

30% BASIS OF DESIGN REPORT – SHERMAN STREET CSO STORAGE TANK

APPENDIX K 30% OPCC





Opinion of Probable Construction Cost

**City of Cambridge
Sherman CSO Tank
Cambridge, MA**

September 17, 2026

Opinion of Probable Construction Cost

Basis of Estimate Report

Client: Cambridge	Date Issued: 17Sept2026
Project Name: Sherman CSO Tank	Revision No.: 1
Project Contact: E. Olander	Stantec Class: 4
Design Definition: 30% Design	Currency: USD

Prepared by: Stantec Estimating, D Polla Date: 17-Sept-2026
Lead Estimator

Reviewed by: Stantec Estimating, Design Date: 17-Sept-2026
QA/QC Reviewer

Reviewed by: _____ Date: _____

Accepted by: _____ Date: _____

Any opinions of probable construction costs (OPCC) prepared by Stantec, including evaluations of the Client's project budget, and/or funding, represent Stantec's best judgment as a design professional familiar with the Construction industry. Unless and to the extent otherwise indicated by Stantec, such opinions or evaluations are based on upon current market rates for labor, material and equipment. The Client acknowledges that Stantec has no control over the costs of said labor, materials, or equipment, construction contractor's methods of determining bid prices, competitive bidding environments, unidentified field conditions, market conditions, hyper-inflationary or deflationary price cycles, or any other factors that may affect the OPCC, the project budget or negotiating conditions at the time of project execution. Client further acknowledges that the OPCC is a "snapshot" in time and that the reliability of the OPCC will degrade over time. Accordingly Stantec does not warrant or represent that construction bids or negotiated prices will not vary from the Client's project budget or Stantec's good faith OPCC.

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**Attachment Estimate Classification Matrix /
 Estimate Classification Descriptions**

Attachment Estimate

Opinion of Probable Construction Costs

Blue Text – Project Specific

Black Text – General Report

1 BASIS OF ESTIMATE

1.1 Introduction

The intent of this OPCC for the City of Cambridge, Sherman CSO Tank is to describe, in sufficient detail, the methodology, assumptions, exclusions, allowances, exceptions and any other information used to develop the estimate.

1.2 Project Scope

The project is located near Sherman St. and Bellis Cir. Cambridge, MA. The project scope of work includes:

- Demolition of existing
- Demolition of some structural footings
- New CSO tank and appurtenances
- Surface restoration
- Piping connections
- Electrical and I&C
- Costs for Geotech instrumentation & monitoring, pre-construction inspection of abutting buildings, dust control, and similar are included with mobilization/GC markups at 30% Design

1.3 Organization

The project is broken down into a work breakdown structure (WBS) as identified in the attached estimate summary. Major category per work item.

1.4 Class of Estimate

This OPCC estimate is considered a Class 4 according to the Stantec Cost Estimate Classification System. A Cost Estimate Classification Matrix including Accuracy Ranges and Typical Contingencies along with detailed description of each Estimate Class can be found in the Attachments under Estimate Classification Matrix/Estimate Classification Descriptions.

15% contingency is included.

A 10% market conditions factor is also included to cover the extreme conditions for

- Material price tariffs, escalation, and shortages
- Skilled labor shortages
- Lack of contractor availability

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Contingency specifically includes:

- Errors and omissions in the estimating process
- Variability associated with the quantification effort
- Design that may not be complete enough to determine final quantities
- Some items that may define precise quantification but are required to be estimated
- Some items to be quantified that are generally computed by factoring
- Labor productivity variability
- Labor availability, skills, and productivity that may vary from that assumed
- Weather impact which may affect productivity
- Normal wage rate variability
- Composite wage rates varying from those assumed due to crew make-up, market conditions, and labor availability
- Material and equipment costs that may vary from those in the estimate due to inflationary reasons and market conditions.
- Changes in the actual quantities that may change schedules from that assumed in the estimate.

Contingency specifically excludes:

- Significant changes in scope
- Major unexpected work stoppages (strikes, etc.)
- Disasters (hurricanes, tornados, etc.)
- Excessive, unexpected inflation
- Excessive, unexpected currency fluctuations

1.5 Reference Documents

The following reference documents serve as the estimating basis:

No.	Date	Description
1	August 2026	30% Design Drawings

1.6 Estimating Team

The estimating team is made up of the following individuals:

Name	Role and Responsibility
Estimating, Design	QA / QC Reviewer
Estimating, D. Polla, T. Zavala	Estimators

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1.7 Labor Assumptions

The following labor assumptions are incorporated into the OPCC:

Parameter	OPCC Assumption
Local Wage Determination	2026 Middlesex County
Productivity Adjustment to U.S.	None
Shift Basis Shifts/Day Days/Week	8 hrs 1 Shifts/day
Living Per diems or Camp Costs	None
FICA SUI Workers Compensation	Included in hourly rate

1.8 Equipment Assumptions

The following equipment assumptions are incorporated into the OPCC:

Parameter	OPCC Assumption
Equipment Rate Basis	Middlesex County avg. rates
Rate Adjustment to U.S. Avg.	None
Fuel Rates : Gasoline Diesel Compensation	\$4.90/Gal. \$5.80/Gal.

1.9 Escalation

Estimated costs reflect current price levels consistent with the OPCC publish date. **Escalation to the mid-point of construction has been added to the OPCC, June 2028.**

1.10 Assumptions

The following assumptions are incorporated into the OPCC:

Project specific assumptions/comments/clarifications:

General:

- **Priced as neutral market with three plus competitive bids. Included premium for secant pile work**
- **Budget quote provided for tipping buckets, pumps, odor control, grit removal, and access hatches. All other pricing per database and online pricing**
- **Included an allowance for hazardous material**

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Exclusions / Exceptions

The developed estimate excludes the following:

- Non-conventional environmental mitigation measures
- Non-conventional heritage and cultural mitigation measures
- All owner costs and owner's contingency such as but not limited to pre-construction activities, management and support of field construction activities, interest during construction, allowances for change orders and claims, engineering services during construction, and owner's contingency
- ~~Removal of unforeseen underground obstructions.~~ Included
- ~~Hazardous material remediation or disposal.~~ Included
- ~~Utility costs for power connects or incoming transmission.~~ Included
- Permits beyond those normally needed for the type of project
- Facility O&M costs
- ~~Special inspections and testing not listed.~~ Included
- CM fees
- Engineering Design Fees
- Geotechnical investigation

1.12 Allowances

The developed estimate includes the following allowances:

- As indicated in estimate

1.13 Project Risks / Opportunities

The following standard project risks can influence bid results:

- Specification requiring special phasing constraints
- Onerous contract terms and conditions

Attachment

Estimate Classification

Estimate Classification

The Class of Estimate given to this estimate is based on the Association for the Advancement of Cost Engineering (AACE) Recommended Practice No. 18R-97: Cost Estimate Classification System – As Applied in Engineering, Procurement and Construction for the Process Industries. This AACE Recommended Practice has been adapted and expanded to the specific needs and characteristics for Stantec Design Projects and Programs. A copy of this Practice can be obtained from the AACE website at: https://www.costengineering.eu/Downloads/articles/AACE_CLASSIFICATION_SYSTEM.pdf

Stantec Estimating Framework utilizes a five level Class System (5, 4, 3, 2, and 1) which corresponds to estimate types prepared at various stages of project development. Class 5 cost estimates are developed a project conception when little project information or scope has been developed. Class 2 estimates are complete detailed unit cost and take off estimates with complete or near complete scope definition.

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ESTIMATING FRAMEWORK



SUMMARY OF OPCC COST ESTIMATE CLASSIFICATIONS APPLIED TO DESIGN AND CONSTRUCTION PROJECTS

ESTIMATE CHARACTERISTICS					
AACE Estimate Class	Class 5	Class 4	Class 3	Class 2	Class 1
Estimate Methodology	Parametric or Capacity Factored	Equipment Factored or Parametric	Semi-Detailed Unit Costs with Assembly Level Line Items	Detailed Unit Cost with Forced Detailed Take-off	Detailed Unit Cost with Detailed Take-off
Expected Level of Accuracy	-50% to +100%	-30% to +50%	-20% to +30%	-15% to +20%	-10% to +15%
Key Content Requirements (Scope Content Examples)	0 to 25% <i>Hydraulic Capacity</i>	25 to 30% <i>Process Flow Diagram</i> <i>Design Criteria</i> <i>General Site Layout</i> <i>Pipeline Corridors</i> <i>Prelim. Equipment Lists</i> <i>Prelim. Electrical Loads</i>	45 to 60% <i>Final Equipment Lists</i> <i>Site Layout (Earthwork)</i> <i>Building/Facility Plans</i> <i>Major Sections</i> <i>Concrete Quantities</i> <i>Final P&IDs</i> <i>Electrical Single Lines</i>	70 to 90% <i>Preliminary to Advanced Drawings</i> <i>Major Specifications</i>	95 to 100% <i>Complete Annotated Drawings</i> <i>Complete Specifications</i>

Attachment

Detailed Cost Estimate

Sherman CSO Tank

Spreadsheet Level	Phase	Takeoff Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
WA001 SHERMAN CSO TANK									
WP100 General									
<i>a106 Traffic Control</i>									
Traffic Control, Labor	2750.400	260.00 day	288,562	-		14,386	-	1,165.18 /day	302,947
Traffic Control, Signs, Barricades, Barrels	2750.400	362.00 day		50,276			-	138.88 /day	50,276
Traffic Control, Maintenance	2750.400	260.00 day	72,140	-		3,596	-	291.30 /day	75,737
Traffic Control Inspection/Management	2750.400	52.00 day	-	-	101,504	-	-	1,951.99 /day	101,504
<i>a106 Traffic Control</i>		<i>1.00 /s</i>	<i>360,702</i>	<i>50,276</i>	<i>101,504</i>	<i>17,982</i>		<i>530,463.46 /s</i>	<i>530,463</i>
WP100 General			360,702	50,276	101,504	17,982			530,463
WP200 Civil									
<i>e001 Demolition</i>									
Tree Removal	2100.250	7.00 ea	1,604	-	-	180	-	254.86 /ea	1,784
Demo Ties	2150.050	400.00 lf	3,918	-	-	2,888	-	17.02 /lf	6,807
Demo AC Paving	2150.050	24,050.00 sf	23,558	-	-	17,366	6,259	1.96 /sf	47,183
Yard Pipe Demo (Small Diameter) & Compact Backfill	2150.100	100.00 lf	1,306	-	-	963	651	29.20 /lf	2,920
Misc Demo	2150.100	1.00 ls	7,836	-	-	5,777	-	13,612.97 /ls	13,613
Demo at Vault	2150.150	200.00 sf	3,168	-	-	3,205	521	34.47 /sf	6,893
Demo at CAM 401A Regulator	2150.150	1.00 ls	7,920	-	-	8,012	-	15,932.01 /ls	15,932
Demo Footings	2150.150	820.00 lf	25,979	-	-	26,278	2,134	66.33 /lf	54,391
Unknown Underground Obstructions	2150.150	1.00 ls	49,502	-	-	50,073	2,603	102,177.73 /ls	102,178
Haul Debris to Off-Site Disposal	2200.450	740.00 cy	13,110	-	-	17,107	15,408	61.66 /cy	45,625
<i>e001 Demolition</i>		<i>1.00 /s</i>	<i>137,901</i>			<i>131,849</i>	<i>27,575</i>	<i>297,325.38 /s</i>	<i>297,325</i>
<i>e003 Fence</i>									
Construction Fence	2100.200	120.00 lf	426	667	-	477	-	13.08 /lf	1,570
Jersey Barrier w/ Fence	2100.200	350.00 lf	3,728	6,319	-	6,961	-	48.59 /lf	17,008
Relocate Fence	2800.150	450.00 lf	-	-	7,027	-	-	15.62 /lf	7,027
Roller Gate, 35"	2800.150	1.00 ea	-	-	9,890	-	-	9,890.11 /ea	9,890
Accoustical Fence	2800.250	150.00 lf	7,646	5,208	-	570	-	89.50 /lf	13,425
Bollards	5590.100	10.00 ea	9,753	8,333	-	951	-	1,903.69 /ea	19,037
<i>e003 Fence</i>		<i>1.00 /s</i>	<i>21,553</i>	<i>20,527</i>	<i>16,917</i>	<i>8,959</i>		<i>67,956.26 /s</i>	<i>67,956</i>
<i>e005 30" DI Pipe</i>									
Import Bedding	2200.100	51.00 cy	-	2,124	-	-	-	41.64 /cy	2,124
Haul Debris to Off-Site Disposal	2200.450	64.00 cy	1,134	-	-	1,479	250	44.74 /cy	2,863
Trench Box	2200.750	12.00 ch	-	-	-	537	-	44.75 /ch	537
Dewatering	2250.050	12.00 ch	80	94	-	143	-	26.40 /ch	317
DIP Pipe, 30	2425.330	60.00 lf	3,535	32,793	-	1,281	-	626.83 /lf	37,610
Tle In to Manhole	2425.330	1.00 ea	2,828	976	-	1,025	-	4,828.88 /ea	4,829
Pre-Cast Concrete Manhole, AASHTO HS-20, 5' Dia., 4-8' Tall	2700.050	1.00 ea	2,828	4,034	-	1,025	-	7,887.02 /ea	7,887
Solids Holding Tank	2700.050	1.00 ea	8,484	97,600	-	3,075	-	109,158.33 /ea	109,158
<i>e005 30" DI Pipe</i>		<i>60.00 lf</i>	<i>18,888</i>	<i>137,621</i>		<i>8,566</i>	<i>250</i>	<i>2,755.41 /lf</i>	<i>165,325</i>
<i>e007 12" DI Pipe</i>									
Import Bedding	2200.100	29.00 cy	-	1,208	-	-	-	41.64 /cy	1,208
Haul Debris to Off-Site Disposal	2200.450	31.00 cy	549	-	-	717	121	44.74 /cy	1,387
Trench Box	2200.750	12.00 ch	-	-	-	537	-	44.75 /ch	537
Dewatering	2250.050	12.00 ch	80	94	-	143	-	26.40 /ch	317
DIP Pipe, 12	2450.212	70.00 lf	3,299	11,113	-	1,196	-	222.98 /lf	15,608
DIP Pipe, Bend 45, 12	2450.212	2.00 ea	2,121	3,409	-	769	-	3,149.58 /ea	6,299
DIP Pipe, Bend 90, 12	2450.212	2.00 ea	2,121	4,984	-	769	-	3,936.88 /ea	7,874

Sherman CSO Tank

Spreadsheet Level	Phase	Takeoff Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
e007 12" DI Pipe		70.00 lf	8,170	20,808		4,130	121	474.71 /lf	33,230
e009 60" RCP Pipe									
Import Bedding	2200.100	31.00 cy	-	1,291	-	-	-	41.64 /cy	1,291
Haul Debris to Off-Site Disposal	2200.450	43.00 cy	762	-	-	994	168	44.74 /cy	1,924
Trench Box	2200.750	16.00 ch	-	-	-	716	-	44.75 /ch	716
Dewatering	2250.050	16.00 ch	107	125	-	191	-	26.40 /ch	422
RCP Class III O-Ring Joint Pipe, 60"	2650.203	32.00 lf	4,525	13,159	-	1,640	-	603.86 /lf	19,324
Pre-Cast Concrete Manhole, AASHTO HS-20, 8' Dia., 12-18' Tall	2700.050	1.00 ea	8,484	16,917	-	3,075	-	28,475.93 /ea	28,476
e009 60" RCP Pipe		32.00 lf	13,877	31,492		6,616	168	1,629.77 /lf	52,153
e011 6" DI Water Main									
Import Bedding	2200.100	16.00 cy	-	666	-	-	-	41.64 /cy	666
Haul Debris to Off-Site Disposal	2200.450	16.00 cy	283	-	-	370	62	44.74 /cy	716
Trench Box	2200.750	16.00 ch	-	-	-	716	-	44.75 /ch	716
Dewatering	2250.050	16.00 ch	107	125	-	191	-	26.40 /ch	422
DIP Pipe, 6	2450.206	50.00 lf	1,767	3,904	-	641	-	126.24 /lf	6,312
DIP Pipe, Bend 90, 6	2450.206	1.00 ea	707	651	-	256	-	1,613.88 /ea	1,614
BFP Vault	2700.050	1.00 ea	8,484	16,917	-	3,075	-	28,475.95 /ea	28,476
SS Bolt, Nut & Gasket Set, 6	15120.002	2.00 ea	27	354	-	-	-	190.57 /ea	381
Flanged Coupling Adapter 6"	15241.211	2.00 ea	408	1,562	-	-	-	984.56 /ea	1,969
Backflow Preventer Flg 6"	15410.280	1.00 ea	1,653	16,267	-	99	-	18,019.23 /ea	18,019
e011 6" DI Water Main		50.00 lf	13,436	40,445		5,348	62	1,185.84 /lf	59,292
e013 Relocate 12" DI Water Main									
Import Bedding	2200.100	15.00 cy	-	625	-	-	-	41.64 /cy	625
Haul Debris to Off-Site Disposal	2200.450	16.00 cy	283	-	-	370	62	44.74 /cy	716
Trench Box	2200.750	8.00 ch	-	-	-	358	-	44.75 /ch	358
Dewatering	2250.050	8.00 ch	53	62	-	95	-	26.40 /ch	211
DIP Pipe, 12	2450.212	35.00 lf	1,650	5,557	-	598	-	222.98 /lf	7,804
DIP Pipe, Bend 45, 12	2450.212	4.00 ea	4,242	6,819	-	1,537	-	3,149.57 /ea	12,598
e013 Relocate 12" DI Water Main		35.00 lf	6,228	13,063		2,959	62	637.49 /lf	22,312
e015 Relocate 10" Force Main									
Import Bedding	2200.100	19.00 cy	-	791	-	-	-	41.64 /cy	791
Haul Debris to Off-Site Disposal	2200.450	20.00 cy	354	-	-	462	78	44.74 /cy	895
Trench Box	2200.750	8.00 ch	-	-	-	358	-	44.75 /ch	358
Dewatering	2250.050	8.00 ch	53	62	-	95	-	26.40 /ch	211
DIP Pipe, 10	2450.210	50.00 lf	2,357	6,637	-	854	-	196.95 /lf	9,848
DIP Pipe, Bend 45, 10	2450.210	4.00 ea	3,535	6,246	-	1,281	-	2,765.63 /ea	11,063
DIP Pipe, Coupling 10	2450.210	2.00 ea	1,767	2,863	-	641	-	2,635.49 /ea	5,271
Pre-Cast Concrete Manhole, AASHTO HS-20, 5' Dia., 4-8' Tall	2700.050	1.00 ea	2,828	4,034	-	1,025	-	7,887.01 /ea	7,887
Air/Vacuum Release Assembly- 3" & Smaller	15000.001	1.00 ea	1,087	1,301	-	99	-	2,487.48 /ea	2,487
e015 Relocate 10" Force Main		50.00 lf	11,981	21,935		4,816	78	776.21 /lf	38,811
e017 8" SS Repair									
Import Bedding	2200.100	3.00 cy	-	125	-	-	-	41.64 /cy	125
Haul Debris to Off-Site Disposal	2200.450	3.00 cy	53	-	-	69	12	44.73 /cy	134
Trench Box	2200.750	4.00 ch	-	-	-	179	-	44.75 /ch	179
Dewatering	2250.050	4.00 ch	27	31	-	48	-	26.40 /ch	106
8" SS Repair	2650.308	1.00 ls	2,828	260	-	1,025	-	4,113.16 /ls	4,113

Sherman CSO Tank

Spreadsheet Level	Phase	Takeoff Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
e017 8" SS Repair		1.00 ls	2,908	416		1,321	12	4,656.88 /ls	4,657
e021 Diversion Structure									
Import Bedding	2200.100	35.00 cy	-	1,457	-	-	-	41.64 /cy	1,457
Structure Excavation, Haul to On-site Stockpile	2200.200	250.00 cy	2,099	-	-	3,039	-	20.55 /cy	5,138
Structural Backfill from On-Site Stockpile	2200.250	175.00 cy	2,391	-	-	2,707	-	29.13 /cy	5,098
Spread, Grade, and Compact Imported Structure Base	2200.250	35.00 cy	392	-	-	375	-	21.94 /cy	768
Haul Debris to Off-Site Disposal	2200.450	75.00 cy	1,329	-	-	1,734	293	44.74 /cy	3,355
Shoring	2200.750	1.00 ls	-	-	-	15,911	-	15,910.64 /ls	15,911
e021 Diversion Structure		250.00 ls	6,212	1,457		23,765	293	126.91 /ls	31,727
e023 Storm Drain									
Import Bedding	2200.100	70.00 cy	-	2,915	-	-	-	41.64 /cy	2,915
Drainage Swale	2200.250	450.00 sf	2,522	586	-	2,413	-	12.27 /sf	5,521
Haul Debris to Off-Site Disposal	2200.450	90.00 cy	1,595	-	-	2,081	351	44.74 /cy	4,026
Trench Box	2200.750	24.00 ch	-	-	-	1,074	-	44.75 /ch	1,074
Dewatering	2250.050	24.00 ch	160	187	-	286	-	26.40 /ch	634
RCP Class III O-Ring Joint Pipe, 15"	2650.203	100.00 lf	7,070	4,294	-	2,563	-	139.27 /lf	13,927
Shea Drywell, 1,000 Gallon	2700.050	4.00 ea	33,935	26,027	-	12,300	-	18,065.30 /ea	72,261
Inlet	2700.150	1.00 ea	1,414	2,603	-	513	-	4,529.10 /ea	4,529
Catch Basin	2700.150	1.00 ea	2,828	3,123	-	1,025	-	6,976.07 /ea	6,976
Manhole, 48" x 8'	2700.150	1.00 ea	5,656	3,383	-	2,050	-	11,089.23 /ea	11,089
e023 Storm Drain		1.00 ls	55,179	43,118		24,304	351	122,952.44 /ls	122,952
e025 Surface Restoration									
Remove/Reset Granite Curbs	2150.050	120.00 lf	1,175	-	-	828	-	16.70 /lf	2,004
Haul Debris to Off-Site Disposal	2200.450	383.00 cy	6,786	-	-	8,854	1,495	44.74 /cy	17,135
Overlay	2750.050	772.00 sy	-	-	18,083	-	-	23.42 /sy	18,083
Gravel Surface Restoration	2750.050	1.00 ls	-	-	16,267	-	-	16,266.61 /ls	16,267
Aggregate Base, 8"	2750.050	1,600.00 sy	-	-	34,355	-	-	21.47 /sy	34,355
Asphalt Paving, 6"	2750.050	1,600.00 sy	-	-	88,490	-	-	55.31 /sy	88,490
Temporary Asphalt Paving	2750.050	1,600.00 sy	-	-	29,150	-	-	18.22 /sy	29,150
Concrete Sidewalk	2750.100	2,300.00 sf	-	-	29,931	-	-	13.01 /sf	29,931
Cold Plane Bituminous Asphalt	2750.250	772.00 sy	-	-	-	-	4,019	5.21 /sy	4,019
e025 Surface Restoration		1.00 ls	7,961		216,276	9,682	5,514	239,432.61 /ls	239,433
e027 Landscaping									
Trees	2850.200	5.00 ea	6,874	2,277	-	772	-	1,984.62 /ea	9,923
Soil and Mulch	2850.250	1.00 ls	-	-	325	-	-	325.33 /ls	325
Loam and Seed	2850.250	2,400.00 sf	-	-	1,562	-	-	0.65 /sf	1,562
e027 Landscaping		1.00 ls	6,874	2,277	1,887	772		11,810.00 /ls	11,810
e029 Secant Pile									
Install 60" Dia Pile, H-Beam	2350.250	145.00 ton	64,480	339,647	-	137,935	-	3,738.35 /ton	542,061
Install 60" Dia Pile, Drilled / Concrete	2350.250	10,560.00 lf	2,683,059	2,362,806	-	1,842,605	-	652.32 /lf	6,888,470
Mobilization	2350.250	1.00 ls	-	-	19,520	-	-	19,519.93 /ls	19,520
e029 Secant Pile		10,560.00 vf	2,747,539	2,702,453	19,520	1,980,539		705.50 /vf	7,450,051
e031 Drilled Pier									
Install 36" Dia Drilled Pier Rebar, Sprial Cage	2350.250	26.17 ton	26,181	71,237	-	18,669	-	4,436.38 /ton	116,087
Install 36" Dia Drilled Pier Concrete	2350.250	4,230.00 lf	411,304	304,681	-	293,286	-	238.60 /lf	1,009,271
Mobilization	2350.250	1.00 ls	-	-	15,616	-	-	15,615.95 /ls	15,616
Drill 36" Dia Borehole in Rock	2350.250	470.00 lf	-	-	45,872	-	-	97.60 /lf	45,872

Sherman CSO Tank

Spreadsheet Level	Phase	Takeoff Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
e031 Drilled Pier		4,230.00 lf	437,486	375,917	61,488	311,955		280.58 /lf	1,186,846
e033 CSO Tank									
Dump Fees	2150.500	16,640.00 cy	-	-	-	-	1,689,021	101.50 /cy	1,689,021
Import Bedding	2200.100	950.00 cy	-	39,560	-	-	-	41.64 /cy	39,560
Structure Excavation, Load for Export	2200.200	16,640.00 cy	155,247	-	-	224,731	-	22.84 /cy	379,978
Spread, Grade, and Compact Imported Structure Base	2200.250	950.00 cy	10,650	-	-	10,190	-	21.94 /cy	20,840
e033 CSO Tank		1.00 ls	165,897	39,560		234,920	1,689,021	2,129,399.14 /ls	2,129,399
e065 CIPP Lining, Brick Sewer									
Allowance to Line Brick Sewer next to Diversion Structure	2650.202	1.00 ls			39,040	-	-	39,039.87 /ls	39,040
e065 CIPP Lining, Brick Sewer		1.00 ls			39,040			39,039.87 /ls	39,040
WP200 Civil									
			3,662,088	3,451,092	355,128	2,760,503	1,723,508		11,952,319
WP400 Structural									
e019 Floatable Control Structure									
Access Manway	2700.050	2.00 ea	1,414	1,952	-	513	-	1,939.23 /ea	3,878
Erect Wall Panel Forms with Integrated Clamp System, Plyform Lined, <4'	3100.250	280.00 sf	3,791	972	-	759	-	19.72 /sf	5,522
Construct Suspended Slab Floor Opening Forms	3100.400	22.00 sf	584	76	-	86	-	33.92 /sf	746
Construct Suspended Slab Deck Form <-15'	3100.400	286.00 sf	1,517	993	-	426	-	10.27 /sf	2,936
Construct Suspended Slab Edge Form > 1'	3100.400	94.00 sf	860	326	-	255	-	15.33 /sf	1,441
Strip & Oil Non-Construction Joint Forms	3100.650	116.00 sf	126	3	-	11	-	1.21 /sf	140
Strip & Oil Wall Forms	3100.650	280.00 sf	305	7	-	26	-	1.21 /sf	338
Install Edge Chamfer 1"	3100.800	143.00 lf	288	40	-	387	-	5.00 /lf	716
Purchase Form Ties, Coil Tie, 18"x1/2", w/ Connecting Rods and Bolts	3100.950	10.00 ea	-	51	-	-	-	5.14 /ea	51
Shore Suspended Slabs (Small Vol)	3150.050	2,288.00 cf	1,214	350	-	310	-	0.82 /cf	1,873
Install Rebar, Walls, Straight (Low Production)	3200.250	0.62 tn	995	-	-	165	-	1,865.31 /tn	1,160
Purchase Rebar, Walls, Straight	3200.250	0.62 tn	-	1,693	-	-	-	2,722.38 /tn	1,693
Install Rebar, Elevated Slabs (Low Production)	3200.400	1.55 tn	2,089	-	-	351	-	1,571.26 /tn	2,440
Purchase Rebar, Elevated Slabs	3200.400	1.55 tn	-	4,228	-	-	-	2,722.39 /tn	4,228
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi	3300.050	21.20 cy	-	6,814	-	-	-	321.43 /cy	6,814
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi (Waste)	3300.100	0.30 cy	-	96	-	-	-	321.43 /cy	96
Pump-Place Concrete, Walls (Low Production)	3300.350	7.00 cy	434	-	-	66	128	89.65 /cy	628
Trowel Top Surface, Walls	3300.350	94.00 sf	1,166	-	-	16	-	12.57 /sf	1,182
Grind Fins and Patch Voids @ Formed Surfaces, Walls	3300.350	280.00 sf	498	18	-	-	-	1.85 /sf	517
Pump-Place Concrete, Elevated Slabs (Low Production)	3300.500	14.20 cy	862	-	-	57	259	82.94 /cy	1,178
Sandblast Horizontal Joints Before Placing Walls	3400.025	94.00 sf	377	31	-	-	-	4.33 /sf	407
Finish Flatwork - Hard Trowel	3400.050	286.00 sf	625	15	-	88	-	2.55 /sf	728
Cure Concrete with Spray-On Liquid Curing Compounds	3400.400	566.00 sf	246	26	-	26	-	0.53 /sf	298
32" Brush Screen	11330.010	1.00 ea	2,173	3,904	-	199	-	6,276.29 /ea	6,276
e019 Floatable Control Structure		1.00 ls	19,564	21,596		3,741	386	45,287.03 /ls	45,287
e021 Diversion Structure									
Fine Grade SOG	2200.150	442.00 sf	238	-	-	-	-	0.54 /sf	238
Access Manway	2700.050	2.00 ea	1,414	1,952	-	512	-	1,939.22 /ea	3,878
Form Slab-on-Grade Perimeter Edge	3100.150	172.00 sf	2,329	597	-	615	-	20.58 /sf	3,540
Erect Wall Panel Forms with Integrated Clamp System, Plyform Lined, <4'	3100.250	192.00 sf	2,600	667	-	520	-	19.72 /sf	3,786

Sherman CSO Tank

Spreadsheet Level	Phase	Takeoff Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
<i>e021 Diversion Structure</i>									
Erect Wall Panel Forms with Integrated Clamp System, Plyform Lined, 4-8'	3100.250	285.00 sf	4,244	990	-	579	-	20.40 /sf	5,813
Erect Wall Panel Forms with Integrated Clamp System, Plyform Lined, 12-16'	3100.250	1,660.00 sf	28,093	5,764	-	4,497	-	23.11 /sf	38,354
Construct Suspended Slab Floor Opening Forms	3100.400	78.00 sf	2,069	271	-	306	-	33.92 /sf	2,646
Construct Suspended Slab Deck Form <-15'	3100.400	413.00 sf	2,191	1,434	-	615	-	10.27 /sf	4,240
Construct Suspended Slab Edge Form > 1'	3100.400	175.00 sf	1,601	608	-	474	-	15.33 /sf	2,683
Strip & Oil Non-Construction Joint Forms	3100.650	253.00 sf	275	7	-	23	-	1.21 /sf	305
Strip & Oil Wall Forms	3100.650	2,137.00 sf	2,325	56	-	196	-	1.21 /sf	2,576
Strip & Oil Slab Edge Forms	3100.650	172.00 sf	187	4	-	16	-	1.21 /sf	207
Install Edge Chamfer 1"	3100.800	330.00 lf	666	92	-	894	-	5.00 /lf	1,651
Purchase Form Ties, Coil Tie, 12"x1/2", w/ Connecting Rods and Bolts	3100.950	150.00 ea	-	667	-	-	-	4.44 /ea	667
Purchase Form Ties, Coil Tie, 18"x1/2", w/ Connecting Rods and Bolts	3100.950	60.00 ea	-	308	-	-	-	5.14 /ea	308
Shore Suspended Slabs (Small Vol)	3150.050	4,197.00 cf	2,226	641	-	569	-	0.82 /cf	3,436
Install Rebar, Slab-On-Grade (Average Production)	3200.150	2.62 tn	2,594	-	-	543	-	1,197.55 /tn	3,136
Purchase Rebar, Slab-On-Grade	3200.150	2.62 tn	-	7,130	-	-	-	2,722.38 /tn	7,130
Install Rebar, Walls, Straight (Low Production)	3200.250	4.47 tn	7,153	-	-	1,188	-	1,865.28 /tn	8,342
Purchase Rebar, Walls, Straight	3200.250	4.47 tn	-	12,174	-	-	-	2,722.38 /tn	12,174
Install Rebar, Elevated Slabs (Low Production)	3200.400	2.57 tn	3,451	-	-	581	-	1,571.26 /tn	4,032
Purchase Rebar, Elevated Slabs	3200.400	2.57 tn	-	6,986	-	-	-	2,722.38 /tn	6,986
Place Rebar/Mesh Support - Bricks	3200.750	50.00 ea	14	16	-	6	-	0.73 /ea	36
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi	3300.050	106.70 cy	-	34,296	-	-	-	321.43 /cy	34,296
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi (Waste)	3300.100	3.80 cy	-	1,221	-	-	-	321.43 /cy	1,221
Concrete Fill	3300.250	15.00 cy	728	3,904	-	74	195	326.79 /cy	4,902
Pump-Place Concrete, Slab-On-Grade (Average Production)	3300.250	32.80 cy	1,672	-	-	269	512	74.80 /cy	2,453
Trowel Top Surface, Slab-On-Grade	3300.250	442.00 sf	1,359	-	-	68	-	3.23 /sf	1,428
Pump-Place Concrete, Walls (Low Production)	3300.350	50.50 cy	3,131	-	-	476	920	89.65 /cy	4,527
Trowel Top Surface, Walls	3300.350	172.00 sf	2,133	-	-	29	-	12.57 /sf	2,162
Grind Fins and Patch Voids @ Formed Surfaces, Walls	3300.350	2,137.00 sf	3,805	139	-	-	-	1.85 /sf	3,944
Pump-Place Concrete, Elevated Slabs (Low Production)	3300.500	23.40 cy	1,420	-	-	94	426	82.94 /cy	1,941
Sandblast Horizontal Joints Before Placing Walls	3400.025	172.00 sf	689	56	-	-	-	4.33 /sf	745
Finish Flatwork - Hard Trowel	3400.050	413.00 sf	902	22	-	128	-	2.55 /sf	1,052
Cure Concrete with Spray-On Liquid Curing Compounds	3400.400	2,992.00 sf	1,302	136	-	137	-	0.53 /sf	1,575
Alum Access Hatch	8300.100	2.00 ea	1,631	37,473	-	199	-	19,651.56 /ea	39,303
<i>e021 Diversion Structure</i>		<i>106.70 /s</i>	<i>82,444</i>	<i>117,610</i>		<i>13,608</i>	<i>2,054</i>	<i>2,021.70 /ls</i>	<i>215,715</i>
<i>e035 CSO Tank SOG</i>									
Fine Grade SOG	2200.150	12,833.00 sf	6,901	-	-	-	-	0.54 /sf	6,901
Form Slab-on-Grade Perimeter Edge	3100.150	1,954.00 sf	26,455	6,784	-	6,982	-	20.58 /sf	40,221
Form Slab-on-Grade Construction Joints	3100.150	5,744.00 sf	77,768	19,944	-	20,523	-	20.58 /sf	118,234
Strip & Oil Slab-on-Grade Construction Joint Forms	3100.650	5,744.00 sf	18,745	-	-	526	-	3.36 /sf	19,270
Strip & Oil Slab Edge Forms	3100.650	1,954.00 sf	2,126	51	-	179	-	1.21 /sf	2,355
Install Rebar, Slab-On-Grade (High Production)	3200.150	47.53 tn	33,621	-	-	7,925	-	874.11 /tn	41,546
Purchase Rebar, Slab-On-Grade	3200.150	47.53 tn	-	129,392	-	-	-	2,722.38 /tn	129,392
Place Rebar/Mesh Support - Bricks	3200.750	1,290.00 ea	365	420	-	154	-	0.73 /ea	939
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi	3300.050	1,901.20 cy	-	611,100	-	-	-	321.43 /cy	611,100

Sherman CSO Tank

Spreadsheet Level	Phase	Takeoff Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
<i>e035 CSO Tank SOG</i>									
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi (Waste)	3300.100	76.10 cy	-	24,461	-	-	-	321.43 /cy	24,461
Pump-Place Concrete, Slab-On-Grade (High Production)	3300.250	1,901.20 cy	92,322	-	-	9,405	24,741	66.52 /cy	126,468
Trowel Top Surface, Slab-On-Grade	3300.250	12,833.00 sf	39,462	-	-	1,984	-	3.23 /sf	41,446
Sealant At Construction Joint Grooves	3350.050	1,436.00 lf	1,918	1,869	-	-	-	2.64 /lf	3,787
Waterstop, 6" Bulb	3350.200	1,436.00 lf	20,377	11,679	-	6,030	-	26.52 /lf	38,086
Zip Strips 3/4"	3350.250	1,436.00 lf	15,235	299	-	389	-	11.09 /lf	15,923
Sandblast Slab Construction Joints	3400.025	5,744.00 sf	23,015	1,869	-	-	-	4.33 /sf	24,883
Cure Concrete with Spray-On Liquid Curing Compounds	3400.400	12,833.00 sf	5,584	585	-	587	-	0.53 /sf	6,756
<i>e035 CSO Tank SOG</i>		<i>1,901.20 cy</i>	<i>363,892</i>	<i>808,451</i>		<i>54,683</i>	<i>24,741</i>	<i>658.41 /cy</i>	<i>1,251,767</i>
<i>e037 CSO Tank Exterior Walls</i>									
Erect Wall Panel Forms with Integrated Clamp System, Plyform Lined, 16'->	3100.250	29,477.00 sf	558,722	102,346	-	79,860	-	25.14 /sf	740,928
Construct Wall Bulkhead Forms	3100.250	1,126.00 sf	45,735	3,910	-	6,101	-	49.51 /sf	55,745
Strip & Oil Wall Forms	3100.650	29,477.00 sf	32,065	767	-	2,698	-	1.21 /sf	35,530
Strip & Oil Wall Construction Joint Forms	3100.650	1,126.00 sf	3,675	-	-	103	-	3.36 /sf	3,778
Install Edge Chamfer 1"	3100.800	990.00 lf	1,997	275	-	2,682	-	5.00 /lf	4,954
Form Vertical Wall Keyway 4"	3100.850	845.00 lf	5,720	704	-	1,145	-	8.96 /lf	7,569
Purchase Form Ties, Coil Tie, 18"x1/2", w/ Connecting Rods and Bolts	3100.950	940.00 ea	-	4,830	-	-	-	5.14 /ea	4,830
Install Rebar, Walls, Straight (High Production)	3200.250	44.28 tn	45,068	-	-	7,999	-	1,198.59 /tn	53,068
Install Rebar, Walls, Straight (Average Production)	3200.250	21.21 tn	27,760	-	-	4,831	-	1,536.49 /tn	32,591
Purchase Rebar, Walls, Straight	3200.250	65.49 tn	-	178,278	-	-	-	2,722.38 /tn	178,278
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi	3300.050	727.70 cy	-	233,903	-	-	-	321.43 /cy	233,903
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi (Waste)	3300.100	7.50 cy	-	2,411	-	-	-	321.43 /cy	2,411
Pump-Place Concrete, Walls (High Production)	3300.350	492.00 cy	27,458	-	-	1,407	6,403	71.68 /cy	35,267
Pump-Place Concrete, Walls (Average Production)	3300.350	235.70 cy	14,031	-	-	1,308	3,681	80.70 /cy	19,020
Trowel Top Surface, Walls	3300.350	652.00 sf	8,086	-	-	110	-	12.57 /sf	8,196
Grind Fins and Patch Voids @ Formed Surfaces, Walls	3300.350	29,477.00 sf	52,479	1,918	-	-	-	1.85 /sf	54,397
Waterstop, 6" Flat	3350.200	845.00 lf	11,990	6,873	-	3,548	-	26.52 /lf	22,412
Sandblast Vertical CJ @ Walls	3400.025	1,126.00 sf	6,015	366	-	-	-	5.67 /sf	6,382
Sandblast Horizontal Joints Before Placing Walls	3400.025	652.00 sf	2,612	212	-	-	-	4.33 /sf	2,824
Cure Concrete with Spray-On Liquid Curing Compounds	3400.400	29,477.00 sf	12,826	1,343	-	1,349	-	0.53 /sf	15,518
<i>e037 CSO Tank Exterior Walls</i>		<i>727.70 cy</i>	<i>856,239</i>	<i>538,136</i>		<i>113,141</i>	<i>10,083</i>	<i>2,085.47 /cy</i>	<i>1,517,599</i>
<i>e039 CSO Tank Elevated Slab</i>									
Precast Access Panels	3050.050	1.00 ls	-	-	84,586	-	-	84,586.40 /ls	84,586
Construct Suspended Slab Floor Opening Forms	3100.400	480.00 sf	12,731	1,667	-	1,886	-	33.92 /sf	16,283
Construct Suspended Slab Construction Joint	3100.400	2,872.00 sf	76,175	9,972	-	22,176	-	37.72 /sf	108,322
Construct Suspended Slab Deck Form 15-up	3100.400	15,908.00 sf	126,580	55,234	-	36,634	-	13.73 /sf	218,447
Construct Suspended Slab Edge Form > 1'	3100.400	1,073.00 sf	9,819	3,726	-	2,907	-	15.33 /sf	16,451
Strip & Oil Non-Construction Joint Forms	3100.650	1,553.00 sf	1,689	40	-	142	-	1.21 /sf	1,872
Strip & Oil Suspended Slab Forms	3100.650	2,872.00 sf	3,124	75	-	263	-	1.21 /sf	3,462
Shore Suspended Slabs (High. Vol)	3150.050	477,237.00 cf	84,384	72,908	-	64,647	-	0.47 /cf	221,939
Install Rebar, Elevated Slabs (High Production)	3200.400	129.62 tn	100,931	-	-	21,613	-	945.41 /tn	122,544
Purchase Rebar, Elevated Slabs	3200.400	129.62 tn	-	352,875	-	-	-	2,722.38 /tn	352,875
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi	3300.050	1,178.40 cy	-	378,771	-	-	-	321.43 /cy	378,771

Spreadsheet Level	Phase	Takeoff Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
<i>e039 CSO Tank Elevated Slab</i>									
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi (Waste)	3300.100	11.80 cy	-	3,793	-	-	-	321.43 /cy	3,793
Pump-Place Concrete, Elevated Slabs (High Production)	3300.500	1,178.40 cy	60,084	-	-	2,368	15,335	66.01 /cy	77,787
Sealant At Construction Joint Grooves	3350.050	1,436.00 lf	1,918	1,869	-	-	-	2.64 /lf	3,787
Waterstop, 6" Flat	3350.200	1,436.00 lf	20,377	11,679	-	6,030	-	26.52 /lf	38,086
Zip Strips 3/4"	3350.250	1,436.00 lf	15,235	299	-	389	-	11.09 /lf	15,923
Sandblast Slab Construction Joints	3400.025	2,872.00 sf	11,507	934	-	-	-	4.33 /sf	12,442
Finish Flatwork - Hard Trowel	3400.050	15,908.00 sf	34,762	828	-	4,918	-	2.55 /sf	40,508
Cure Concrete with Spray-On Liquid Curing Compounds	3400.400	15,908.00 sf	6,922	725	-	728	-	0.53 /sf	8,374
Alum Access Hatch	8300.100	4.00 ea	3,262	74,946	-	398	-	19,651.56 /ea	78,606
<i>e039 CSO Tank Elevated Slab</i>		<i>1,178.40 cy</i>	<i>569,500</i>	<i>970,340</i>	<i>84,586</i>	<i>165,098</i>	<i>15,335</i>	<i>1,531.62 /cy</i>	<i>1,804,859</i>
<i>e041 CSO Tank Internal Columns</i>									
Erect Rectangular Column Forms & Accessories, Plyform Lined 20 -up	3100.300	7,032.00 sf	169,762	17,091	-	28,577	-	30.64 /sf	215,430
Construct Suspended Slab Deck Form 15-up	3100.400	1,080.00 sf	8,594	3,750	-	2,487	-	13.73 /sf	14,830
Construct Suspended Slab Edge Form > 1'	3100.400	720.00 sf	6,588	2,500	-	1,951	-	15.33 /sf	11,039
Strip & Oil Non-Construction Joint Forms	3100.650	720.00 sf	783	19	-	66	-	1.21 /sf	868
Strip & Oil Column Forms	3100.650	7,032.00 sf	7,649	183	-	644	-	1.21 /sf	8,476
Install Edge Chamfer 1"	3100.800	3,516.00 lf	7,093	977	-	9,526	-	5.00 /lf	17,595
Shore Suspended Slabs (Small Vol)	3150.050	32,400.00 cf	17,187	4,950	-	4,389	-	0.82 /cf	26,526
Install Rebar, Columns (Low Production)	3200.300	19.53 tn	28,725	-	-	5,821	-	1,768.63 /tn	34,547
Purchase Rebar, Columns	3200.300	19.53 tn	-	53,176	-	-	-	2,722.38 /tn	53,176
Install Rebar, Elevated Slabs (Low Production)	3200.400	4.40 tn	5,918	-	-	996	-	1,571.26 /tn	6,914
Purchase Rebar, Elevated Slabs	3200.400	4.40 tn	-	11,978	-	-	-	2,722.38 /tn	11,978
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi	3300.050	172.30 cy	-	55,382	-	-	-	321.43 /cy	55,382
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi (Waste)	3300.100	4.40 cy	-	1,414	-	-	-	321.43 /cy	1,414
Pump-Place Concrete, Columns (Low Production)	3300.400	130.30 cy	16,201	-	-	5,825	2,374	187.26 /cy	24,400
Water Curing with Burlap & Spray Hoses, Columns	3300.400	7,032.00 sf	1,530	1,830	-	322	-	0.52 /sf	3,682
Pump-Place Concrete, Elevated Slabs (Low Production)	3300.500	42.00 cy	2,549	-	-	169	765	82.94 /cy	3,483
Sandblast Before Placing Columns	3400.025	120.00 sf	481	39	-	-	-	4.33 /sf	520
Finish Flatwork - Hard Trowel	3400.050	1,080.00 sf	2,360	56	-	334	-	2.55 /sf	2,750
Grind and Patch Formed Surfaces - Columns	3400.100	7,032.00 sf	13,994	183	-	-	-	2.02 /sf	14,177
Cure Concrete with Spray-On Liquid Curing Compounds	3400.400	1,080.00 sf	470	49	-	49	-	0.53 /sf	569
<i>e041 CSO Tank Internal Columns</i>		<i>30.00 ea</i>	<i>289,884</i>	<i>153,578</i>		<i>61,154</i>	<i>3,139</i>	<i>16,925.17 /ea</i>	<i>507,755</i>
<i>e043 CSO Tank Interior Walls</i>									
Erect Wall Panel Forms with Integrated Clamp System, Plyform Lined, <4'	3100.250	2,013.00 sf	27,254	6,989	-	5,454	-	19.72 /sf	39,697
Erect Wall Panel Forms with Integrated Clamp System, Plyform Lined, 16'->	3100.250	9,831.00 sf	186,342	34,134	-	26,634	-	25.14 /sf	247,110
Construct Wall Bulkhead Forms	3100.250	999.00 sf	40,576	3,469	-	5,413	-	49.51 /sf	49,458
Strip & Oil Wall Forms	3100.650	11,844.00 sf	12,884	308	-	1,084	-	1.21 /sf	14,276
Strip & Oil Wall Construction Joint Forms	3100.650	999.00 sf	3,260	-	-	91	-	3.36 /sf	3,352
Install Edge Chamfer 1"	3100.800	1,362.00 lf	2,748	378	-	3,690	-	5.00 /lf	6,816
Form Vertical Wall Keyway 4"	3100.850	353.00 lf	2,390	294	-	478	-	8.96 /lf	3,162
Purchase Form Ties, Coil Tie, 24"x1/2", w/ Connecting Rods and Bolts	3100.950	90.00 ea	-	575	-	-	-	6.39 /ea	575

Spreadsheet Level	Phase	Takeoff Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
<i>e043 CSO Tank Interior Walls</i>									
Purchase Form Ties, Coil Tie, 36"x1/2", w/ Connecting Rods and Bolts	3100.950	310.00 ea	-	2,153	-	-	-	6.94 /ea	2,153
Install Rebar, Walls, Straight (High Production)	3200.250	43.69 tn	44,473	-	-	7,894	-	1,198.59 /tn	52,367
Install Rebar, Walls, Straight (Average Production)	3200.250	5.96 tn	7,805	-	-	1,358	-	1,536.49 /tn	9,164
Purchase Rebar, Walls, Straight	3200.250	49.65 tn	-	135,177	-	-	-	2,722.38 /tn	135,177
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi	3300.050	620.90 cy	-	199,575	-	-	-	321.43 /cy	199,575
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi (Waste)	3300.100	6.40 cy	-	2,057	-	-	-	321.43 /cy	2,057
Pump-Place Concrete, Walls (High Production)	3300.350	546.20 cy	30,482	-	-	1,562	7,108	71.68 /cy	39,152
Pump-Place Concrete, Walls (Average Production)	3300.350	74.70 cy	4,447	-	-	415	1,167	80.70 /cy	6,028
Trowel Top Surface, Walls	3300.350	1,512.00 sf	18,751	-	-	254	-	12.57 /sf	19,006
Grind Fins and Patch Voids @ Formed Surfaces, Walls	3300.350	11,844.00 sf	21,086	771	-	-	-	1.85 /sf	21,857
Waterstop, 6" Flat	3350.200	353.00 lf	5,009	2,871	-	1,482	-	26.52 /lf	9,362
Sandblast Vertical CJ @ Walls	3400.025	999.00 sf	5,337	325	-	-	-	5.67 /sf	5,662
Sandblast Horizontal Joints Before Placing Walls	3400.025	1,512.00 sf	6,058	492	-	-	-	4.33 /sf	6,550
Cure Concrete with Spray-On Liquid Curing Compounds	3400.400	11,844.00 sf	5,153	539	-	542	-	0.53 /sf	6,235
<i>e043 CSO Tank Interior Walls</i>		620.90 cy	424,056	390,107		56,352	8,274	1,415.35 /cy	878,789
<i>e045 CSO Tank Valve Vault</i>									
Erect Wall Panel Forms with Integrated Clamp System, Plyform Lined, 4-8'	3100.250	1,532.00 sf	22,816	5,319	-	3,113	-	20.40 /sf	31,248
Construct Beam Side Forms, Job-Built Plywood	3100.350	441.00 sf	11,829	1,531	-	1,971	-	34.77 /sf	15,332
Construct Beam Bottom Forms, Job-Built Plywood	3100.350	147.00 sf	4,929	510	-	836	-	42.69 /sf	6,276
Construct Suspended Slab Deck Form 15-up	3100.400	971.00 sf	7,726	3,371	-	2,236	-	13.73 /sf	13,334
Construct Suspended Slab Edge Form > 1'	3100.400	192.00 sf	1,757	667	-	520	-	15.33 /sf	2,944
Strip & Oil Non-Construction Joint Forms	3100.650	192.00 sf	209	5	-	18	-	1.21 /sf	231
Strip & Oil Wall Forms	3100.650	1,532.00 sf	1,667	40	-	140	-	1.21 /sf	1,847
Install Edge Chamfer 1"	3100.800	355.00 lf	716	99	-	962	-	5.00 /lf	1,777
Purchase Form Ties, Coil Tie, 24"x1/2", w/ Connecting Rods and Bolts	3100.950	60.00 ea	-	383	-	-	-	6.39 /ea	383
Shore Suspended Slabs (Ave. Vol)	3150.050	24,579.00 cf	13,038	3,755	-	5,327	-	0.90 /cf	22,120
Install Rebar, Walls, Straight (Average Production)	3200.250	1.96 tn	2,565	-	-	446	-	1,536.50 /tn	3,012
Install Rebar, Walls, Straight (Low Production)	3200.250	3.15 tn	5,032	-	-	836	-	1,865.28 /tn	5,868
Purchase Rebar, Walls, Straight	3200.250	5.11 tn	-	13,900	-	-	-	2,722.38 /tn	13,900
Install Rebar, Beams (Low Production)	3200.350	2.25 tn	4,129	-	-	1,217	-	2,380.11 /tn	5,346
Purchase Rebar, Beams	3200.350	2.25 tn	-	6,114	-	-	-	2,722.38 /tn	6,114
Install Rebar, Elevated Slabs (Average Production)	3200.400	7.91 tn	8,394	-	-	1,553	-	1,258.34 /tn	9,947
Purchase Rebar, Elevated Slabs	3200.400	7.91 tn	-	21,520	-	-	-	2,722.38 /tn	21,520
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi	3300.050	145.10 cy	-	46,639	-	-	-	321.43 /cy	46,639
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi (Waste)	3300.100	1.70 cy	-	546	-	-	-	321.42 /cy	546
Pump-Place Concrete, Walls (Average Production)	3300.350	21.80 cy	1,298	-	-	121	340	80.69 /cy	1,759
Pump-Place Concrete, Walls (Low Production)	3300.350	35.00 cy	2,170	-	-	330	638	89.65 /cy	3,138
Trowel Top Surface, Walls	3300.350	192.00 sf	2,381	-	-	32	-	12.57 /sf	2,413
Grind Fins and Patch Voids @ Formed Surfaces, Walls	3300.350	1,532.00 sf	2,727	100	-	-	-	1.85 /sf	2,827
Pump-Place Concrete, Beams (Low Production)	3300.450	16.40 cy	2,243	-	-	1,058	299	219.49 /cy	3,600
Pump-Place Concrete, Elevated Slabs (Average Production)	3300.500	71.90 cy	3,928	-	-	200	1,123	73.03 /cy	5,251
Sandblast Horizontal Joints Before Placing Walls	3400.025	192.00 sf	769	62	-	-	-	4.33 /sf	832
Sandblast Beams	3400.025	588.00 sf	3,141	191	-	-	-	5.67 /sf	3,333
Finish Flatwork - Hard Trowel	3400.050	971.00 sf	2,122	51	-	300	-	2.55 /sf	2,473

Sherman CSO Tank

Spreadsheet Level	Phase	Takeoff Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
<i>e045 CSO Tank Valve Vault</i>									
Grind and Patch Formed Surfaces - Beams	3400.100	588.00 sf	1,170	15	-	-	-	2.02 /sf	1,185
Cure Concrete with Spray-On Liquid Curing Compounds	3400.400	2,503.00 sf	1,089	114	-	115	-	0.53 /sf	1,318
<i>e045 CSO Tank Valve Vault</i>		<u>56.80 cy</u>	<u>107,846</u>	<u>104,935</u>		<u>21,332</u>	<u>2,400</u>	<u>4,163.95 /cy</u>	<u>236,512</u>
<i>e047 Odor Control Slab</i>									
Fine Grade SOG	2200.150	352.00 sf	189	-	-	-	-	0.54 /sf	189
Form Slab-on-Grade Perimeter Edge	3100.150	172.00 sf	2,329	597	-	615	-	20.58 /sf	3,540
Strip & Oil Slab Edge Forms	3100.650	172.00 sf	187	4	-	16	-	1.21 /sf	207
Install Rebar, Slab-On-Grade (Average Production)	3200.150	2.09 tn	2,066	-	-	432	-	1,197.55 /tn	2,498
Purchase Rebar, Slab-On-Grade	3200.150	2.09 tn	-	5,679	-	-	-	2,722.38 /tn	5,679
Place Rebar/Mesh Support - Bricks	3200.750	40.00 ea	11	13	-	5	-	0.73 /ea	29
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi	3300.050	26.10 cy	-	8,389	-	-	-	321.43 /cy	8,389
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi (Waste)	3300.100	1.10 cy	-	354	-	-	-	321.42 /cy	354
Pump-Place Concrete, Slab-On-Grade (Average Production)	3300.250	26.10 cy	1,331	-	-	214	408	74.80 /cy	1,952
Trowel Top Surface, Slab-On-Grade	3300.250	352.00 sf	1,082	-	-	54	-	3.23 /sf	1,137
Cure Concrete with Spray-On Liquid Curing Compounds	3400.400	352.00 sf	153	16	-	16	-	0.53 /sf	185
<i>e047 Odor Control Slab</i>		<u>26.10 cy</u>	<u>7,349</u>	<u>15,052</u>		<u>1,352</u>	<u>408</u>	<u>925.68 /cy</u>	<u>24,160</u>
<i>e049 Electrical Equipment Slab</i>									
Fine Grade SOG	2200.150	100.00 sf	54	-	-	-	-	0.54 /sf	54
Form Slab-on-Grade Perimeter Edge	3100.150	100.00 sf	1,354	347	-	357	-	20.58 /sf	2,058
Strip & Oil Slab Edge Forms	3100.650	100.00 sf	109	3	-	9	-	1.21 /sf	121
Install Rebar, Slab-On-Grade (Low Production)	3200.150	0.59 tn	755	-	-	148	-	1,523.37 /tn	903
Purchase Rebar, Slab-On-Grade	3200.150	0.59 tn	-	1,614	-	-	-	2,722.40 /tn	1,614
Place Rebar/Mesh Support - Bricks	3200.750	10.00 ea	3	3	-	1	-	0.73 /ea	7
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi	3300.050	7.50 cy	-	2,411	-	-	-	321.43 /cy	2,411
Purchase Ready-Mix Concrete (Pump Mix) - 4,500 psi (Waste)	3300.100	0.30 cy	-	96	-	-	-	321.43 /cy	96
Pump-Place Concrete, Slab-On-Grade (Low Production)	3300.250	7.50 cy	455	-	-	86	137	90.36 /cy	678
Trowel Top Surface, Slab-On-Grade	3300.250	100.00 sf	308	-	-	15	-	3.23 /sf	323
Cure Concrete with Spray-On Liquid Curing Compounds	3400.400	100.00 sf	44	5	-	5	-	0.53 /sf	53
<i>e049 Electrical Equipment Slab</i>		<u>7.50 cy</u>	<u>3,081</u>	<u>4,479</u>		<u>622</u>	<u>137</u>	<u>1,109.09 /cy</u>	<u>8,318</u>
<i>e051 Concrete Sealer</i>									
Spray-On Concrete Sealer	3400.450	40,400.00 sf	13,184	65,717	-	1,849	-	2.00 /sf	80,750
<i>e051 Concrete Sealer</i>		<u>40,400.00 sf</u>	<u>13,184</u>	<u>65,717</u>		<u>1,849</u>		<u>2.00 /sf</u>	<u>80,750</u>
WP400 Structural			2,737,038	3,190,002	84,586	492,930	66,956		6,571,513
WP500 Process Mechanical									
<i>e021 Diversion Structure</i>									
Brush Screen Refurbishment	11330.010	1.00 ls	-	-	19,520	-	-	19,519.94 /ls	19,520
Brush Screen Install	11330.010	1.00 ea	2,173	651	-	99	-	2,923.54 /ea	2,924
Barscreen, Manual, 20' x 4'	11330.010	2.00 ea	4,347	5,205	-	199	-	4,875.53 /ea	9,751
1/4" Wall Fiberglass Pipe 48"	15217.006	26.00 lf	3,956	14,481	-	259	-	719.05 /lf	18,695
<i>e021 Diversion Structure</i>		<u>1.00 ls</u>	<u>10,476</u>	<u>20,337</u>	<u>19,520</u>	<u>557</u>		<u>50,889.92 /ls</u>	<u>50,890</u>

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Spreadsheet Level	Phase	Takeoff Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
<i>e053 12" DI Pipe Discharge</i>									
Paint Pipe > 6" - Standard Clean & Paint	9960.010	625.00 sf	1,585	781	-	124	-	3.98 /sf	2,490
Submersible Pump w/ Rails & Ell Ftg	11210.150	2.00 ea	7,607	339,257	-	199	-	173,531.21 /ea	347,062
Knife Gate Vlv 150# Flg 12", Manual	11295.116	2.00 ea	2,676	7,808	-	199	-	5,341.44 /ea	10,683
Knife Gate Vlv 150# Flg 12", Electr. Opr	11295.116	2.00 ea	3,260	20,821	-	199	-	12,140.15 /ea	24,280
Swing Check Vlv 12"	11295.120	2.00 ea	3,469	29,931	-	199	-	16,799.40 /ea	33,599
Wall Support Assembly 12	15060.021	6.00 ea	2,445	2,342	-	597	-	897.36 /ea	5,384
Floor Stand Assembly-Galv with U-bolt 12 x 2'	15060.036	12.00 ea	11,410	12,493	-	1,193	-	2,091.38 /ea	25,097
SS Bolt, Nut & Gasket Set, 12	15120.002	45.00 ea	611	20,496	-	-	-	469.05 /ea	21,107
SS Bolt, Nut & Gasket Set, 14	15120.002	1.00 ea	14	488	-	-	-	501.58 /ea	502
DI Flg x Flg Pipe 12" x 2' CL-53	15203.002	7.00 ea	10,469	16,397	-	-	-	3,837.98 /ea	26,866
DI Flg x Flg Pipe 12" x 3' CL-53	15203.002	3.00 ea	4,515	8,198	-	-	-	4,237.89 /ea	12,714
DI Flg x Flg Pipe 12" x 4' CL-53	15203.002	1.00 ea	1,516	3,123	-	-	-	4,639.16 /ea	4,639
DI Flg x Flg Pipe 12" x 6' CL-53	15203.002	3.00 ea	4,609	11,712	-	-	-	5,440.33 /ea	16,321
DI Flg x Flg Pipe 12" x 7' CL-53	15203.002	2.00 ea	3,092	8,589	-	-	-	5,840.23 /ea	11,680
DI Flg x Flg Pipe 12" x 12' CL-53	15203.002	2.00 ea	3,195	12,493	-	-	-	7,843.85 /ea	15,688
DI Flg x Flg Pipe 12" x 15' CL-53	15203.002	1.00 ea	1,629	7,418	-	-	-	9,046.28 /ea	9,046
DI Flg x Flg Pipe 12" x 16' CL-53	15203.002	1.00 ea	1,638	7,808	-	-	-	9,446.20 /ea	9,446
DI Flg x PE Pipe 12" x 14' CL-53	15203.006	1.00 ea	1,358	6,246	-	-	-	7,604.77 /ea	7,605
DI Flg x PE Pipe 14" x 14' CL-53	15203.006	1.00 ea	1,494	8,459	-	-	-	9,952.88 /ea	9,953
DI Flanged 22-1/2 ell 12"	15203.012	8.00 ea	6,520	15,616	-	-	-	2,767.03 /ea	22,136
DI Flanged 90 SR ell 12"	15203.014	4.00 ea	3,700	9,370	-	-	-	3,267.46 /ea	13,070
DI Flanged Tee 12"	15203.020	2.00 ea	2,486	7,287	-	-	-	4,886.65 /ea	9,773
DI Flanged Con Red 14x12"	15203.030	1.00 ea	1,166	3,123	-	-	-	4,288.69 /ea	4,289
<i>e053 12" DI Pipe Discharge</i>		<i>1.00 ls</i>	<i>80,465</i>	<i>560,255</i>		<i>2,710</i>		<i>643,429.90 /ls</i>	<i>643,430</i>
<i>e055 60/42" Overflow</i>									
Paint Pipe > 6" - Standard Clean & Paint	9960.010	500.00 sf	1,268	625	-	99	-	3.98 /sf	1,992
Hanger (heavy) Assembly	15060.011	1.00 ea	1,087	651	-	-	-	1,737.39 /ea	1,737
Floor Stand Assembly	15060.036	2.00 ea	3,532	3,904	-	-	-	3,717.91 /ea	7,436
SS Bolt, Nut & Gasket Set, 42	15120.002	2.00 ea	27	5,205	-	-	-	2,616.24 /ea	5,232
SS Bolt, Nut & Gasket Set, 60	15120.002	2.00 ea	27	7,548	-	-	-	3,787.45 /ea	7,575
Fabricated CS Pipe - 42"	15230.050	14.00 lf	1,712	7,014	-	-	-	623.27 /lf	8,726
Fabricated CS Pipe - 60"	15230.050	16.00 lf	2,825	11,098	-	-	-	870.20 /lf	13,923
Fabricated CS Reg Flange - 42"	15230.051	4.00 ea	-	23,424	-	-	-	5,855.98 /ea	23,424
Fabricated CS Reg Flange - 60"	15230.051	3.00 ea	-	24,986	-	-	-	8,328.51 /ea	24,986
Fabricated CS 90 Ell - 42"	15230.052	1.00 ea	-	7,548	-	-	-	7,547.71 /ea	7,548
Fabricated CS Tee (S or R) - 60"	15230.054	1.00 ea	-	15,616	-	-	-	15,615.95 /ea	15,616
Fabricated CS Blind Flange - 60"	15230.056	1.00 ea	-	14,835	-	-	-	14,835.15 /ea	14,835
<i>e055 60/42" Overflow</i>		<i>1.00 ls</i>	<i>10,478</i>	<i>122,452</i>		<i>99</i>		<i>133,029.70 /ls</i>	<i>133,030</i>
<i>e057 Flap Gate</i>									
Flap Gate	11295.120	1.00 ea	4,347	19,520	-	199	-	24,065.67 /ea	24,066
<i>e057 Flap Gate</i>		<i>1.00 ea</i>	<i>4,347</i>	<i>19,520</i>		<i>199</i>		<i>24,065.67 /ea</i>	<i>24,066</i>
<i>e059 Tipping Bucket</i>									
Tipping Bucket, Purchase	11000.250	1.00 ls	-	416,425	-	-	-	416,425.37 /ls	416,425
Tipping Bucket, Install	11000.250	5.00 ea	67,488	3,253	-	14,656	-	17,079.45 /ea	85,397
<i>e059 Tipping Bucket</i>		<i>5.00 ea</i>	<i>67,488</i>	<i>419,679</i>		<i>14,656</i>		<i>100,364.53 /ea</i>	<i>501,823</i>
<i>e061 Odor Control</i>									
Odor Control Equipment, Purchase	11346.010	1.00 ea	-	351,359	-	-	-	351,358.91 /ea	351,359
Odor Control Equipment, Install	11346.010	1.00 ea	20,246	1,952	-	4,397	-	26,595.19 /ea	26,595

Sherman CSO Tank

Spreadsheet Level	Phase	Takeoff Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
e061 Odor Control		1.00 ls	20,246	353,311		4,397		377,954.10 /ls	377,954
e063 Grit Separator									
Purchase Grit Separator	11320.008	1.00 ea		120,828	-		-	120,828.14 /ea	120,828
Install Cyclone Grit Separator	11320.008	1.00 ea	6,749	2,083	-	1,466	-	10,297.63 /ea	10,298
e063 Grit Separator		1.00 ls	6,749	122,911		1,466		131,125.77 /ls	131,126
WP500 Process Mechanical			200,249	1,618,465	19,520	24,083			1,862,318
WP600 Electrical									
Dewater Pmp 1&2									
Summersible Cable (Furnished by Others)	16122.126	120.00 ea	1,145	-	-	-	-	9.55 /ea	1,145
Copper VFD Power Cable 3-#6 1-#8	16126.122	265.00 lf	4,047	5,536	-	-	-	36.16 /lf	9,583
GRC 1-1/2"	16131.501	220.00 lf	3,780	1,507	-	-	-	24.03 /lf	5,287
GRC Elbow 1-1/2"	16131.502	6.00 E	458	219	-	-	-	112.82 /E	677
Insulated Grounding Metal Bushing 1-1/2"	16131.516	4.00 E	229	38	-	-	-	66.73 /E	267
GRC Coupling 1-1/2"	16131.518	6.00 E	92	30	-	-	-	20.21 /E	121
Rigid Conduit Hub 1-1/2"	16131.526	4.00 E	305	116	-	-	-	105.46 /E	422
3 Piece Unions 1-1/2"	16131.527	2.00 E	115	149	-	-	-	131.53 /E	263
Conduit Hanger w/ Bolt 1-1/2"	16131.572	26.00 E	298	121	-	-	-	16.10 /E	418
1 1/2" Cut & Thread	16131.574	10.00 ea	477	2	-	-	-	47.97 /ea	480
Wire Markers	16150.118	2.00 E	4	8	-	-	-	6.04 /E	12
Conduit Label	16150.118	4.00 E	115	33	-	-	-	36.89 /E	148
Misc Fasteners	16150.126	26.00 ea	50	6	-	-	-	2.14 /ea	56
100a/3p Heavy Duty Fusible Safety Switch 600v NEMA 4 4X & 5	16415.230	2.00 E	764	10,250	-	-	-	5,506.77 /E	11,014
VFD NEMA 12 40 HP -By others - Contractor Installed	16449.033	2.00 E	1,527		-	-	-	763.58 /E	1,527
Pump Control Panel - By others - Contractor Installed	17000.001	1.00 E	1,145		-	-	-	1,145.37 /E	1,145
Dewater Pmp 1&2			14,550	18,014					32,564
Ductbank									
Ductbank For Power Feed	16001.110	1.00 ls	-		82,566	-	-	82,566.45 /ls	82,566
Ductbank					82,566				82,566
e601 Electric Service Connection									
Electric Service Connection	16000.500	1.00 ls	-	-	198,160	-	-	198,159.52 /ls	198,160
e601 Electric Service Connection					198,160				198,160
Main Service									
Purchase Type C: Sand	2200.100	6.00 CY	-	218	-	-	-	36.33 /CY	218
Purchase Ready-Mix Concrete - 3,000 psi	3300.050	6.00 cy	-	2,031	-	-	-	338.52 /cy	2,031
Duct Bank Excavation in Soil (less that 100 cy)	16001.102	6.00 cy	281	-	-	52	-	55.55 /cy	333
Haul Duct Bank Spoils to Off-Site Disposal	16001.102	12.00 cy		-	-	152	40	15.99 /cy	192
Detectable Warning Tape	16001.540	165.00 lf	158	66	-	-	-	1.36 /lf	224
Copper Wire XHHW Stranded # 6	16122.112	195.00 lf	261	190	-	-	-	2.31 /lf	451
Copper Wire XHHW Stranded #1/0	16122.112	585.00 lf	1,452	2,156	-	-	-	6.17 /lf	3,608
Copper Wire Bare Stranded # 1	16122.124	20.00 lf	42	62	-	-	-	5.22 /lf	104
Measure Tape Pull Wire	16122.126	195.00 lf	112	15	-	-	-	0.65 /lf	127
GRC Elbow 2"	16131.502	8.00 E	672	717	-	-	-	173.56 /E	1,388
S40 PVC Conduit 2"	16132.501	170.00 lf	1,460	174	-	-	-	9.61 /lf	1,634
PVC Female Adaptor 2"	16132.513	8.00 E	199	22	-	-	-	27.60 /E	221
1 Qt PVC Cement	16132.522	0.34 E	-	7	-	-	-	21.12 /E	7
Base Spacer 3" Space 4"	16132.524	68.00 E	519	143	-	-	-	9.75 /E	663
Intermediate Spacer 3" Space 4"	16132.524	68.00 E	519	135	-	-	-	9.62 /E	654

Sherman CSO Tank

Spreadsheet Level	Phase	Takeoff Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
<i>Main Service</i>									
#6 Wire Termination	16150.112	2.00 E	38	-	-	-	-	19.09 /E	38
#1/0 - #4/0 Wire Termination	16150.112	6.00 E	229	-	-	-	-	38.18 /E	229
Wire Markers	16150.118	8.00 E	15	33	-	-	-	6.04 /E	48
Pole and Meter Base by Utility - Contractor Install	16210.530	1.00 ea	1,145	-	-	-	-	1,145.38 /ea	1,145
Manual Transfer Switch 3 Pole NEMA 3R 200a/3p with Gen Camlock Connectors	16230.120	1.00 ea	2,291	5,945	-	-	-	8,235.52 /ea	8,236
200a/3p Heavy Duty Fusible Safety Switch 600v NEMA 4 4X & 5	16415.230	1.00 E	535	7,170	-	-	-	7,704.62 /E	7,705
<i>Main Service</i>			9,927	19,085		204	40		29,256
<i>Mini Pwr Center</i>									
U-Channel SSTL SS316	16070.501	26.00 E	397	1,438	-	-	-	70.59 /E	1,835
Measure & Cut Unistrut	16070.501	7.00 E	134	-	-	-	-	19.09 /E	134
U-Channel Corner Angle	16070.508	8.00 E	153	51	-	-	-	25.50 /E	204
U-Channel Floor Stand Single	16070.508	2.00 E	95	208	-	-	-	151.61 /E	303
Copper Wire XHHW Stranded #10	16122.114	540.00 lf	412	285	-	-	-	1.29 /lf	697
GRC 3/4"	16131.501	110.00 lf	1,260	332	-	-	-	14.47 /lf	1,592
Insulated Grounding Metal Bushing 3/4"	16131.516	4.00 E	344	21	-	-	-	91.14 /E	365
GRC Coupling 3/4"	16131.518	1.00 E	10	2	-	-	-	11.66 /E	12
Rigid Conduit Hub 3/4"	16131.526	3.00 E	115	50	-	-	-	54.97 /E	165
3 Piece Unions 3/4"	16131.527	2.00 E	65	31	-	-	-	48.20 /E	96
Conduit Hanger w/ Bolt 3/4"	16131.572	15.00 E	115	34	-	-	-	9.93 /E	149
3/4" Cut & Thread	16131.574	4.00 ea	115	1	-	-	-	28.76 /ea	115
Sealtite Flexible Conduit 3/4"	16133.203	3.00 lf	17	7	-	-	-	8.15 /lf	24
Liquid Tight Conduit Straight Insulated Throat Connector 3/4"	16133.510	1.00 E	17	5	-	-	-	22.07 /E	22
Insulated Liquid Tight Conduit 90 Degree Connector 3/4"	16133.512	1.00 E	21	9	-	-	-	30.33 /E	30
Wire Markers	16150.118	16.00 E	31	66	-	-	-	6.04 /E	97
Conduit Label	16150.118	4.00 E	115	33	-	-	-	36.89 /E	148
Misc Fasteners	16150.126	67.00 ea	128	15	-	-	-	2.14 /ea	143
Mini Power Center - By others - Contractor Install	16415.310	1.00 E	764	0	-	-	-	763.58 /E	764
Generator Connection	16415.310	1.00 E	764	2,477	-	117	-	3,357.51 /E	3,358
<i>Mini Pwr Center</i>			5,068	5,066		117			10,252
<i>Motorized Pmps 1&2</i>									
U-Channel SSTL SS316	16070.501	52.00 E	794	2,877	-	-	-	70.59 /E	3,671
Measure & Cut Unistrut	16070.501	14.00 E	267	-	-	-	-	19.09 /E	267
U-Channel Corner Angle	16070.508	16.00 E	305	102	-	-	-	25.49 /E	408
U-Channel Floor Stand Single	16070.508	4.00 E	191	416	-	-	-	151.61 /E	606
Copper Wire XHHW Stranded #12	16122.114	1,080.00 lf	825	364	-	-	-	1.10 /lf	1,189
GRC 3/4"	16131.501	220.00 lf	2,520	663	-	-	-	14.47 /lf	3,183
Insulated Grounding Metal Bushing 3/4"	16131.516	8.00 E	687	42	-	-	-	91.14 /E	729
GRC Coupling 3/4"	16131.518	2.00 E	19	4	-	-	-	11.66 /E	23
Rigid Conduit Hub 3/4"	16131.526	6.00 E	229	101	-	-	-	54.96 /E	330
3 Piece Unions 3/4"	16131.527	4.00 E	130	63	-	-	-	48.21 /E	193
Conduit Hanger w/ Bolt 3/4"	16131.572	30.00 E	229	69	-	-	-	9.93 /E	298
3/4" Cut & Thread	16131.574	8.00 ea	229	1	-	-	-	28.76 /ea	230
Sealtite Flexible Conduit 3/4"	16133.203	6.00 lf	34	15	-	-	-	8.16 /lf	49
Liquid Tight Conduit Straight Insulated Throat Connector 3/4"	16133.510	2.00 E	34	10	-	-	-	22.09 /E	44
Insulated Liquid Tight Conduit 90 Degree Connector 3/4"	16133.512	2.00 E	42	19	-	-	-	30.32 /E	61

Sherman CSO Tank

Spreadsheet Level	Phase	Takeoff Quantity	Labor Amount	Material Amount	Sub Amount	Equip Amount	Other Amount	Total Cost/Unit	Total Amount
<i>Motorized Pmps 1&2</i>									
Wire Markers	16150.118	32.00 E	61	132	-	-	-	6.04 /E	193
Conduit Label	16150.118	8.00 E	229	66	-	-	-	36.89 /E	295
Misc Fasteners	16150.126	134.00 ea	256	31	-	-	-	2.14 /ea	287
30a /3p Heavy Duty Non-Fused Safety Switch 600v	16415.310	2.00 E	535	3,956	-	-	-	2,245.22 /E	4,490
NEMA 4 4X & 5									
VFD NEMA 1	16449.030	2.00 E	4,581	65,130	-	225	-	34,968.10 /E	69,936
<i>Motorized Pmps 1&2</i>			12,198	74,060		225			86,483
WP600 Electrical									
			41,744	116,225	280,726	546	40		439,281
WP700 I&C									
<i>I&C</i>									
Instrumentation	17000.002	1.00 ls			49,540	-	-	49,539.88 /ls	49,540
Control Panel	17000.002	1.00 ls			41,283	-	-	41,283.23 /ls	41,283
<i>I&C</i>					90,823				90,823
WP700 I&C									
					90,823				90,823
WA001 SHERMAN CSO TANK									
			7,001,821	8,426,061	932,287	3,296,045	1,790,504		21,446,717

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis
Labor	7,001,821		54,518.211 hrs		
Material	8,426,061				
Subcontract	932,287				
Equipment	3,296,045		19,797.814 hrs		
Other	1,790,504				
Subtotal	21,446,718	21,446,718			
Erosion Control	25,000				L
Subtotal	25,000	21,471,718			
GCs	1,717,737			8.000 %	T
Mob/Demob	429,434			2.000 %	T
Permits	214,717			1.000 %	T
Specialty Testing	214,717			1.000 %	T
Contractor Testing & Startup	429,434			2.000 %	T
Subtotal	3,006,039	24,477,757			
Soils Disposal, Class A1 - 19,400 tons at \$50/ton	970,000				L
Soils Disposal, Class B1 - 3,900 tons at \$90/ton	351,000				L
Soils Disposal, Class B2 - 520 tons at \$90/ton	46,800				L
Soils Disposal, Class B3 - 260 tons at \$90/ton	23,400				L
Soils Disposal, Class B4 - 1,300 tons at \$90/ton	117,000				L
Soils Disposal, Class B5 - 260 tons at \$200/ton	52,000				L
Soils Disposal, Class C1 - 260 tons at \$350/ton	91,000				L
Subtotal	1,651,200	26,128,957			
Market Conditions	2,612,896			10.000 %	T
Subtotal	2,612,896	28,741,853			
Scope Contingency	4,311,278			15.000 %	T
Escalation to June 2028	2,722,917			9.474 %	T
Subtotal	7,034,195	35,776,048			
Total		35,776,048			