No. 4

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 4

1 Sewage Collection and Conveyance System	\$ 11,119,816.80
2 Wastewater Treatment Plant (0.15 MGD Extended Aeration)	\$ 3,698,640.00
3 Spray Irrigation System	\$ 4,542,588.00
Total	\$ 19,361,044.80

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 4

Operation and Maintenance Costs		
Item	Description	Bear Creek Township Costs
1	Administration	\$ 15,000.00
2	Labor and Salaries	\$ 80,000.00
3	Maintenance and Supplies	\$ 10,000.00
4	Electrical and Utilities	\$ 50,000.00
5	Insurance	\$ 3,000.00
6	Chemical	\$ 15,000.00
7	Sludge Disposal	\$ 12,000.00
8	Repairs	\$ 15,000.00
8	Spray Irrigation - Monitoring, winterization, spring startup	\$ 25,000.00
9	Professional Fees (legal, engineering, accounting)	\$ 10,000.00
10	Laboratory Fees	\$ 6,000.00
11	Routine Wastewater Collection System Maintenance	\$ 10,000.00
	Subtotal	\$ 251,000.00
	15% Contingency	\$ 37,650.00
	Total O&M Cost	\$ 288,650.00

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 5

This Alternative consists of a Collection System for each study area.					
Study Area 1 drains to a Pump Station along SR 115 on the North side of the study area.					
This pump Station pumps to a second pump station for SA 1 along SR 115					
on the South side of the study area. This second pump station pumps up and over the mtn					
to SA 2. A third pump station on the south side of Forest Park pumps to an SBR WWTP site on Parcel 6.					
Treated wastewater will then be conveyed from the WWTP to the community on-lot system located on Parcel 6.					
Construction Cost Estimate					
1 Sewage Collection System (Study Areas 1 and 2)					
Item	Description	Quantity	Units	Unit Price	Total Price
1	8" PVC Gravity Sewer Main (S.H.) (Open Trench)	21,110	L.F.	\$75.00	\$ 1,583,250.00
2	8" PVC Gravity Sewer Main (S.H.) (Bored)	460	L.F.	\$500.00	\$ 230,000.00
3	8" PVC Gravity Sewer Main (N.S.H.)	20,540	L.F.	\$60.00	\$ 1,232,400.00
4	2" PVC Low Pressure Sewer Main (N.S.H.)	8,700	L.F.	\$30.00	\$ 261,000.00
5	3" PVC Low Pressure Sewer Main (N.S.H.)	1,250	L.F.	\$35.00	\$ 43,750.00
6	4" PVC Low Pressure Sewer Main (N.S.H.)	400	L.F.	\$40.00	\$ 16,000.00
7	3" PVC Low Pressure Sewer Main (S.H.)	700	L.F.	\$40.00	\$ 28,000.00
8	4" PVC Low Pressure Sewer Main (S.H.)	5,100	L.F.	\$40.00	\$ 204,000.00
9	4" PVC Lateral (S.H.) (Bored)	960	L.F.	\$350.00	\$ 336,000.00
10	4" PVC Lateral (S.H.) (Open Trench)	1,050	L.F.	\$50.00	\$ 52,500.00
11	4" PVC Lateral (N.S.H.)	9,530	L.F.	\$35.00	\$ 333,550.00
12	1-1/4" PVC Pressure Lateral (S.H.) (Open Trench)	240	L.F.	\$40.00	\$ 9,600.00
13	1-1/4" PVC Pressure Lateral (S.H.) (Bored)	150	L.F.	\$350.00	\$ 52,500.00
14	1-1/4" PVC Pressure Lateral (N.S.H.)	800	L.F.	\$25.00	\$ 20,000.00
15	Turnpike Bridge Crossing	200	L.F.	\$280.00	\$ 56,000.00
16	Route 115 Crossing	210	L.F.	\$250.00	\$ 52,500.00
17	Stream Crossing	100	L.F.	\$175.00	\$ 17,500.00
18	Standard Manhole (S.H.)	74	Each	\$2,500.00	\$ 185,000.00
19	Standard Manhole (N.S.H.)	82	Each	\$2,500.00	\$ 205,000.00
20	Bituminous Pavement Restoration (S.H.)	2,000	S.Y.	\$40.00	\$ 80,000.00
21	Bituminous Pavement Restoration (N.S.H.)	15,240	S.Y.	\$30.00	\$ 457,200.00
22	Gravel Pavement Restoration (N.S.H.)	4,000	S.Y.	\$10.00	\$ 40,000.00
23	Bituminous Driveway Restoration (N.S.H.)	650	S.Y.	\$20.00	\$ 13,000.00
24	Gravel Driveway Restoration	800	S.Y.	\$8.00	\$ 6,400.00
25	Shoulder Restoration (S.H.)(2A)	7,900	S.Y.	\$30.00	\$ 237,000.00
26	Lawn Restoration	8,060	S.Y.	\$4.00	\$ 32,240.00
27	Vacuum Test Each Standard Manhole	146	Each	\$120.00	\$ 17,520.00
28	Air Test Each Sewer Line	203	Each	\$120.00	\$ 24,360.00
29	Grinder Pump Unit	84	Each	\$6,200.00	\$ 520,800.00
30	Pump Station	2	Each	\$125,000.00	\$ 250,000.00
31	Booster Pump Station	1	Each	\$75,000.00	\$ 75,000.00
32	4" Plug Valve w/Box	7	Each	\$575.00	\$ 4,025.00
33	3" Plug Valve w/Box	7	Each	\$450.00	\$ 3,150.00
34	2" Ball Valve w/Box	13	Each	\$350.00	\$ 4,550.00
35	LPS Cleanout/Manhole(S.H.)	5	Each	\$2,000.00	\$ 10,000.00
36	LPS Cleanout/Manhole(N.S.H.)	17	Each	\$2,000.00	\$ 34,000.00
37	LPS Air Valve/Manhole(S.H.)	2	Each	\$3,400.00	\$ 6,800.00
38	Water Test Each LPS Main	1	LS	\$50,000.00	\$ 50,000.00
39	6" D.I. Force Main	16,100	LF	\$50.00	\$ 805,000.00
40	Land Purchase for Pump Stations	0.50	Acres	\$15,000.00	\$ 7,500.00
Subtotal					\$ 7,597,095.00
20% Contingency					\$ 1,519,419.00
Total Construction Cost					\$ 9,116,514.00
20% Soft Costs					\$ 1,823,302.80
Total Project Cost					\$ 10,939,816.80

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 5

2 Wastewater Treatment Plant (0.15 MGD SBR)					
Item	Description	Quantity	Units	Unit Price	Total Price
1	Mechanical Bar Screen with Bypass	1	LS	\$ 75,000	\$ 75,000
2	Influent Flow Meter	1	LS	\$ 8,500	\$ 8,500
3	SBR Tanks (25'x25'x20') per tank (no equipment)	2	Each	\$ 135,000	\$ 270,000
4	Sludge Holding Tank (25'x10'x20') no equipment	1	Each	\$ 85,000	\$ 85,000
5	Post Equalization Tank (25'x11'x20') no equipment	1	Each	\$ 85,000	\$ 85,000
6	Miscellaneous Metals (stairs, handrail etc.)	1	LS	\$ 75,000	\$ 75,000
7	Process Equipment for SBR/Sludge/Post Eq.	1	LS	\$ 637,500	\$ 637,500
8	UV Disinfection System	1	Each	\$ 26,000	\$ 26,000
9	Utility Water System	1	LS	\$ 35,000	\$ 35,000
10	Control Building (including electrical, HVAC, etc.)	1	LS	\$ 230,000	\$ 230,000
11	Emergency Generator	1	LS	\$ 60,000	\$ 60,000
12	Electrical Work	1	LS	\$ 200,000	\$ 200,000
13	Yard Piping	1	LS	\$ 60,000	\$ 60,000
14	Site Work (Grading/Parking/E&S, etc.)	1	LS	\$ 195,000	\$ 195,000
15	Potable Well	1	LS	\$ 10,000	\$ 10,000
16	Belt Filter Press inc. Chem Feed and Conveyor	1	Each	\$ 200,000	\$ 200,000
17	6" FM Effluent Pipe from pump station to WWTP	10,000	LF	\$ 50	\$ 500,000
18	Electrical Service by Utility Company	1	LS	\$15,000.00	\$ 15,000.00
Subtotal					\$ 2,767,000.00
20% Contingency					\$ 553,400.00
Total Construction Cost					\$ 3,320,400.00
20% Soft Costs					\$ 664,080.00
Total Project Cost					\$ 3,984,480.00
Construct Community Sand Mounds on Parcel 6					
3 Subsurface Wastewater Disposal - Study Areas No. 1 and 2					
Item	Description	Quantity	Units	Unit Price	Total Price
1	Land Purchase (includes land for WWTP)	213	Acres	\$ 10,000	\$ 2,130,000
2	Dosing Tank with pumps	8	Each	\$ 25,000	\$ 200,000
3	Sand	17,000	C.Y.	\$ 55.00	\$ 935,000
4	#57 Course Aggregate	17,000	C.Y.	\$ 50.00	\$ 850,000
5	Emergency Generator	1	Each	\$ 40,000	\$ 40,000
6	Electrical Work	1	Each	\$ 80,000	\$ 80,000
7	Distribution Piping	5	Each	\$ 35,000	\$ 175,000
8	Seed and Mulch	52,000	S.Y.	\$ 4.00	\$ 208,000
9	Detailed soils evaluation	1	L.S.	\$90,000.00	\$ 90,000
10	Hydrogeological Study	1	L.S.	\$40,000.00	\$ 40,000
11	Monitoring wells	25	Each	\$8,000.00	\$ 200,000
12	Selective clearing for system	60	Acre	\$ 10,000	\$ 600,000
13	E&S Controls and Stabilization	1	L.S.	\$ 75,000	\$ 75,000
14	Maintenance Building	500	SF	\$ 100	\$ 50,000
15	Electrical Service by Utility Company	1	LS	\$ 20,000	\$ 20,000
Subtotal					\$ 5,693,000.00
20% Contingency					\$ 1,138,600.00
Total Construction Cost					\$ 6,831,600.00
20% Soft Costs					\$ 1,366,320.00

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 5

Total Project Cost		\$ 8,197,920.00
Total Project Cost Estimate Summary - Alternative No. 5		
1 Sewage Collection and Conveyance System - Study Area No. 1 and 2		\$ 10,939,816.80
2 Wastewater Treatment Plant (0.15 MGD SBR)		\$ 3,984,480.00
3 Subsurface Wastewater Disposal - Study Areas No. 1 and 2		\$ 8,197,920.00
	Total	\$ 23,122,216.80

Bear Creek Township, Luzerne County, PA
Sewage Facilities Alternative 5

Operation and Maintenance Costs - Study Areas No. 1 and 2		
Item	Description	Bear Creek Township Costs
1	Administration	\$ 15,000.00
2	Labor and Salaries	\$ 90,000.00
3	Maintenance and Supplies	\$ 12,000.00
4	Electrical and Utilities	\$ 50,000.00
5	Insurance	\$ 3,000.00
6	Chemical	\$ 12,000.00
7	Sludge Disposal	\$ 12,000.00
8	Repairs	\$ 10,000.00
9	Professional Fees (legal, engineering, accounting)	\$ 10,000.00
10	Routine Wastewater Collection System Maintenance	\$ 12,000.00
11	Laboratory Fees	\$ 5,000.00
	Subtotal	\$ 231,000.00
	15% Contingency	\$ 34,650.00
	Total O&M Cost for Study Areas 1 and 2	\$ 265,650.00