



July 12, 2019
File: 173409473

Attention: Mark Smith
City of North Royalton
Wastewater Superintendent
11675 Royalton Road
North Royalton, OH 44133
440.237.5010

Dear Mr. Smith,

Reference: North Royalton WWTP “A” Tertiary Filters and UV Disinfection Replacement Project

The City of North Royalton received two (2) sealed bids for the above referenced project on July 11, 2019 which were opened and read publicly. A summary of the bids received, listed from apparent lowest to highest bid, is as follows:

Bidder	Apparent Total Bid
Cold Harbor Building Co.	\$3,063,879.00
ABC Piping Co.	\$3,891,200.00

Each bid package as provided by the City of North Royalton has been analyzed for cost, correctness, completeness, and compliance with the required bidding provisions. A summary of the review of the bid packages received is attached to this document in an attachment titled Bid Results Spreadsheet.

Stantec’s review of the submitted bid packages confirmed that Cold Harbor Building Co. of Chardon, Ohio is the lowest responsive bidder. No calculation errors were discovered during the review of Cold Harbor Building Co.’s bid form.

The Published Engineer’s Opinion of Probable Construction Cost (EOPCC) is \$4,332,000.00. The total bid by Cold Harbor Building Co. is 29.3% lower than the Published EOPCC. The higher bid by ABC Piping Co. is 10.2% lower than the Published EOPCC.

As indicated in the Instruction to Bidders, the City has the option of requesting additional information from the low bidder to further evaluate financial capabilities, the experience of the firm and subcontractors, and the experience of key personnel prior to issuing the Notice of Award.

July 12, 2019
Mark Smith
Page 2 of 2

Reference: North Royalton WWTP "A" Tertiary Filters and UV Disinfection Replacement Project

Please let us know if we can assist you with further evaluations.

Regards,

Stantec Consulting Services Inc.

A handwritten signature in blue ink, appearing to read "Janet Kern-Vannoy".

Janet Kern-Vannoy

Project Manager

Phone: 216 298 0685

Janet.kern-vannoy@stantec.com

Attachment: Bid Results Spreadsheet
EOPCC

c.

North Royalton Wastewater Plant "A" Tertiary Filters and UV Disinfection Replacement Project

City of North Royalton, Ohio

Bid Opening: 7/11/2019, 1:00PM

<i>Bidder's Name</i>	Cold Harbor Building Co.	ABC Piping Co.
<i>Bid Document Requirements</i>		
Addendum 1, 2 and 3 Received	yes	yes
Bid Proposal Signed	yes	yes
Bid Form Complete	yes	yes
List of Named Equipment/Material Manufacturers Complete	yes	no
Substitution Sheet Complete	none proposed	none proposed
Subcontractor Information Complete	yes	partially complete, some subs TBD
Bidder's Qualifications Complete	yes	yes
Non-Collusion Affidavit Complete	yes	yes
No Delinquent Personal Property Tax Affidavit Complete	yes	yes
Delinquent Personal Property Tax Affidavit Complete	no	no
Campaign Finance Law Letter & Certification Complete	yes	no
Performance/Payment Bond	no	no
Bid & Performance/Payment Bond	yes	yes
Power of Attorney	yes	yes
Insurance Certificate of Compliance	yes	yes

<i>Bidder's Name</i>	Cold Harbor Building Co.	ABC Piping Co.
<i>Bid Item</i>		
1 Section 01 29 00 - Mobilization	\$200,000.00	\$100,000.00
2 Section 46 61 24 - Tertiary Filter System	\$590,000.00	\$680,000.00
3 Section 46 66 53 - UV Disinfection System	\$300,000.00	\$342,000.00
4 All Division Sections Not Listed in Bid Items 1-3	\$1,649,890.00	\$2,370,000.00
5 Specific Allowance for Tertiary Filter Rehabilitation	\$50,000.00	\$50,000.00
8 Contingency	\$273,989.00	\$349,200.00
TOTAL BID:	\$3,063,879.00	\$3,891,200.00

<i>Bidder's Name</i>	Cold Harbor Building Co.	ABC Piping Co.
<i>Named Manufacturers</i>		
<i>Specification Section</i>		
43 30 62 - Slide Gates	Hydro Gate	"Per Spec"
43 25 05 - Submersible Sump Pump	Zoeller	"Per Spec"
46 61 24 - Tertiary Filter System	Evoqua	Evoqua
46 66 53 - UV Disinfection System	Trojan	Trojan

Client:	City of North Royalton	Sheet:	1 of 1
Project:	North Royalton WWTP A Tertiary Filters & UV Disinfection Replacement Project	Date:	6/18/2019
Description:	90% OPCC - Class II	Job No:	
By:	KMC	Chkd By:	JLL

SUMMARY OF MARKUPS		
Payroll & Insurance	Payroll Tax (OH)	13.28%
	WCI Rate	2.92%
Subcontractor Markups	Job Office Overhead	8%
	Home Office Overhead	3%
	Profit	12%
	Bond	1.0%
	Insurance	1.5%
Contractor Markups	Job Office Overhead	8%
	Home Office Overhead	3%
	Profit	12%
	Bond	1.0%
	Insurance	1.5%
Owner Markups	Sales Tax	0%
	Escalation *1yr at 3%/yr	3%
	Contingency	10%

SUMMARY OF COSTS			
Direct Cost	\$	2,695,404	
Contract Cost	\$	3,823,473	*Direct Cost incl. payroll, insurance, subcontractor, and contractor markups
Escalation	\$	114,704	
Contingency	\$	393,818	
Opinion of Probable Cost	\$	4,331,995	*Contract Cost incl. escalation & contingency
Cost Range	\$	3,466,000	\$ 4,982,000 *Per AACE cost estimate guidelines (see below)
		-20%	

AACE International CLASS 2 Cost Estimate - Class 2 estimates are generally prepared to form a detailed control baseline against which all project work is monitored in terms of cost and progress control. Typically, engineering is from 30% to 70% complete. Class 2 estimates involve a high degree of deterministic estimating methods. Class 2 estimating efforts are characterized by significant line item detail. Typical accuracy ranges for Class 2 estimates are -5% to -15% on the low side, and +5 to +20% on the high side, depending on the technological complexity of the project. As little as 300 hrs or less to perhaps more than 3,000 hours may be spent preparing the estimate based on the project and estimating methodology. Bid estimates typically require more effort than estimates used for funding or control purposes (AACE International Recommended Practices and Standards).

Estimated by KMC

Designed by

Prepared by KMC

Preparation Date 4/8/2019

Effective Date of Pricing 4/8/2019

Estimated Construction Time Days

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North Royalton WWTP A Tertiary Filters	1
Mobilization & Demobilization	1
General Conditions	1
Temporary Works	1
Mechanical/Electrical	1
Special Inspections	1
Commissioning	1
Restoration	1
Tertiary Filter System (materials only)	1
UV Disinfection System (materials only)	1
Miscellaneous Work (all work except Bid Item 1 through 3, 5 and 6)	1
Demolition	1
Mechanical Demolition	1
HVAC Demolition	1
Electrical & Instrumentation Demolition	2
Receptables, Lighting, & Miscellaneous	2
Conduit, Cable, Wiring	2
Structural Demolition	2
Haul & Dump	2
Civil	2
Staging Area	2

Erosion & Sediment Control	3
Misc. Civil	3
Structural	3
Structural Influent Vault	3
Sampler House	3
HVAC	3
Mechanical	4
Electrical & Instrumentation	4
Receptacles & Lighting	4
Conduit, Cable, Wiring	4
Site Electrical	5
Instrumentation	5
Instruments, Sensors, Transmitters	5
Interface Equipment	5
Installation & Commissioning	5
Coatings	5
Specific Allowance for Tertiary Filter Rehabilitation	5
Contingency	5

Cost Summary Report

Description	Quantity	UOM	DirectCost	ContractCost	Escalation	Contingency	ProjectCost
North Royalton WWTP A Tertiary Filters			2,695,404.34	3,823,472.72	114,704.18	393,817.69	4,331,994.59
Mobilization & Demobilization	1.0000	EA	444,514.18	641,741.46	19,252.24	66,099.37	727,093.08
General Conditions	1.0000	EA	84,000.00	122,789.58	3,683.69	12,647.33	139,120.59
(Note: Covered in markup factors.)							
Security	2,400.0000	HR	84,000.00	122,789.58	3,683.69	12,647.33	139,120.59
Temporary Works	1.0000	EA	150,000.00	219,267.10	6,578.01	22,584.51	248,429.63
Mechanical/Electrical	1.0000	EA	150,000.00	219,267.10	6,578.01	22,584.51	248,429.63
Bypass Allowance (Mechanical/Electrical)	1.0000	LS	100,000.00	146,178.07	4,385.34	15,056.34	165,619.75
(Note: Bypass scope to be determined.)							
Temporary Power	1.0000	LS	50,000.00	73,089.03	2,192.67	7,528.17	82,809.88
Special Inspections	1.0000	EA	50,000.00	73,089.03	2,192.67	7,528.17	82,809.88
Special Inspection	1.0000	LS	50,000.00	73,089.03	2,192.67	7,528.17	82,809.88
Commissioning	1.0000	EA	150,514.18	211,977.94	6,359.34	21,833.73	240,171.01
Systems Integrator	1.0000	LS	35,000.00	51,162.32	1,534.87	5,269.72	57,966.91
Commissioning	500.0000	HR	115,514.18	160,815.62	4,824.47	16,564.01	182,204.10
Restoration	1.0000	EA	10,000.00	14,617.81	438.53	1,505.63	16,561.98
Seeding & Restoration	1.0000	LS	10,000.00	14,617.81	438.53	1,505.63	16,561.98
Tertiary Filter System (materials only)	1.0000	EA	519,291.30	722,942.84	21,688.29	74,463.11	819,094.24
Rehab existing concrete six (6) Cell HydroClear Rapid Sand Filter	1.0000	LS	482,000.00	671,026.94	20,130.81	69,115.77	760,273.52
Evoqua Oversight (Air Compressor, Low Pressure Blowers, Sand Filter)	1.0000	LS	18,000.00	25,059.10	751.77	2,581.09	28,391.96
Stainless steel, flange, replacement	18.0000	EA	19,291.30	26,856.80	805.70	2,766.25	30,428.76
UV Disinfection System (materials only)	1.0000	EA	296,950.00	413,405.50	12,402.16	42,580.77	468,388.43
UV Trojan Disinfection System	1.0000	LS	296,950.00	413,405.50	12,402.16	42,580.77	468,388.43
Miscellaneous Work (all work except Bid Item 1 through 3, 5 and 6)	1.0000	EA	1,141,138.51	1,636,766.02	49,102.98	168,586.90	1,854,455.90
Demolition	1.0000	EA	244,078.90	339,799.82	10,193.99	34,999.38	384,993.20
Mechanical Demolition	1.0000	EA	121,503.94	169,154.39	5,074.63	17,422.90	191,651.92
selective demolition, 16"-20" sleeve type coupling	18.0000	EA	19,168.98	26,686.52	800.60	2,748.71	30,235.82
selective demolition, valves, 16" diameter, selective demolition, pneumatic BF inlet valve	12.0000	EA	19,132.66	26,635.96	799.08	2,743.50	30,178.54
selective demolition, valves, 24" diameter, selective demolition, pneumatic BF inlet valve	6.0000	EA	9,566.33	13,317.98	399.54	1,371.75	15,089.27
selective demolition, valves, 18" diameter, selective demolition, pneumatic BF inlet valve	6.0000	EA	9,566.33	13,317.98	399.54	1,371.75	15,089.27
selective demolition, existing solenoid panel	2.0000	EA	2,786.88	3,879.82	116.39	399.62	4,395.83
selective demolition, existing filter VCP	1.0000	EA	1,837.07	2,557.52	76.73	263.42	2,897.67
selective demolition, duplex air compressor, existing	1.0000	EA	2,391.58	3,329.49	99.88	342.94	3,772.32
selective demolition, existing blowers	2.0000	EA	3,682.61	5,126.83	153.80	528.06	5,808.70
selective demolition, existing PDC	2.0000	EA	532.47	741.29	22.24	76.35	839.88
selective demolition, existing UV banks 1-4 piping items & filter media	4.0000	EA	11,757.26	16,368.13	491.04	1,685.92	18,545.09
selective demolition, alum stop gates, 18" x 48"	2.0000	EA	2,870.51	3,996.24	119.89	411.61	4,527.74
selective demolition, existing auto level control gate	2.0000	EA	5,741.02	7,992.49	239.77	823.23	9,055.49
selective demolition, backwash trough items	4.0000	EA	7,044.56	9,807.23	294.22	1,010.15	11,111.60
selective demolition, filter underdrain sequence items per cell	6.0000	EA	21,133.67	29,421.70	882.65	3,030.44	33,334.79
selective demolition, 3/4" pvc, sch 80, diffuser	500.0000	LF	2,372.78	3,303.32	99.10	340.24	3,742.66
Selective demolition, chemical degreaser ball valve	6.0000	EA	1,919.22	2,671.89	80.16	275.20	3,027.25
HVAC Demolition	1.0000	EA	9,377.81	13,055.52	391.67	1,344.72	14,791.90
exhaust fan, selective demolition	5.0000	EA	1,741.80	2,424.89	72.75	249.76	2,747.39
supply fan, selective demolition	2.0000	EA	1,161.20	1,616.59	48.50	166.51	1,831.60
electrical demolition,cabinet, 400 watts, remove	1.0000	EA	1,161.20	1,616.59	48.50	166.51	1,831.60
Heater, electric, unit, cabinet, fan or convactor, selective demolition	6.0000	EA	1,045.08	1,454.93	43.65	149.86	1,648.44
unit heater, above 200 MBH, selective demolition	6.0000	EA	1,014.61	1,412.51	42.38	145.49	1,600.37
Packaged terminal air conditioner, 14,000 thru 48,000 BTUH, selective demolition	1.0000	EA	1,127.34	1,569.46	47.08	161.65	1,778.19

Cost Summary Report

Description	Quantity	UOM	DirectCost	ContractCost	Escalation	Contingency	ProjectCost
air conditioner, split unit air conditioner, package unit, selective demolition	1.0000	EA	999.23	1,391.10	41.73	143.28	1,576.12
air compressor, selective demolition	1.0000	EA	1,127.34	1,569.46	47.08	161.65	1,778.19
Electrical & Instrumentation Demolition	1.0000	EA	88,691.19	123,473.39	3,704.20	12,717.76	139,895.35
Receptables, Lighting, & Miscellaneous	1.0000	EA	49,670.55	69,149.95	2,074.50	7,122.45	78,346.90
electrical demolition, UV bank removal, power distribution center	1.0000	EA	6,967.20	9,699.54	290.99	999.05	10,989.58
electrical demolition, DO sensor removal	2.0000	EA	2,085.99	2,904.05	87.12	299.12	3,290.29
electrical demolition, LSH/LSL removal	9.0000	EA	3,766.05	5,242.99	157.29	540.03	5,940.31
electrical demolition, removes panel ncluding removal of all breakers, conduit terminations & wire connections	3.0000	EA	3,800.29	5,290.66	158.72	544.94	5,994.32
Receptacle, electrical demolition, remove	34.0000	EA	2,961.06	4,122.30	123.67	424.60	4,670.57
4-way switch, electrical demolition, remove	2.0000	EA	995.31	1,385.65	41.57	142.72	1,569.94
3-way switch, electrical demolition, remove	27.0000	EA	1,175.71	1,636.80	49.10	168.59	1,854.49
electrical demolition, UV Bank work	1.0000	EA	9,728.41	13,543.62	406.31	1,394.99	15,344.92
electrical demolition, sampler house items	1.0000	EA	5,836.58	8,125.52	243.77	836.93	9,206.22
electrical demolition, duct terminal pull box	1.0000	EA	972.84	1,354.36	40.63	139.50	1,534.49
linear luminaire, electrical demolition, remove	65.0000	EA	5,660.85	7,880.88	236.43	811.73	8,929.03
ceiling mount luminaire, electrical demolition, remove	21.0000	EA	1,828.89	2,546.13	76.38	262.25	2,884.76
selective demolition, existing power distribution center	4.0000	EA	3,891.36	5,417.45	162.52	558.00	6,137.97
Conduit, Cable, Wiring	1.0000	EA	39,020.63	54,323.44	1,629.70	5,595.31	61,548.45
Conduit, rigid galvanized steel, 1/2" to 1" diameter, electrical demolition, remove conduit to 15' high, including fittings & hangers	2,950.0000	LF	6,731.87	9,371.93	281.16	965.31	10,618.39
Flexible metallic conduit, steel, 1-1/2" to 2" diameter, electrical demolition, remove	100.0000	LF	986.15	1,372.89	41.19	141.41	1,555.48
Conduit, rigid galvanized steel, 2-1/2" to 3-1/2" diameter, electrical demolition, remove conduit to 15' high, including fittings & hangers	50.0000	LF	690.30	961.02	28.83	98.99	1,088.84
electrical demolition, #10 wire	3,600.0000	LF	4,677.81	6,512.32	195.37	670.77	7,378.46
electrical demolition, #12 wire	11,000.0000	LF	11,818.41	16,453.26	493.60	1,694.69	18,641.54
electrical demolition, #14 wire	1,350.0000	LF	1,305.65	1,817.69	54.53	187.22	2,059.44
electrical demolition, #16 wire	3,200.0000	LF	3,537.18	4,924.36	147.73	507.21	5,579.30
electrical demolition, #4 wire	4.5000	CLF	93.78	130.55	3.92	13.45	147.92
electrical demolition, #6 wire	8.5000	CLF	143.99	200.46	6.01	20.65	227.12
electrical demolition, #8 wire	3,850.0000	LF	6,216.76	8,654.80	259.64	891.44	9,805.89
electrical demolition, 3/0 wire	8.0000	CLF	920.40	1,281.36	38.44	131.98	1,451.78
electrical demolition, cat 6 wire	16.5000	CLF	1,898.33	2,642.80	79.28	272.21	2,994.30
Structural Demolition	1.0000	EA	15,887.49	22,118.12	663.54	2,278.17	25,059.83
selective demolition, remove existing w6x15 and accessories	5.0000	EA	1,293.33	1,800.54	54.02	185.46	2,040.01
selective demolition, railing and posts	62.0000	LF	1,611.55	2,243.55	67.31	231.09	2,541.94
selective demolition, existing 2 ton capacity electric monorail and hoist	63.0000	LF	2,586.16	3,600.38	108.01	370.84	4,079.23
selective demolition, sampler house and concrete pad	110.0000	SF	6,006.22	8,361.69	250.85	861.25	9,473.79
Minor site demolition, sidewalk, concrete, plain, 4" thick, remove	3.0000	SY	1,112.60	1,548.92	46.47	159.54	1,754.93
Minor site demolition, slab on grade, 4" thick	0.2000	CY	982.11	1,367.27	41.02	140.83	1,549.12
Minor site demolition, equipment pad, existing blowers	0.5000	CY	982.11	1,367.27	41.02	140.83	1,549.12
Selective demolition, torch cutting, grating	18.0000	SF	1,313.41	1,828.50	54.85	188.34	2,071.69
Haul & Dump	1.0000	EA	8,618.48	11,998.41	359.95	1,235.84	13,594.20
Selective demolition, rubbish handling, over 8 C.Y. truck, loading & trucking, haul, per mile, includes haul, cost to be added to demolition cost	50.0000	CY	1,218.48	1,696.33	50.89	174.72	1,921.95
Selective demolition, dump charges, typical urban city, building construction materials, includes tipping fees only	100.0000	TON	7,400.00	10,302.07	309.06	1,061.11	11,672.25
Civil	1.0000	EA	14,811.95	20,620.78	618.62	2,123.94	23,363.34
Staging Area	1.0000	EA	4,563.52	6,353.21	190.60	654.38	7,198.18

Cost Summary Report

Description	Quantity	UOM	DirectCost	ContractCost	Escalation	Contingency	ProjectCost
Fine grading, finish grading, small area, to be paved with grader	544.3256	SY	2,325.54	3,237.56	97.13	333.47	3,668.15
Base course drainage layers, aggregate base course for roadways and large paved areas, compacted, 3/4" stone base, to 4" deep	544.3256	SY	2,237.98	3,115.65	93.47	320.91	3,530.03
Erosion & Sediment Control	1.0000	EA	5,038.58	7,014.57	210.44	722.50	7,947.51
Containment & enclosure systems, polycarbonate, 4' x 8'	3.0000	EA	1,479.81	2,060.15	61.80	212.20	2,334.15
Bulk material hauling, hazardous waste packaging, poly liners, bulk solids & sludge, 32' dump truck body liner, disposable, 6 mil	10.0000	EA	248.70	346.23	10.39	35.66	392.28
Selective demolition, dump charges	10.0000	TON	1,500.00	2,088.26	62.65	215.09	2,366.00
Synthetic erosion control, silt fence, install and maintain, remove, 3' high	500.0000	LF	855.09	1,190.44	35.71	122.61	1,348.76
Erosion Control, inlet protection	10.0000	RLL	954.98	1,329.50	39.88	136.94	1,506.32
Misc. Civil	1.0000	EA	5,209.84	7,253.00	217.59	747.06	8,217.65
Structural excavation for Aluminum Kickplate, 3/4 C.Y. bucket, machine excavation	2.0000	BCY	1,261.86	1,756.73	52.70	180.94	1,990.37
Structural excavation for Influent Vault, 1 C.Y. bucket, machine excavation, hydraulic backhoe	250.0000	BCY	2,800.72	3,899.09	116.97	401.61	4,417.67
Backfill, Influent Vault, 2-1/4 C.Y. bucket, minimal haul	150.0000	LCY	1,147.26	1,597.18	47.92	164.51	1,809.61
Structural	1.0000	EA	142,625.20	208,486.77	6,254.60	21,474.14	236,215.51
Railing, pipe, 3 rails, 3'-6" high, posts @ 5' O.C., 1-1/4" dia, shop fabricated	53.0000	LF	3,779.24	5,524.42	165.73	569.02	6,259.17
Structural steel beam or girder, HSS 3x3x1/4 @ el 851.5	24.0000	LF	761.85	1,113.66	33.41	114.71	1,261.77
Structural steel beam or girder, HSS 3x3x1/4 @ el 861	24.0000	LF	761.85	1,113.66	33.41	114.71	1,261.77
Structural concrete, placing, column, square or round, with crane and bucket, 12" thick, includes leveling (strike off) & consolidation	3.0000	CY	1,320.72	1,930.60	57.92	198.85	2,187.37
Structural steel beam or girder, W8x18	42.0000	LF	1,519.30	2,220.88	66.63	228.75	2,516.25
Structural steel column, W8x18	162.0000	LF	5,860.14	8,566.24	256.99	882.32	9,705.55
Hydro-Gate - 18"x48" Slide Gate	2.0000	EA	42,719.18	62,446.07	1,873.38	6,431.95	70,751.40
Structural steel beam or girder, W8x13	150.0000	LF	5,426.06	7,931.71	237.95	816.97	8,986.62
Structural steel beam or girder, S12x50, monorail beam (Note: Includes bolts and splice plates (assume (3) along the length of the beam for bidding purposes).)	100.0000	LF	10,204.85	14,917.26	447.52	1,536.48	16,901.25
Structural concrete, corbel	1.0000	CY	2,355.42	3,443.11	103.29	354.64	3,901.04
Bolts, 3/4" diameter for monorail beam	8.0000	EA	108.87	159.14	4.77	16.39	180.30
Anchor bolts, hooked type, single, 5/8" diameter x 8" long, installed in fresh concrete, includes nut and washer	48.0000	EA	612.68	895.61	26.87	92.25	1,014.72
CMU Wall Closure Detail	1.0000	LS	3,500.00	5,116.23	153.49	526.97	5,796.69
Aluminum plate, 3/8" thick, 10" wide, 26' long, incl. accessories	26.0000	LF	1,429.25	2,089.24	62.68	215.19	2,367.11
Wallace Tri-Adjustable Crane, Geared Trolley, 2-Ton Electric Trolley Hoist	1.0000	EA	11,658.00	17,041.44	511.24	1,755.27	19,307.95
Grout-in Hole, Fan Removal	2.0000	CF	693.80	1,014.18	30.43	104.46	1,149.07
Structural Influent Vault	30.3000	CY	37,580.92	54,935.06	1,648.05	5,658.31	62,241.42
Structural concrete, cast in place, slab	7.7000	CY	9,715.17	14,201.45	426.04	1,462.75	16,090.24
Structural concrete, concrete fill	1.6000	CY	1,143.77	1,671.94	50.16	172.21	1,894.31
Structural concrete, cast in place, walls	16.3300	CY	16,762.14	24,502.58	735.08	2,523.77	27,761.42
Structural concrete, cast in place, elevated slab	4.7500	CY	3,384.88	4,947.95	148.44	509.64	5,606.03
Waterstop, PVC, dumbbell type, 3/8" thick x 6" wide	17.0000	LF	958.46	1,401.06	42.03	144.31	1,587.41
Roof hatch, aluminum curb & cover, 3'-6" x 3'-6"	0.0000	EA	0.00	0.00	0.00	0.00	0.00
Bituminous asphalt coating, for foundation, asphalt, with fibers, 1/2" thick, install dampproofing	528.0000	SF	1,715.22	2,507.28	75.22	258.25	2,840.75
Manhole Rungs	9.0000	EA	3,901.27	5,702.80	171.08	587.39	6,461.27
Sampler House	1.0000	EA	12,333.08	18,028.26	540.85	1,856.91	20,426.01
Structural concrete, cast in place, slab	1.8000	CY	2,271.08	3,319.82	99.59	341.94	3,761.36
FRP Sampler House Structure	58.5000	SF	10,062.00	14,708.44	441.25	1,514.97	16,664.66
HVAC	1.0000	EA	47,778.07	69,841.06	2,095.23	7,193.63	79,129.92
gas fired unit heater, 115 V, 25 MBH	6.0000	EA	3,482.08	5,090.04	152.70	524.27	5,767.01
electric heating, unit heater, heavy duty, 480 volt, 4 kW, includes fan & mounting bracket	6.0000	EA	10,955.16	16,014.04	480.42	1,649.45	18,143.91

Cost Summary Report

Description	Quantity	UOM	DirectCost	ContractCost	Escalation	Contingency	ProjectCost
ductless split air conditioning unit, 30,000 BTU/H, 670 CFM	2.0000	EA	10,901.73	15,935.94	478.08	1,641.40	18,055.42
Fans, in-line centrifugal, 5250 CFM, 800 RPM	3.0000	EA	11,728.47	17,144.45	514.33	1,765.88	19,424.66
Fans, in-line centrifugal, 2980 CFM, 580 RPM	1.0000	EA	3,621.40	5,293.69	158.81	545.25	5,997.75
Fans, in-line centrifugal, 660 CFM, 998 RPM	1.0000	EA	2,053.56	3,001.85	90.06	309.19	3,401.10
Fans, in-line centrifugal, 2350 CFM, 669 RPM	1.0000	EA	2,982.12	4,359.20	130.78	449.00	4,938.97
Fans, in-line centrifugal, 1300 CFM, 747 RPM	1.0000	EA	2,053.56	3,001.85	90.06	309.19	3,401.10
Mechanical	1.0000	EA	191,171.44	266,143.54	7,984.31	27,412.79	301,540.64
Influent Vault - Sump Pump	1.0000	LS	3,109.00	4,328.26	129.85	445.81	4,903.92
Pipe, plastic, PVC, 2" diameter, schedule 40, excludes couplings and hangers	20.0000	LF	2,658.49	3,701.08	111.03	381.21	4,193.32
Mechanical Labor for Filter Underdrain Work	6.0000	EA	123,406.67	171,803.31	5,154.10	17,695.74	194,653.15
Mechanical Labor for UV Disinfection System	1.0000	EA	35,273.16	49,106.30	1,473.19	5,057.95	55,637.44
Miscellaneous Mechanical Labor	1.0000	EA	23,506.03	32,724.44	981.73	3,370.62	37,076.79
Pipe, plastic, PVC, 1" diameter, schedule 40, rerouting	30.0000	LF	1,579.08	2,198.35	65.95	226.43	2,490.73
Pipe, plastic, PVC, 2" diameter, schedule 40, rerouting	30.0000	LF	1,639.02	2,281.79	68.45	235.02	2,585.27
Electrical & Instrumentation	1.0000	EA	450,672.95	658,785.01	19,763.55	67,854.86	746,403.42
Receptacles & Lighting	1.0000	EA	119,370.90	174,494.07	5,234.82	17,972.89	197,701.78
COOPER CROUSE-HINDS PVM-9L-N-2A-UNV1, luminaire, LED fixture, 13", 175 watt	3.0000	EA	7,483.87	10,939.77	328.19	1,126.80	12,394.76
COOPER CROUSE-HINDS PVM-11L-N-2A-UNV1, luminaire, LED fixture, 13", 150 Watt	4.0000	EA	8,979.80	13,126.50	393.80	1,352.03	14,872.33
Lithonia CSXW LED 30C 700 40K T4M MVOLT DDBXD 69W LED Outdoor Contour Wallpack, 700mA, 4000K, Type IV Medium Distribution, 120-277V, Surface Mount, Dark Bronze Finish	2.0000	EA	3,388.13	4,952.70	148.58	510.13	5,611.41
Receptacle, switch	3.0000	EA	1,471.56	2,151.10	64.53	221.56	2,437.20
120V Duplex Receptacle	2.0000	LF	986.74	1,442.40	43.27	148.57	1,634.24
120V Duplex Receptacle, Weatherproof, Ground Fault Circuit Interrupter	34.0000	LF	1,357.54	1,984.43	59.53	204.40	2,248.35
Receptacles, 4-way receptacle switch	2.0000	EA	1,055.11	1,542.34	46.27	158.86	1,747.48
Receptacles, 3-way receptacle switch	24.0000	EA	12,661.36	18,508.13	555.24	1,906.34	20,969.71
COOPER CROUSE-HINDS ENV-F02-LED-120-BL4-BZ-CWD-PC wall mounted LED luminaire	8.0000	EA	11,130.80	16,270.79	488.12	1,675.89	18,434.81
Holophane 4' LED Low Profile Unit (Models	51.0000	EA	38,145.68	55,760.62	1,672.82	5,743.34	63,176.78
EMS-L48-4000LMM-IMAFL-MD-MVOLT-GZ10-40K-90CRI,							
EMS-L48-6000LMM-IMAFL-MD-MVOLT-GZ10-40K-90CRI,							
EMS-L48-10000LMM-IMAFL-MD-MVOLT-GZ10-40K-90CRI)							
Holophane DM90X654-LP05VS-P1 Emergency Lighting Unit	12.0000	EA	10,464.50	15,296.81	458.90	1,575.57	17,331.28
Lithonia Lighting CSXW LED 30C 700 40K T3M MVOLT DNAXD Wall Luminaire, 30 LED Lamps, 120 to 277 VAC, Gloss Housing	6.0000	EA	13,323.80	19,476.47	584.29	2,006.08	22,066.84
Holophane MEX-S-W1-R-SD Exit Sign	10.0000	EA	8,922.00	13,042.01	391.26	1,343.33	14,776.60
Conduit, Cable, Wiring	1.0000	EA	67,098.56	98,083.38	2,942.50	10,102.59	111,128.47
Rigid galvanized steel conduit, 1" diameter	1,650.0000	LF	20,535.95	30,019.05	900.57	3,091.96	34,011.59
Rigid galvanized steel conduit, 3/4" diameter	1,300.0000	LF	14,896.09	21,774.81	653.24	2,242.81	24,670.87
Rigid galvanized steel conduit, 1-1/2" diameter	50.0000	LF	1,455.50	2,127.63	63.83	219.15	2,410.60
Rigid galvanized steel conduit, 2" diameter	50.0000	LF	1,008.60	1,474.36	44.23	151.86	1,670.44
Rigid galvanized steel conduit, 3" diameter	50.0000	LF	1,206.10	1,763.06	52.89	181.59	1,997.54
Wire, copper, solid, #10	36.0000	CLF	2,978.07	4,353.29	130.60	448.39	4,932.27
Wire, copper, solid, #12	110.0000	CLF	7,942.42	11,610.08	348.30	1,195.84	13,154.22
Wire, copper, solid, #14	13.5000	CLF	1,178.96	1,723.38	51.70	177.51	1,952.59
Wire, copper, solid, #16	32.0000	CLF	1,871.76	2,736.11	82.08	281.82	3,100.01
Wire, copper, solid, #4	4.5000	CLF	963.88	1,408.99	42.27	145.13	1,596.38
Wire, copper, solid, #6	8.5000	CLF	1,338.41	1,956.47	58.69	201.52	2,216.68
Wire, copper, solid, #8	38.5000	CLF	4,313.16	6,304.90	189.15	649.40	7,143.45
Wire, copper, solid, 3/0	8.0000	CLF	5,687.17	8,313.40	249.40	856.28	9,419.08
Wire, cable, solid, cat6	16.5000	CLF	1,722.46	2,517.86	75.54	259.34	2,852.74

Cost Summary Report

Description	Quantity	UOM	DirectCost	ContractCost	Escalation	Contingency	ProjectCost
Site Electrical	1.0000	EA	15,036.88	21,980.61	659.42	2,264.00	24,904.04
(Z-Z) Wire, copper, solid, #12	1.0000	CLF	1,402.60	2,050.30	61.51	211.18	2,322.99
Wire, copper, solid, #12	12.8400	CLF	1,464.28	2,140.45	64.21	220.47	2,425.13
Media Converter & UPS	1.0000	EA	1,552.24	2,269.04	68.07	233.71	2,570.82
Fiber optic cable, multi mode	5.9200	CLF	1,061.43	1,551.57	46.55	159.81	1,757.93
Wire, copper, solid, #8	2.1400	CLF	1,569.27	2,293.92	68.82	236.27	2,599.02
Wire, copper, solid, #6	2.1400	CLF	1,139.98	1,666.40	49.99	171.64	1,888.03
Wire, copper, solid, #4	3.2100	CLF	1,239.45	1,811.80	54.35	186.62	2,052.77
Wire, cable, solid, cat6	3.2100	CLF	968.20	1,415.30	42.46	145.78	1,603.54
Wire, copper, solid, #16	2.1400	CLF	1,019.10	1,489.70	44.69	153.44	1,687.83
Wire, copper, solid, #6	1.6600	CLF	1,266.25	1,850.98	55.53	190.65	2,097.16
Wire, copper, solid, #8	0.8300	CLF	1,181.59	1,727.23	51.82	177.90	1,956.95
Wire, copper, solid, #16	1.6600	CLF	1,172.48	1,713.91	51.42	176.53	1,941.86
Instrumentation	1.0000	EA	249,166.62	364,226.95	10,926.81	37,515.38	412,669.13
Instruments, Sensors, Transmitters	1.0000	EA	125,753.00	183,823.31	5,514.70	18,933.80	208,271.80
Pair of Type K Clamp-On Flow Transducers Model: FSK-NNNTS-000/IP68	1.0000	EA	4,404.00	6,437.68	193.13	663.08	7,293.89
PermaRail Type K, G, H Mounting Track Model: MOU-VLK-DS-SBK6/IP68	1.0000	EA	1,025.00	1,498.33	44.95	154.33	1,697.60
FLUXUS F721 Single Channel Permanent Flowmeter FLUXUS Type F721 Model: US-F721.SC	2.0000	EA	16,824.00	24,593.00	737.79	2,533.08	27,863.87
High Air Pressure Compressor Low pressure Switch	1.0000	EA	2,500.00	3,654.45	109.63	376.41	4,140.49
High Air Pressure Compressor pressure Indication	1.0000	EA	2,500.00	3,654.45	109.63	376.41	4,140.49
UV Channel 1/2 Low Level Switch	2.0000	EA	5,000.00	7,308.90	219.27	752.82	8,280.99
UV Channel 1 Level Element	2.0000	EA	5,000.00	7,308.90	219.27	752.82	8,280.99
Existing Chemical Tank Low Level Switch	1.0000	EA	2,500.00	3,654.45	109.63	376.41	4,140.49
High Air Pressure Compressor High Pressure Switch	1.0000	EA	2,500.00	3,654.45	109.63	376.41	4,140.49
Transmitters (Miscellaneous)	6.0000	EA	15,000.00	21,926.71	657.80	2,258.45	24,842.96
Elements (Miscellaneous)	8.0000	EA	20,000.00	29,235.61	877.07	3,011.27	33,123.95
High Pressure Switch	15.0000	EA	37,500.00	54,816.78	1,644.50	5,646.13	62,107.41
Conduit,Wiring, Cables	1.0000	LS	11,000.00	16,079.59	482.39	1,656.20	18,218.17
Interface Equipment	1.0000	EA	34,500.00	50,431.43	1,512.94	5,194.44	57,138.81
Rackmounted Fiber Cross Connect Cabinet	1.0000	EA	8,000.00	11,694.25	350.83	1,204.51	13,249.58
Touchscreen Operator Interface	1.0000	EA	2,000.00	2,923.56	87.71	301.13	3,312.40
Din-Rail Mounted Industrial, Modular Stratix 8000 Ethernet Switch	2.0000	EA	7,500.00	10,963.36	328.90	1,129.23	12,421.48
Din-Rail Mounted Fiber Optic Cross-Connect Box	1.0000	EA	2,500.00	3,654.45	109.63	376.41	4,140.49
AB Controllogix PLC Processor	2.0000	EA	13,000.00	19,003.15	570.09	1,957.32	21,530.57
Ethernet Surge Arrestor	3.0000	EA	1,500.00	2,192.67	65.78	225.85	2,484.30
Installation & Commissioning	1.0000	EA	88,913.62	129,972.21	3,899.17	13,387.14	147,258.51
Installation & Commissioning	325.0000	HR	68,913.62	100,736.60	3,022.10	10,375.87	114,134.56
Programming	1.0000	LS	20,000.00	29,235.61	877.07	3,011.27	33,123.95
Coatings	1.0000	EA	50,000.00	73,089.03	2,192.67	7,528.17	82,809.88
All Required Coatings	1.0000	LS	50,000.00	73,089.03	2,192.67	7,528.17	82,809.88
Specific Allowance for Tertiary Filter Rehabilitation	1.0000	EA	29,351.04	40,861.69	1,225.85	4,208.75	46,296.30
Specific Allowance for Tertiary Filters	1.0000	LS	29,351.04	40,861.69	1,225.85	4,208.75	46,296.30
Contingency	1.0000	EA	264,159.32	367,755.22	11,032.66	37,878.79	416,666.66
Contingency	1.0000	LS	264,159.32	367,755.22	11,032.66	37,878.79	416,666.66