

SECTION 6.0

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**TABLE 6-2
ENGINEER'S OPINION OF PROBABLE COST - CENTRALIZED TREATMENT/HYBRID COLLECTION**

ITEM	QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
SCHEDULE A - PUBLIC WAY INFRASTRUCTURE				
1		SEWERS AND APPURTENANCES, COMPLETE IN PLACE		
1a	156,700	8-inch PVC gravity sewer, 0-12 feet deep, per linear foot	\$70.00	\$10,969,000.00
1b	2,400	8-inch PVC gravity sewer, >12 feet deep, per linear foot	\$100.00	\$240,000.00
1c	900	10-inch PVC gravity sewer, 0-12 feet deep, per linear foot	\$80.00	\$72,000.00
1d	6,400	12-inch PVC gravity sewer, 0-12 feet deep, per linear foot	\$100.00	\$640,000.00
1e	250	12-inch PVC gravity sewer, >12 feet deep, per linear foot	\$130.00	\$32,500.00
1f	4,500	15-inch PVC gravity sewer, 0-12 feet deep, per linear foot	\$120.00	\$540,000.00
1g	3,000	15-inch PVC gravity sewer, >12 feet deep, per linear foot	\$150.00	\$450,000.00
1h	550	21-inch PVC gravity sewer, 0-12 feet deep, per linear foot	\$140.00	\$77,000.00
2		PRESSURE SEWERS AND APPURTENANCES		
2a	10,200	1 1/2-inch PVC pressure sewer, per linear foot	\$35.00	\$357,000.00
2b	85,500	2-inch PVC pressure sewer, per linear foot	\$35.00	\$2,992,500.00
2c	20,200	3-inch PVC pressure sewer, per linear foot	\$40.00	\$808,000.00
2d	290	Terminal and inline flushing connection and manhole, per structure	\$3,500.00	\$1,015,000.00
3		FORCE MAINS AND APPURTENANCES		
3a	2,300	2-inch PVC force main, per linear foot	\$30.00	\$69,000.00
3b	4,900	3-inch PVC force main, per linear foot	\$35.00	\$171,500.00
3c	18,100	4-inch PVC force main, per linear foot	\$40.00	\$724,000.00
3d	6,500	6-inch DI force main, per linear foot	\$50.00	\$325,000.00
3e	8,550	8-inch DI force main, per linear foot	\$75.00	\$641,250.00
3f	8,150	15-inch DI force main, per linear foot	\$95.00	\$774,250.00
3g	100	Force main cleanout manholes, per structure	\$5,000.00	\$500,000.00
4		BUILDING CONNECTIONS		
4a	1,650	8- x 6-inch wye branches for PVC pipe, each	\$150.00	\$247,500.00
4b	15	10- x 6-inch wye branches for PVC pipe, each	\$200.00	\$3,000.00
4c	65	12- x 6-inch wye branches for PVC pipe, each	\$250.00	\$16,250.00
4d	65	15- x 6-inch wye branches for PVC pipe, each	\$300.00	\$19,500.00
4e	5	21- x 6-inch wye branches for PVC pipe, each	\$350.00	\$1,750.00
4f	500	6-inch chimneys, per vertical foot	\$125.00	\$62,500.00
4g	1,050	Tee branches for pressure sewer, each	\$100.00	\$105,000.00
4h	26,250	1 1/2-inch pressure building connections (R.O.W.), per linear foot	\$35.00	\$918,750.00
4i	44,500	6-inch PVC building connections (R.O.W.), per linear foot	\$45.00	\$2,002,500.00
5		ROCK EXCAVATION AND DISPOSAL		
5a	16,000	Rock excavation and disposal, per cubic yard	\$100.00	\$1,600,000.00
6		MISCELLANEOUS EARTHWORK		
6a	50,000	Excavation & backfill of unsuitable material, per cubic yard	\$10.00	\$500,000.00
7		GRAVITY SEWER MANHOLES AND APPURTENANCES		
7a	850	Precast concrete manhole base with standard frame & cover, per manhole	\$2,500.00	\$2,125,000.00
7b	8,500	Precast concrete manhole walls and cones, per vertical foot	\$100.00	\$850,000.00
8		DEWATERING		
8a	175,000	Normal Dewatering, gravity sewer trenches, per linear foot	\$2.00	\$350,000.00
8b	116,000	Normal Dewatering, pressure sewer trenches, per linear foot	\$1.00	\$116,000.00
8c	50,000	Special dewatering, per linear foot	\$15.00	\$750,000.00
9		PAVEMENT REPLACEMENT (LOCAL STREETS)		
9a	120,000	Temporary trench pavement, (trench width), per linear foot	\$10.00	\$1,200,000.00
9b	235,000	Permanent pavement, 2-inch binder course (trench width), per linear foot	\$15.00	\$3,525,000.00
9c	96,000	Permanent pavement, 1 1/2-inch top course (trench width), per linear foot	\$15.00	\$1,440,000.00
9d	139,500	Permanent pavement, 1 1/2-inch top course (full width width), per linear foot	\$25.00	\$3,487,500.00
9e	30,000	Gravel roadway replacement, per linear foot	\$10.00	\$300,000.00

**TABLE 6-2
ENGINEER'S OPINION OF PROBABLE COST - CENTRALIZED TREATMENT/HYBRID COLLECTION**

ITEM	QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
10		PAVEMENT REPLACEMENT (STATE HIGHWAY)		
10a	14,500	Temporary trench pavement, (trench width), per linear foot	\$10.00	\$145,000.00
10b	28,500	Permanent pavement, 1 1/2-inch binder course (trench width), per linear foot	\$15.00	\$427,500.00
10c	28,500	Permanent pavement, 1 1/2-inch top course (trench width), per linear foot	\$15.00	\$427,500.00
10d	28,500	Permanent pavement, 4-inch black base course (trench width), per linear foot	\$25.00	\$712,500.00
10e	45,000	Control density fill, per cubic yard	\$60.00	\$2,700,000.00
11		ENVIRONMENTAL PROTECTION		
11a	300,000	Calcium chloride, per pound	\$0.25	\$75,000.00
11b	37,000	Siltation control measures, per linear foot	\$10.00	\$370,000.00
12		PUMP STATIONS, COMPLETE IN PLACE		
12a	4	Submersible (grinder) pump stations, complete in place, lump sum	\$250,000.00	\$1,000,000.00
12b	9	Submersible (non-clog) pump stations, complete in place, lump sum	\$350,000.00	\$3,150,000.00
12c	5	Self-priming pump stations, complete in place, lump sum	\$700,000.00	\$3,500,000.00
12e	1	Large Custom-built pump stations, complete in place, lump sum	\$1,750,000.00	\$1,750,000.00
13		SPECIAL CONSTRUCTION		
13a	2	State highway crossings, each	\$50,000.00	\$100,000.00
14		MOBILIZATION		
14a	1	Mobilization, lump sum (not more than 5% of total Eligible bid items 1-13)	\$2,768,787.50	\$2,768,787.50
SCHEDULE A TOTAL				\$58,144,537.50
SCHEDULE B - PRIVATE (ON-LOT) INFRASTRUCTURE				
1		BUILDING CONNECTIONS		
1a	280,000	1 1/2-inch pressure building connections (on-lot), per linear foot	\$15.00	\$4,200,000.00
1b	300,000	6-inch PVC building connections (on-lot), per linear foot	\$20.00	\$6,000,000.00
2		GRINDER PUMP UNITS		
2a	1,100	Simplex grinder pump units, complete in place, per grinder pump	\$7,000.00	\$7,700,000.00
2b	300	Electrical upgrades for grinder pump service, each	\$750.00	\$225,000.00
SCHEDULE B TOTAL				\$18,125,000.00
TOTAL CONSTRUCTION COST				\$76,269,537.50
DESIGN, PERMITTING, & CONSTRUCTION SERVICES (25%)				\$19,067,384.38
CONSTRUCTION CONTINGENCIES (25%)				\$19,067,384.38
POLICE DETAILS				\$4,100,000.00
LAND & LEGAL				\$540,000.00
GRAND TOTAL - CENTRALIZED TREATMENT/HYBRID COLLECTION SYSTEM INSTALLATION				\$119,044,306.25

TABLE 6-3
ENGINEER'S OPINION OF PROBABLE COST - DECENTRALIZED TREATMENT / SEPTIC TANK EFFLUENT COLLECTION

ITEM	QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
SCHEDULE A - PUBLIC WAY INFRASTRUCTURE				
1		STEG SEWERS AND APPURTENANCES		
1a	57,600	4-inch PVC STEG sewers, per linear foot	\$40.00	\$2,304,000.00
1b	20,100	6-inch PVC STEG sewers, per linear foot	\$50.00	\$1,005,000.00
1c	2,300	8-inch PVC STEG sewers, per linear foot	\$60.00	\$138,000.00
1d	85	Cleanouts, each	\$1,500.00	\$127,500.00
2		STEP SEWERS AND APPURTENANCES		
2a	214,500	1 1/2-inch PVC STEP sewers, per linear foot	\$35.00	\$7,507,500.00
2b	22,200	2-inch PVC STEP sewers, per linear foot	\$35.00	\$777,000.00
2c	240	Cleanouts, each	\$2,500.00	\$600,000.00
3		FORCE MAINS AND APPURTENANCES		
3a	7,000	4-inch PVC force main, per linear foot	\$40.00	\$280,000.00
3b	1,550	6-inch DI force main, per linear foot	\$50.00	\$77,500.00
3c	4,000	8-inch DI force main, per linear foot	\$75.00	\$300,000.00
3d	8,150	12-inch DI force main, per linear foot	\$90.00	\$733,500.00
3e	45	Force main cleanout manholes, per structure	\$5,000.00	\$225,000.00
4		BUILDING CONNECTIONS		
4a	590	4- x 4-inch wye branches for PVC pipe, each	\$130.00	\$76,700.00
4b	150	6- x 4-inch wye branches for PVC pipe, each	\$140.00	\$21,000.00
4c	25	8- x 4-inch wye branches for PVC pipe, each	\$150.00	\$3,750.00
4d	2,270	Tee branches for STEP sewer, each	\$300.00	\$681,000.00
4e	57,000	1 1/2-inch pressure building connections (R.O.W.), per linear foot	\$35.00	\$1,995,000.00
4f	19,100	4-inch PVC building connections (R.O.W.), per linear foot	\$45.00	\$859,500.00
5		ROCK EXCAVATION AND DISPOSAL		
5a	10,000	Rock excavation and disposal, per cubic yard	\$100.00	\$1,000,000.00
6		MISCELLANEOUS EARTHWORK		
6a	34,000	Excavation & backfill of unsuitable material, per cubic yard	\$10.00	\$340,000.00
7		DEWATERING		
7a	320,000	Normal Dewatering, per linear foot	\$1.00	\$320,000.00
7b	50,000	Special dewatering, per linear foot	\$10.00	\$500,000.00
8		PAVEMENT REPLACEMENT (LOCAL STREETS)		
8a	134,000	Temporary trench pavement, (trench width), per linear foot	\$8.00	\$1,072,000.00
8b	268,000	Permanent pavement, 2-inch binder course (trench width), per linear foot	\$12.00	\$3,216,000.00
8c	268,000	Permanent pavement, 1 1/2-inch top course (trench width), per linear foot	\$12.00	\$3,216,000.00
8e	30,000	Gravel roadway replacement, per linear foot	\$5.00	\$150,000.00
9		PAVEMENT REPLACEMENT (STATE HIGHWAY)		
9a	14,500	Temporary trench pavement, (trench width), per linear foot	\$8.00	\$116,000.00
9b	28,500	Permanent pavement, 1 1/2-inch binder course (trench width), per linear foot	\$12.00	\$342,000.00
9c	28,500	Permanent pavement, 1 1/2-inch top course (trench width), per linear foot	\$12.00	\$342,000.00
9d	28,500	Permanent pavement, 4-inch black base course (trench width), per linear foot	\$20.00	\$570,000.00
9e	18,500	Control density fill, per cubic yard	\$60.00	\$1,110,000.00
10		ENVIRONMENTAL PROTECTION		
10a	326,000	Calcium chloride, per pound	\$0.25	\$81,500.00
10b	41,500	Siltation control measures, per linear foot	\$10.00	\$415,000.00

**TABLE 6-3
ENGINEER'S OPINION OF PROBABLE COST - DECENTRALIZED TREATMENT / SEPTIC TANK EFFLUENT COLLECTION**

ITEM	QUANTITY	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
11		PUMP STATIONS, COMPLETE IN PLACE		
11a	2	Submersible (non-clog) pump stations, complete in place, lump sum	\$350,000.00	\$700,000.00
11b	3	Self-priming pump stations, complete in place, lump sum	\$600,000.00	\$1,800,000.00
11c	1	Small Custom-built pump stations, complete in place, lump sum	\$1,250,000.00	\$1,250,000.00
12		SPECIAL CONSTRUCTION		
12a	2	State highway crossings, each	\$50,000.00	\$100,000.00
13		MOBILIZATION		
13a	1	Mobilization, lump sum (not more than 5% of total Eligible bid items 1-12)	\$1,717,622.50	\$1,717,622.50
SCHEDULE A TOTAL				\$36,070,072.50
SCHEDULE B - PRIVATE (ON-LOT) INFRASTRUCTURE				
1		BUILDING CONNECTIONS		
1a	495,000	1 1/2-inch pressure building connections (on-lot), per linear foot	\$15.00	\$7,425,000.00
1b	120,000	4-inch PVC building connections (on-lot), per linear foot	\$20.00	\$2,400,000.00
2		SEPTIC TANKS, COMPLETE IN PLACE		
2a	780	STEG tanks, complete in place, each	\$6,000.00	\$4,680,000.00
2b	2,300	STEP tanks, complete in place, each	\$8,000.00	\$18,400,000.00
2c	230	Electrical Upgrades for STEP systems, each	\$750.00	\$172,500.00
SCHEDULE B TOTAL				\$33,077,500.00
TOTAL CONSTRUCTION COST				\$69,147,572.50
DESIGN, PERMITTING, & CONSTRUCTION SERVICES (25%)				\$17,286,893.13
CONTINGENCIES (25%)				\$17,286,893.13
POLICE DETAILS				\$3,100,000.00
LAND & LEGAL				\$700,000.00
GRAND TOTAL - SEPTIC TANK EFFLUENT COLLECTION SYSTEM INSTALLATION				\$107,521,358.75

**TABLE 6-4
CENTRALIZED TREATMENT/HYBRID COLLECTION
CONSTRUCTION PRODUCTION RATES AND ESTIMATED CONSTRUCTION DURATION**

Item	Production (per Day)	Quantity	Estimated Crew-Days
<u>A. Pipeline: (linear feet)</u>			
0-12 Feet Deep (Gravity Sewer)	80	141,300	1,766.3
>12-Feet Deep (Gravity Sewer)	50	4,900	98.0
Pressure Sewers	200	115,900	579.5
Force Main	300	37,300	124.3
<u>State Highway Pipeline: (linear feet)</u>			
0-12 Feet Deep (Gravity Sewer)	80	27,750	346.9
>12-Feet Deep (Gravity Sewer)	50	750	15.0
Force Main	300	11,200	37.3
<u>B. Building Connections:</u>			
Building Connections (Town Roads)	5	2,565	513.0
Building Connections (State Highway)	5	285	57.0
<u>C. Paving: (linear feet)</u>			
Trench Preparation	1,000	235,000	235.0
Binder Course (Trench-width)	1,200	235,000	195.8
Top Course (Trench-width)	1,200	96,000	80.0
Top Course (Full-width)	1,200	139,500	116.3
Final Grading (Gravel roads)	3,000	30,000	10.0
<u>State Highway Paving (linear feet)</u>			
Trench Preparation	1,000	28,500	28.5
Base course (Trench-width)	1,200	28,500	23.8
Binder Course (Trench-width)	1,200	28,500	23.8
Top Course (Trench-width)	1,200	28,500	23.8
<u>D. Testing: (linear feet)</u>			
Testing (Town Roads)	3,500	310,600	88.7
Testing (State Highway)	3,500	28,500	8.1

Total Sewer: 4,371.0

Town Roads: 3,844.2
State Highway: 526.8

4,371.0

**TABLE 6-5
DECENTRALIZED TREATMENT/STE COLLECTION SYSTEM -
CONSTRUCTION PRODUCTION RATES AND ESTIMATED CONSTRUCTION DURATION**

Item	Production (per Day)	Quantity	Estimated Crew-Days
<u>A. Pipeline: (linear feet)</u>			
Pressure Sewers (STEP/STEG)	200	288,200	1,441.0
Force Main	300	17,250	57.5
Effluent Disposal Pipe	300	29,600	98.7
<u>State Highway Pipeline: (linear feet)</u>			
Pressure Sewers (STEP/STEG)	200	28,500	142.5
Force Main	300	3,450	11.5
Effluent Disposal Pipe	300	4,500	15.0
<u>B. Building Connections:</u>			
Building Connections (Town Roads)	5	2,750	550.0
Building Connections (State Highway)	5	285	57.0
<u>C. Paving: (linear feet)</u>			
Trench Preparation	1,000	268,000	268.0
Binder Course (Trench-width)	1,200	268,000	223.3
Top Course (Trench-width)	1,200	268,000	223.3
Final Grading (Gravel roads)	3,000	30,000	10.0
<u>State Highway Paving (linear feet)</u>			
Trench Preparation	1,000	28,500	28.5
Base course (Trench-width)	1,200	28,500	23.8
Binder Course (Trench-width)	1,200	28,500	23.8
Top Course (Trench-width)	1,200	28,500	23.8
<u>D. Testing: (linear feet)</u>			
Testing (Town Roads)	3,500	343,000	98.0
Testing (State Highway)	3,500	28,500	8.1

Total Sewer: 3,303.7

Town Roads: 2,969.8

State Highway: 333.9

3,303.7

**TABLE 6-6
CENTRALIZED TREATMENT/HYBRID COLLECTION
PUMP STATION LAND ACQUISITION COSTS**

Site	Lot / Address	Owner	P.S. Type	Parcel Size (ft ²)	Land Value (\$)	\$ / ft ²	Taking Size (ft ²)	Acquisition (\$)
1	#41 Winslow Drive	Private	Submersible	30,928	\$234,900	\$7.60	900	\$6,836
2	Lot Adj. to #66 Lake Drive	Private	Submersible	21,780		\$10.00	900	\$9,000
3	#521 South Orleans Road	Private	Submersible	40,000	\$182,850	\$4.57		
				110,730	\$46,370	\$0.42		
				6,098	\$280	\$0.05		
4	#360 South Orleans Road	Town	Self-Priming	40,000	\$182,850	\$4.57	900	\$4,113
				200,376	\$320,530	\$1.60		
				56,715	\$23,750	\$0.42		
				3,920	\$180	\$0.05		
						\$4.57	1,600	\$0
5	#97 Namequoit Road	Private	Submersible	103,237	\$54,040	\$0.52		
				40,075	\$80,130	\$2.00		
						\$2.00	900	\$1,800
6	#292 South Orleans Road	Private	Self-Priming			\$10.00	1,600	\$16,000
7	#101/103/105 Finlay Road	Private	Custom (Small)	-	-	\$10.00	3,600	\$36,000
8	#83 Main Street	Private	Custom (Large)	40,000	\$228,560	\$5.71		
				39,988	\$79,960	\$2.00		
				17,163	\$8,980	\$0.52		
						\$5.71	3,600	\$20,556
9	#151 Route 6A	Private	Submersible	93,654	\$909,500	\$9.71	900	\$8,740
10	#36/60 Old Colony Way	Private	Submersible			\$10.00	900	\$9,000
11	#15 Jones Road	Town	Self-Priming			\$10.00	1,600	\$0
12	#1 Old Colony Road	Town	Submersible	21,780	\$75,100	\$3.45	900	\$0
13	#69 Barley Neck Road	Town	Submersible	21,780	\$883,900	\$40.58	900	\$0
14	#54 and #56 Brick Hill Road	Private	Submersible	-	-	-	900 (total)	-
	#54 Brick Hill Road			29,185	\$378,780	\$12.98		
				8,276	\$860	\$0.10		
						\$12.98	450	\$5,841
	#56 Brick Hill Road			22,651	\$297,240	\$13.12		
				15,246	\$1,310	\$0.09		
						\$13.12	450	\$5,904
15	#150 Rock Harbor Road	Town	Self-Priming	40,000	\$228,560	\$5.71		
				230,084	\$120,430	\$0.52		
						\$5.71	1,600	\$0
16	#168 Tonset Road	Private	Submersible	40,087	\$285,800	\$7.83	900	\$7,047
17	#9 Kettle Pond Way	Private	Submersible	26,572	\$205,690	\$7.74		
				26,136	\$1,500	\$0.06		
						\$7.74	900	\$6,966
18	#72 Pochet Road	Town	Submersible	40,000	\$457,120	\$11.43		
				1,394	\$1,460	\$1.05		
						\$11.43	900	\$0
19	#4 Asa's Landing	Private	Submersible	29,621	\$745,100	\$25.15	900	\$22,639
TOTAL:								\$160,442

**TABLE 6-7
DECENTRALIZED TREATMENT/SEPTIC TANK EFFLUENT COLLECTION
PUMP STATION, WWTF, & EFFLUENT DISPOSAL SITE LAND ACQUISITION COSTS**

Site	Lot / Address	Owner	Type	Parcel Size (ft ²)	Land Value (\$)	S / ft ²	Taking Size (ft ²)	Acquisition (\$)
4	#360 South Orleans Road	Town	Self-Priming	40,000	\$182,850	\$4.57		
				200,376	\$320,530	\$1.60		
				56,715	\$23,750	\$0.42		
				3,920	\$180	\$0.05		
8	#83 Main Street	Private	Custom (Large)	40,000	\$228,560	\$5.71	1,600	\$0
				39,988	\$79,960	\$2.00		
				17,163	\$8,980	\$0.52	3,600	\$20,556
						\$5.71		
10	#36/60 Old Colony Way	Private	Submersible			\$10.00	900	\$9,000
11	#15 Jones Road	Town	Self-Priming			\$10.00	1,600	\$0
13	#69 Barley Neck Road	Town	Submersible	21,780	\$883,900	\$40.58	900	\$0
14	#54 and #56 Brick Hill Road #54 Brick Hill Road #56 Brick Hill Road	Private	Submersible	-	-	-	900 (total)	-
				29,185	\$378,780	\$12.98		
				8,276	\$860	\$0.10	450	\$5,841
				22,651	\$297,240	\$13.12		
				15,246	\$1,310	\$0.09		
						\$13.12	450	\$5,904
								\$41,301
<u>Wastewater Treatment Facilities -</u>								
163	#320 South Orleans Road	Private	WWTF	40,000	\$182,850	\$4.57	40,000	\$182,850
				8,800	\$3,680	\$0.42	8,800	\$3,680
						\$4.99		
111	#3 Barley Neck Road #7 Barley Neck Road	Private	WWTF	20,038	\$190,880	\$9.53	20,038	\$190,880
		Private	WWTF	19,602	\$189,970	\$9.69	19,602	\$189,970
								\$567,380
<u>Effluent Disposal Fields -</u>								
172	#20 Quanset Road	Private	Disposal Field	40,000	\$137,130	\$3.43	40,000	\$137,130
				136,865	\$57,310	\$0.42	136,865	\$57,310
						\$3.85		
173	#12 Lindsay Lane	Private	Disposal Field	40,000	\$228,560	\$5.71		
				7,100	\$3,720	\$0.52		
						\$5.71		
181	#95 Arey's Lane		Disposal Field	297,950	\$233,900	\$0.79	24,200	\$138,182
112	#139 Main Street	Town	Disposal Field	43,560	\$296,100	\$6.80	132,450	\$103,977
				48,352	\$71,640	\$1.48	43,560	\$0
							18,690	\$0
321	#178 Beach Road	Private	Disposal Field	40,000	\$525,680	\$13.14	40,000	\$525,680
				119,964	\$551,710	\$4.60	119,964	\$551,710
				96,616	\$116,310	\$1.20	6,616	\$7,965
	#17 Grandview Drive	Private	Disposal Field	40,000	\$525,680	\$13.14	40,000	\$525,680
				218	\$260	\$1.19	218	\$260
						\$14.33		
322	#237 Beach Road	Town	Disposal Field	43,560	\$740,250	\$16.99		
				82,764	\$306,570	\$3.70		
				43,560	\$40,250	\$0.92		
								\$0
								\$2,047,894
TOTAL:								\$2,656,575

Table 6-16
Centralized Hybrid Collection System
Anticipated Operation and Maintenance Costs

<u>Description</u>	<u>Unit</u>	<u>Est. Qty.</u>	<u>Cost/Unit</u>	<u>Annual Cost</u>
Labor ⁽¹⁾	Hours	4,160	\$70.00	\$291,200
Administrative	L.S.	1	\$50,000.00	\$50,000
Flushing Program	L.F.	35,000	\$2.00	\$70,000
Power Use ⁽²⁾	kW-Hr	850,000	\$0.14	\$119,000
LP Gas Heat	Gal.	1,500	\$4.00	\$6,000
Equipment Maintenance Material:	L.S.	1	\$50,000.00	\$50,000
Vehicles	L.S.	1	\$15,000.00	\$15,000
Telephone	L.S.	1	\$12,000.00	\$12,000
Technical Assistance	L.S.	1	\$25,000.00	\$25,000
Snow Removal	L.S.	1	\$10,000.00	\$10,000
Grinder Pump O&M	Each	1,100	\$80.00	\$88,000

Total Anticipated Annual O&M Cost	\$736,000
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Notes:

- 1- Labor costs include labor burden.
- 2- Power consumption has been based on motor horsepower and anticipated operating hours.
- 3- Equipment maintenance cost is based on 0.5% of the total capital equipment cost.
- 4- Subtotal amounts have been rounded to the next \$100.
- 5- Total amount has been rounded to the next \$1,000.

Table 6-17
Decentralized STE Collection System
Anticipated Operation and Maintenance Costs

<u>Description</u>	<u>Unit</u>	<u>Est. Qty.</u>	<u>Cost/Unit</u>	<u>Annual Cost</u>
Labor ⁽¹⁾	Hours	4,160	\$70.00	\$291,200
Administrative	L.S.	1	\$50,000.00	\$50,000
Flushing Program	L.F.	0	\$2.00	\$0
Power Use ⁽²⁾	kW-Hr	260,000	\$0.14	\$36,400
LP Gas Heat	Gal.	500	\$4.00	\$2,000
Equipment Maintenance Material	L.S.	1	\$20,000.00	\$20,000
Vehicles	L.S.	1	\$15,000.00	\$15,000
Telephone	L.S.	1	\$4,000.00	\$4,000
Technical Assistance	L.S.	1	\$25,000.00	\$25,000
Snow Removal	L.S.	1	\$3,000.00	\$3,000
STEP O&M	Each	2,300	\$50.00	\$115,000
Tank Pumping	Each	3,080	\$30.00	\$92,400

Total Anticipated Annual O&M Cost	\$654,000
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Notes:

- 1- Labor costs include labor burden.
- 2- Power consumption has been based on motor horsepower and anticipated operating hours.
- 3- Equipment maintenance cost is based on 0.5% of the total capital equipment cost.
- 4- Subtotal amounts have been rounded to the next \$100.
- 5- Total amount has been rounded to the next \$1,000.

Table 6-19
Centralized Hybrid Collection System
Equivalent Uniform Annual Cost Analysis (EUAC)

Anticipated Project Capital Cost (Present Worth)	\$119,044,306
Equivalent Uniform Annual Cost (20 year life, 4% interest)	\$8,761,661
Annual Operation and Maintenance Cost	\$736,000

Centralized Wastewater EUAC \$9,498,000
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Notes:

- 1- ENR-CCI for March 2012 is 9267.57.
- 2- Capital cost does not include permitting.
- 3- Equipment replacement and maintenance costs are included in the O&M value.
Large equipment expected to last for a full 20 years.
- 4- End of life equipment replacement cost for large equipment is not included.
- 5- EUAC has been rounded to the nearest \$1,000.

Table 6-20
Decentralized STE Collection System
Equivalent Uniform Annual Cost Analysis (EUAC)

Anticipated Project Capital Cost (Present Worth)	\$107,521,359
Equivalent Uniform Annual Cost (20 year life, 4% interest)	\$7,913,572
Annual Operation and Maintenance Cost	\$654,000

Centralized Wastewater EUAC \$8,568,000

Notes:

- 1- ENR-CCI for March 2012 is 9267.57.
- 2- Capital cost does not include permitting.
- 3- Equipment replacement and maintenance costs are included in the O&M value. Large equipment expected
- 4- End of life equipment replacement cost for large equipment is not included.
- 5- EUAC has been rounded to the nearest \$1,000.