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Sample Estimate Reports

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BULK HYPOCHLORITE SYSTEM

ANY TOWN, USA

MECHANICAL ESTIMATE

WBS	Major	Minor	ITEM DESCRIPTIONS	QNTY	UNIT MSR	UNIT \$ MATERIAL	PRODUCTIVITY	UNIT/ TIME	CREW	ADJ. \$ HOURLY	UNIT \$ LABOR	UNIT \$ EQUIP	UNIT \$ SUB-CON	UNIT \$ OTHER	TOTAL MATERIAL	TOTAL.. MANHOURS	TOTAL LABOR	TOTAL EQUIPMENT	TOTAL SUB-CON	TOTAL OTHER	TOTAL COST*	UNIT PRICE	TOTAL AMOUNT
			MECHANICAL ESTIMATE	1.00	LSUM																		
1			GENERAL REQUIREMENTS	1.00	LSUM																		
			TEMPORARY FACILITIES																				
			dust walls				16.000	MH/U			344.00												
			visqueen	1.00	job	250.00	4.000	MH/U			86.00				267.50	4.000	115.67				383.17	459.80	459.80
			EQUIPMENT																				
			personal protection equipment	1.00	job						250.00							267.50			267.50	321.00	321.00
			blowers - exhaust fans	2.00	each						350.00							749.00			749.00	449.40	898.80
			saws, cords and blades	1.00	job						500.00							535.00			535.00	642.00	642.00
			SUPPLIES																				
			cleaning supplies	1.00	job	100.00									107.00						107.00	128.40	128.40
			clean-up labor	1.00	job		16.000	MH/U			344.00	160.00				16.000	462.68	171.20			633.88	760.66	760.66
2			TEMPORARY FILTRATION/STORAGE SYSTEM	1.00	LSUM																		
			TEMPORARY FILTRATION SYSTEM																				
			delivery		TBD																		
			set-up and assembly																				
			system rental																				
			dis-assembly																				
			return freight																				
			TEMPORARY UTILITIES																				
			water		TBD																		
			sanitary																				
			SUPERVISION AND LABOR																				
			plant supervision		TBD																		
			operational labor																				
			TESTING																				
			testing																				
3			DEMOLITION	1.00	LSUM																		
			PHASE A CHLORINATOR ROOM																				
			DWG D- 200- 00 & D- 200- 01																				
			SYS: CG & CS																				
			PIPE VALVES AND FITTINGS: PVC (DEMO)																				
			06" pvc pipe	40.00	lnft	6.00	0.450	MH/U			9.68				256.80	18.000	520.52				777.32	23.32	932.78
			04" pvc pipe	80.00	lnft	3.50	0.250	MH/U			5.38				299.60	20.000	578.35				877.95	13.17	1,053.54
			02" pvc pipe	20.00	lnft	1.50	0.120	MH/U			2.58				32.10	2.400	69.40				101.50	6.09	121.80
			1-1/2" pvc pipe	380.00	lnft	1.00	0.100	MH/U			2.15				406.60	38.000	1,098.86				1,505.46	4.75	1,806.55
			3/4" pvc pipe	80.00	lnft	0.75	0.120	MH/U			2.58				64.20	9.600	277.61				341.81	5.13	410.17
			06" pvc ftgs	6.00	each		0.350	MH/U			7.53				2.100	60.73				60.73	12.15	72.88	
			04" pvc ftgs	4.00	each		0.220	MH/U			4.73				0.880	25.45				25.45	7.64	30.54	
			02" pvc ftgs	8.00	each	1.50	0.150	MH/U			3.23				12.84	1.200	34.70				47.54	7.13	57.05
			1-1/2" pvc ftgs	58.00	each	1.25	0.120	MH/U			2.58				77.58	6.960	201.27				278.85	5.77	334.61
			3/4" pvc ftgs	98.00	each	0.41	0.100	MH/U			2.15				42.99	9.800	283.39				326.38	4.00	391.66
			06"x 01' pvc flg spool	2.00	each		0.400	MH/U			8.60				0.800	23.13				23.13	13.88	27.76	
			04"x 01' pvc flg spool	2.00	each		0.350	MH/U			7.53				0.700	20.24				20.24	12.14	24.29	
			02" valves	4.00	each		0.550	MH/U			11.83				2.200	63.62				63.62	19.09	76.34	
			1-1/2" valves	21.00	each		0.400	MH/U			8.60				8.400	242.91				242.91	13.88	291.49	
			3/4" valves	12.00	each		0.320	MH/U			6.88				3.840	111.04				111.04	11.10	133.25	
			06" flg expan joint	2.00	each		0.420	MH/U			9.03				0.840	24.29				24.29	14.57	29.15	
			03" flg expan joint	4.00	each		0.260	MH/U			5.59				1.040	30.07				30.07	9.02	36.08	
			1-1/2"x 02" flg 3- way mixing valve or meter type device	4.00	each		1.000	MH/U			21.50				4.000	115.67				115.67	34.70	138.80	
			04" pipe hangers	10.00	each		0.300	MH/U			6.45				3.000	86.75				86.75	10.41	104.10	
			1-1/2" pipe hangers	16.00	each		0.250	MH/U			5.38				4.000	115.67				115.67	8.68	138.80	
			03" pvc ftgs	4.00	each		0.200	MH/U			4.30				0.800	23.13				23.13	6.94	27.76	
			raw water tank clr-33011	1.00	each		4.000	MH/U			86.00				4.000	115.67				115.67	138.80	138.80	
			02'x 02'x ht settled water tank clr-33013	1.00	each		4.000	MH/U			86.00				4.000	115.67				115.67	138.80	138.80	
			02'x 02'x ht(not shown)																				
			tanks cp-40401 clr-33003	5.00	each		4.000	MH/U			86.00				20.000	578.35				578.35	138.80	694.02	
			clr-33004 clr-33005																				
			clr-33006																				

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ANY TOWN, USA

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WBS	Major	Minor	ITEM DESCRIPTIONS	QNTY	UNIT MSR	UNIT \$ MATERIAL	PRODUCTIVITY	UNIT/ TIME	CREW	ADJ. \$ HOURLY	UNIT \$ LABOR	UNIT \$ EQUIP	UNIT \$ SUB-CON	UNIT \$ OTHER	TOTAL MATERIAL	TOTAL.. MANHOURS	TOTAL LABOR	TOTAL EQUIPMENT	TOTAL SUB-CON	TOTAL	OTHER TOTAL	COST*	UNIT PRICE	TOTAL AMOUNT
			all 02'x 02' ht(not shown)																					
			PHASE B CHLORINATOR ROOM																					
			DWG D-200-00 & D-200-02																					
			SYS: CG & CS																					
			PIPE, VALVES AND FITTINGS: PVC (DEMO)																					
			2-1/2" pvc pipe	60.00	lnft		0.350				7.53					21.000	607.27					607.27	12.15	728.72
			1-1/2" pvc pipe	400.00	lnft		0.300				6.45					120.000	3,470.10					3,470.10	10.41	4,164.12
			2-1/2" pvc ftgs	5.00	each		0.650				13.98					3.250	93.98					93.98	22.56	112.78
			1-1/2" pvc ftgs	57.00	each		0.500				10.75					28.500	824.15					824.15	17.35	988.98
			2-1/2" pvc hangers	3.00	each		0.400				8.60					1.200	34.70					34.70	13.88	41.64
			1-1/2" pvc hangers	18.00	each		0.400				8.60					7.200	208.21					208.21	13.88	249.85
			2-1/2" valves	1.00	each																			
			1-1/2" valves	25.00	each																			
			tanks clr 33006 clr 33007	4.00	each		2.500				53.75					10.000	289.18					289.18	86.75	347.02
			clr 33008 clr 33010																					
			all 02'x 02' ht(not shown)																					
			remove housekeeping pad, air hammer w/compressor	1.00	each		14.000	MH/U			301.00	210.00				14.000	404.84	224.70				629.54	755.45	755.45
			for phase a & b tanks.																					
			28' l x 03' w x tk(unknown)																					
			patch and repair	1.00	job	150.00	4.000	MH/U			86.00				160.50	4.000	115.67					276.17	331.40	331.40
			*** retain 5 smart transmitters and return to owner	5.00	each		0.500	MH/U			10.75					2.500	72.29					72.29	17.35	86.75
			CHLORINE CYCLINDER SRORAGE ROOM																					
			DWG D-200-00																					
			demo and remove four chlorine cylinder storage banks	4.00	each		12.000	MH/U			258.00					48.000	1,388.04					1,388.04	416.41	1,665.65
			34' l x 08' w																					
			demo and remove one chlorine cylinder storage bank.50'l x 08'w	1.00	each		16.000	MH/U			344.00					16.000	462.68					462.68	555.22	555.22
			EXIST SCRUBBER SYSTEM																					
			DWG D-200-00																					
			demo and remove scrubber pump	3.00	each		6.000	MH/U			129.00					18.000	520.52					520.52	208.21	624.62
			demo and remove pump pad	1.00	each		4.000	MH/U			86.00	60.00				4.000	115.67	64.20				179.87	215.84	215.84
			10'x 06' x tk(unknown)																					
			existing piping (size unknown)	120.00	lnft		0.200	MH/U			4.30					24.000	694.02					694.02	6.94	832.82
			existing pipe ftgs	18.00	each		0.150	MH/U			3.23					2.700	78.08					78.08	5.21	93.70
			existing valves	12.00	each		0.600	MH/U			12.90					7.200	208.21					208.21	20.82	249.85
			NOTE																					
			plan note to remove existing chlorine scrubber system, ducts, piping, all appurtenances, metal bulding, chemical storage tanks, concrete slabs & containment walls and screen wall in accordance with specified sequence.																					
			demo productivity @ 50%+- of installation mhrs																					
			NON-HAZARDOUS DISPOSAL																					
			dumpster	5.00	pulls								650.00									3,250.00	780.00	3,900.00
			HAZZARDOUS DISPOSAL																					
			install debris bag	1.00	each		2.000	MH/U			43.00					2.000	57.84					57.84	69.41	69.41
			disposal bags	2.00	each	450.00									963.00							963.00	577.80	1,155.60
			dumpster	2.00	pulls								650.00									1,300.00	780.00	1,560.00
			OWNER SALVAGE																					
			return to owners yard	1.00	loads		6.000	MH/U			129.00					6.000	173.50					173.50	208.20	208.20
			CONTRACTOR SALVAGE																					
			return to contractors yard	1.00	loads		8.000	MH/U			172.00					8.000	231.34					231.34	277.61	277.61
			SUBTOTAL AMOUNT												2,316.21	514.110	14,866.78	288.90	4,550.00			22,021.89	26,426.27	26,426.27
			----- END DEMOLITION WORK -----																					
4			NEW MECHANICAL WORK	1.00	LSUM																			
			SETTLING BASIN																					
			DWG: S-310-02 D-310-01-04, D-320-01-06																					

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WBS	Major	Minor	ITEM DESCRIPTIONS	QNTY	UNIT MSR	UNIT \$ MATERIAL	PRODUCTIVITY	UNIT/ TIME	CREW	ADJ. \$ HOURLY	UNIT \$ LABOR	UNIT \$ EQUIP	UNIT \$ SUB-CON	UNIT \$ OTHER	TOTAL MATERIAL	TOTAL.. MANHOURS	TOTAL LABOR	TOTAL EQUIPMENT	TOTAL SUB-CON	TOTAL OTHER	TOTAL COST*	UNIT PRICE	TOTAL AMOUNT
			SYS: PROCESS																				
			18" OPENING IN WALL																				
			drill/saw cut opening 24" x24"	1.00	each								125.00						125.00		125.00	150.00	150.00
			form pipe opening	1.00	each	55.00	2.000	MH/U			43.00				58.85	2.000	57.84				116.69	140.03	140.03
			drill and epoxy 30" rebar dowells	4.00	each	17.50	0.500	MH/U			10.75				74.90	2.000	57.84				132.74	39.82	159.29
			wall pipe	1.00	each		6.000	MH/U			129.00					6.000	173.50				173.50	208.20	208.20
			link-seal	1.00	each		1.600	MH/U			34.40					1.600	46.27				46.27	55.52	55.52
			grout slv	1.50	cuft	6.00	0.400	MH/U			8.60				9.63	0.600	17.35				26.98	21.58	32.38
			PHASE I																				
			REMOVE AND REPLACE 8" PLUG VALVE																				
			8" plug valve	4.00	each		4.500	MH/U			96.75					18.000	520.52				520.52	156.16	624.62
			26" ext bonnet / operator	4.00	each		2.500	MH/U			53.75					10.000	289.18				289.18	86.75	347.02
			8" solid sleeve	4.00	each		4.500	MH/U			96.75					18.000	520.52				520.52	156.16	624.62
			retainer gland	8.00	each		0.700	MH/U			15.05					5.600	161.94				161.94	24.29	194.33
			stem guide	4.00	each	15.00	0.500	MH/U			10.75				64.20	2.000	57.84				122.04	36.61	146.45
			concrete collars	4.00	each	10.00	0.500	MH/U			10.75				42.80	2.000	57.84				100.64	30.19	120.77
			drill and epoxy anchors	8.00	each	12.50	0.500	MH/U			10.75				107.00	4.000	115.67				222.67	33.40	267.20
			INSTALL MUD VALVES																				
			8" mud valve w/gasket	8.00	each		8.000	MH/U			172.00					64.000	1,850.72				1,850.72	277.61	2,220.86
			extended step operator w/universal joints	8.00	each		2.500	MH/U			53.75					20.000	578.35				578.35	86.75	694.02
			stem guide	8.00	each	15.00	0.500	MH/U			10.75				128.40	4.000	115.67				244.07	36.61	292.88
			drill and epoxy anchors	32.00	each	12.50	0.500	MH/U			10.75				428.00	16.000	462.68				890.68	33.40	1,068.82
			grout	8.00	each	12.00	0.800	MH/U			17.20				102.72	6.400	185.07				287.79	43.17	345.35
			GROUT FILLETS @ SETTLING BASINS																				
			prep for grout, 1256 sfca	5024.00	each	0.50	0.047	MH/U			1.00				2,687.84	233.674	6,757.28				9,445.12	2.26	11,334.14
			place grout	628.00	cuft	4.60	0.300	MH/U			6.45				3,091.02	188.400	5,448.06				8,539.08	16.32	10,246.89
			PHASE II																				
			REMOVE AND REPLACE 8" PLUG VALVE																				
			8" plug valve	4.00	each		4.500	MH/U			96.75					18.000	520.52				520.52	156.16	624.62
			26" ext bonnet / operator	4.00	each		2.500	MH/U			53.75					10.000	289.18				289.18	86.75	347.02
			8" solid sleeve	4.00	each		4.500	MH/U			96.75					18.000	520.52				520.52	156.16	624.62
			retainer gland	8.00	each		0.700	MH/U			15.05					5.600	161.94				161.94	24.29	194.33
			stem guide	4.00	each	15.00	0.500	MH/U			10.75				64.20	2.000	57.84				122.04	36.61	146.45
			concrete collars	4.00	each	10.00	0.500	MH/U			10.75				42.80	2.000	57.84				100.64	30.19	120.77
			drill and epoxy anchors	8.00	each	12.50	0.500	MH/U			10.75				107.00	4.000	115.67				222.67	33.40	267.20
			INSTALL MUD VALVES																				
			8" mud valve w/gasket	8.00	each		8.000	MH/U			172.00					64.000	1,850.72				1,850.72	277.61	2,220.86
			extended step operator w/universal joints	8.00	each		2.500	MH/U			53.75					20.000	578.35				578.35	86.75	694.02
			stem guide	8.00	each	15.00	0.500	MH/U			10.75				128.40	4.000	115.67				244.07	36.61	292.88
			drill and epoxy anchors	32.00	each	12.50	0.500	MH/U			10.75				428.00	16.000	462.68				890.68	33.40	1,068.82
			grout	8.00	each	12.00	0.800	MH/U			17.20				102.72	6.400	185.07				287.79	43.17	345.35
			GROUT FILLETS @ SETTLING BASINS																				
			prep for grout, 1256 sfca	5024.00	each	0.50	0.047	MH/U			1.00				2,687.84	233.674	6,757.28				9,445.12	2.26	11,334.14
			place grout	628.00	cuft	4.60	0.300	MH/U			6.45				3,091.02	188.400	5,448.06				8,539.08	16.32	10,246.89
			PLATE SETTLERS + TROUGHS AND WEIRS																				
			PURCHASE INCLINED PLATE SETTLERS																				
			purchase and deliver is included in owner bid form	1.00	lsum																		
			REMOVE TROUGHS AND WIERS																				
			drain system	1.00	each		16.000	MH/U			344.00					16.000	462.68				462.68	555.22	555.22
			remove troughs and weirs	24.00	each		16.000	MH/U			344.00					384.000	11,104.32				11,104.32	555.22	13,325.18
			clean troughs and weirs	24.00	each	15.00	4.000	MH/U			86.00	40.00			385.20	96.000	2,776.08	1,027.20			4,188.48	209.42	5,026.18
			replace troughs and weirs w/ new bolts and washers	24.00	each	175.00	22.000	MH/U			473.00				4,494.00	528.000	15,268.44				19,762.44	988.12	23,714.93
			CLEAN BASIN																				
			clean basin, bott, 1520 sides 3,900 = 5420 sf	4.00	each	271.00	60.000	MH/U			1,290.00	600.00			1,159.88	240.000	6,940.20	2,568.00			10,668.08	3,200.42	12,801.70
			REMOVE PLATE SETTLERS																				
			remove plate settler assembly	24.00	each		18.000	MH/U			387.00					432.000	12,492.36				12,492.36	624.62	14,990.83
			load and dispose of old plate settlers	1.00	lsum		32.000	MH/U			688.00	860.00	1,250.00			32.000	925.36	920.20	1,250.00		3,095.56	3,714.67	3,714.67
			INSTALL NEW PLATE SETTLERS																				
			install new plate settler assembly	24.00	each		24.000	MH/U			516.00					576.000	16,656.48				16,656.48	832.82	19,987.78
			FILTER MEDIA, UNDERDRAIN BLOCKS AND CAP																				
			OWNER SELECTED VENDOR - SEE SPECIFICATION 11325																				
			BLD 1 - FILTERS 1-12 (10' x 32')																				
			REMOVE FILTER MEDIA, UNDERDRAIN BLOCKS AND IMS CAP																				
			drain filter system	1.00	each		16.000	MH/U			344.00					16.000	462.68				462.68	555.22	555.22

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			remove anthracite+sand, 18 cuyd / filter	216.00	cuyd		0.670	MH/U			14.41	30.15			-	144.720	4,184.94	6,968.27	-	-	11,153.21	61.96	13,383.85
			remove block and cap, 3840 sqft	3840.00	sqft		0.047	MH/U			1.00				-	178.605	5,164.80	-	-	-	5,164.80	1.61	6,197.76
			cleanup filter basins	3840.00	sqft		0.012	MH/U			0.25	0.15			-	44.651	1,291.20	616.32	-	-	1,907.52	0.60	2,289.02
			load and dispose of media	21.60	load		4.000	MH/U			86.00		650.00		-	86.400	2,498.47	-	14,040.00	-	16,538.47	918.80	19,846.16
			load and dispose of underdrain block w/cap	9.48	load		6.000	MH/U			129.00		650.00		-	56.889	1,645.08	-	6,162.96	-	7,808.04	988.21	9,369.65
			BLD 1 - FILTERS 1-12 (10' x 32')												-								
			REPLACE FILTER MEDIA, UNDERDRAIN BLOCKS AND IMS CAPS												-								
			purchase and install anthracite, 18 cuyd / filter	216.00	cuyd		0.250	MH/U			5.38	11.25			-	54.000	1,561.54	2,600.10	-	-	4,161.64	23.12	4,993.97
			anthracite overrun at 5% (bagged)	10.80	cuyd										-								
			hand grade surface	3840.00	sqft		0.005	MH/U			0.10				-	17.860	516.48	-	-	-	516.48	0.16	619.78
			purchase and install sand, 18 cuyd / filter	144.00	cuyd	15.00	0.250	MH/U			5.38	11.25			2,311.20	36.000	1,041.03	1,733.40	-	-	5,085.63	42.38	6,102.76
			sand overrun at 15% (bulk)	21.60	cuyd	15.00									346.68						346.68	19.26	416.02
			hand grade surface	3840.00	cuyd		0.005	MH/U			0.10				-	17.860	516.48	-	-	-	516.48	0.16	619.78
			purchase and install underdrain blocks	3840.00	sqft		0.047	MH/U			1.00				-	178.605	5,164.80	-	-	-	5,164.80	1.61	6,197.76
			purchase and install ims cap	3840.00	sqft		0.023	MH/U			0.50				-	89.302	2,582.40	-	-	-	2,582.40	0.81	3,098.88
			BLD 2 - FILTERS 1-12 (10' x 32')												-								
			REMOVE FILTER MEDIA, UNDERDRAIN BLOCKS AND IMS CAP												-								
			drain filter system	1.00	each		16.000	MH/U			344.00				-	16.000	462.68	-	-	-	462.68	555.22	555.22
			remove anthracite+sand, 18 cuyd / filter	216.00	cuyd		0.670	MH/U			14.41	30.15			-	144.720	4,184.94	6,968.27	-	-	11,153.21	61.96	13,383.85
			remove block and cap, 3840 sqft	3840.00	sqft		0.047	MH/U			1.00				-	178.605	5,164.80	-	-	-	5,164.80	1.61	6,197.76
			cleanup filter basins	3840.00	sqft		0.012	MH/U			0.25	0.15			-	44.651	1,291.20	616.32	-	-	1,907.52	0.60	2,289.02
			load and dispose of media	21.60	load		4.000	MH/U			86.00		650.00		-	86.400	2,498.47	-	14,040.00	-	16,538.47	918.80	19,846.16
			load and dispose of underdrain block w/cap	9.48	load		6.000	MH/U			129.00		650.00		-	56.889	1,645.08	-	6,162.96	-	7,808.04	988.21	9,369.65
			BLD 2 - FILTERS 13-24 (10' x 32')												-								
			REPLACE FILTER MEDIA, UNDERDRAIN BLOCKS AND IMS CAPS												-								
			purchase and install anthracite, 18 cuyd / filter	216.00	cuyd		0.250	MH/U			5.38	11.25			-	54.000	1,561.54	2,600.10	-	-	4,161.64	23.12	4,993.97
			anthracite overrun at 5% (bagged)	10.80	cuyd										-								
			hand grade surface	3840.00	sqft		0.005	MH/U			0.10				-	17.860	516.48	-	-	-	516.48	0.16	619.78
			purchase and install sand, 18 cuyd / filter	144.00	cuyd		0.250	MH/U			5.38	11.25			-	36.000	1,041.03	1,733.40	-	-	2,774.43	23.12	3,329.32
			sand overrun at 10% (bulk)	14.40	cuyd										-								
			hand grade surface	3840.00	cuyd		0.005	MH/U			0.10				-	17.860	516.48	-	-	-	516.48	0.16	619.78
			purchase and install underdrain blocks ***see quote***	1.00	inc		0.047	MH/U			1.00				-	0.047	1.34	-	-	-	1.34	1.61	1.61
			purchase and install ims cap ***see quote***	1.00	inc		0.023	MH/U			0.50				-	0.023	0.67	-	-	-	0.67	0.80	0.80
			CHLORINATION ROOM PHASE A												-								
			DWG: D-200-05 D-200-09												-								
			D-200-11												-								
			SYS: SHCLR & NPW												-								
			PIPE												-								
			03" pvc pipe	60.00	lnft		0.350	MH/U			7.53				-	21.000	607.27	-	-	-	607.27	12.15	728.72
			02" pvc pipe	30.00	lnft		0.250	MH/U			5.38				-	7.500	216.88	-	-	-	216.88	8.68	260.26
			FITTINGS												-								
			06"x 03" pvc red	1.00	each		1.500	MH/U			32.25				-	1.500	43.38	-	-	-	43.38	52.06	52.06
			04"x 03" pvc red	1.00	each		0.900	MH/U			19.35				-	0.900	26.03	-	-	-	26.03	31.24	31.24
			03"x 02" pvc red	4.00	each		0.700	MH/U			15.05				-	2.800	80.97	-	-	-	80.97	24.29	97.16
			02" pvc 90	8.00	each		0.500	MH/U			10.75				-	4.000	115.67	-	-	-	115.67	17.35	138.80
			03" pvc 45	4.00	each		0.700	MH/U			15.05				-	2.800	80.97	-	-	-	80.97	24.29	97.16
			04" pvc tee	1.00	each		0.900	MH/U			19.35				-	0.900	26.03	-	-	-	26.03	31.24	31.24
			03" pvc tee	6.00	each		1.150	MH/U			24.73				-	6.900	199.53	-	-	-	199.53	39.91	239.44
			2-1/2" pvc tee	3.00	each		0.850	MH/U			18.28				-	2.550	73.74	-	-	-	73.74	29.50	88.49
			2-1/2" pvc red	3.00	each		0.600	MH/U			12.90				-	1.800	52.05	-	-	-	52.05	20.82	62.46
			03"x 02" pvc red	2.00	each		0.700	MH/U			15.05				-	1.400	40.48	-	-	-	40.48	24.29	48.58
			03" pvc fig	12.00	each		0.700	MH/U			15.05				-	8.400	242.91	-	-	-	242.91	24.29	291.49
			02" pvc fig	8.00	each		0.500	MH/U			10.75				-	4.000	115.67	-	-	-	115.67	17.35	138.80
			BOLT SETS												-								
			03" bolt sets	12.00	each		0.250	MH/U			5.38				-	3.000	86.75	-	-	-	86.75	8.68	104.10
			02" bolt sets	8.00	each		0.250	MH/U			5.38				-	2.000	57.84	-	-	-	57.84	8.68	69.41
			VALVES												-								
			03" ball valves	4.00	each		1.000	MH/U			21.50				-	4.000	115.67	-	-	-	115.67	34.70	138.80
			ORIFICE PLATES												-								
			03" orifice plates fo-2065 fo-2080	2.00	each		0.400	MH/U			8.60				-	0.800	23.13	-	-	-	23.13	13.88	27.76
			02" orifice plates fo-2048 fo-2049	4.00	each		0.300	MH/U			6.45				-	1.200	34.70	-	-	-	34.70	10.41	41.64
			fo-2050 fo-2051												-								

BULK HYPOCHLORITE SYSTEM

ANY TOWN, USA

MECHANICAL ESTIMATE

WBS	Major	Minor	ITEM DESCRIPTIONS	QNTY	UNIT MSR	UNIT \$ MATERIAL	PRODUCTIVITY	UNIT/ TIME	CREW	ADJ. \$ HOURLY	UNIT \$ LABOR	UNIT \$ EQUIP	UNIT \$ SUB-CON	UNIT \$ OTHER	TOTAL MATERIAL	TOTAL.. MANHOURS	TOTAL LABOR	TOTAL EQUIPMENT	TOTAL SUB-CON	TOTAL OTHER	TOTAL COST*	UNIT PRICE	TOTAL AMOUNT
			SOLVENT AND GLUE																				
			solvent	2.00	qt	12.50									26.75						26.75	16.05	32.10
			glue	2.00	qt	12.50									26.75						26.75	16.05	32.10
			CHLORINATION ROOM PHASE B																				
			DWG: D-200-05 D-200-09																				
			D-200-11																				
			SYS: SHCLR & NPW																				
			PIPE																				
			2-1/2" pvc pipe	20.00	lnft		0.350	MH/U			7.53					7.000	202.42				202.42	12.15	242.90
			01" pvc pipe	20.00	lnft		0.250	MH/U			5.38					5.000	144.59				144.59	8.68	173.51
			FITTINGS																				
			2-1/2" pvc red	2.00	each		0.650	MH/U			13.98					1.300	37.59				37.59	22.55	45.11
			01" pvc 90	4.00	each		0.500	MH/U			10.75					2.000	57.84				57.84	17.35	69.41
			01" pvc fig	4.00	each		0.500	MH/U			10.75					2.000	57.84				57.84	17.35	69.41
			BOLT SETS																				
			01" pvc bolt sets	4.00	each		0.250	MH/U			5.38					1.000	28.92				28.92	8.68	34.70
			VALVES																				
			2-1/2" pvc ball valve	2.00	each		1.000	MH/U			21.50					2.000	57.84				57.84	34.70	69.41
			ORIFICE PLATE																				
			01" orifice plates	2.00	each		1.000	MH/U			21.50					2.000	57.84				57.84	34.70	69.41
			fo-2047 fo-2066																				
			SOLVENT AND GLUE																				
			solvent	1.00	pt	12.50									13.38						13.38	16.05	16.05
			glue	1.00	pt	12.50									13.38						13.38	16.05	16.05
			SCHCLR METERING STATION																				
			PUMPS AND TANKS																				
			DWGS: D-200-01 D-200-01																				
			D-200-03 D-200-05																				
			D-200-08																				
			SYS: SHCLR																				
			PIPE																				
			02" pvc pipe	20.00	lnft		0.250	MH/U			5.38					5.000	144.59				144.59	8.68	173.51
			01" pvc pipe	150.00	lnft		0.150	MH/U			3.23					22.500	650.64				650.64	5.21	780.77
			3/4" pvc pipe	1590.00	lnft		0.120	MH/U			2.58					190.800	5,517.46				5,517.46	4.16	6,620.95
			3/8" pvc pipe	80.00	lnft		0.100	MH/U			2.15					8.000	231.34				231.34	3.47	277.61
			FITTINGS																				
			02" pvc 90	4.00	each		0.500	MH/U			10.75					2.000	57.84				57.84	17.35	69.41
			01" pvc 90	6.00	each		0.350	MH/U			7.53					2.100	60.73				60.73	12.15	72.88
			3/4" pvc 90	90.00	each		0.300	MH/U			6.45					27.000	780.77				780.77	10.41	936.92
			3/8" pvc 90	4.00	each		0.250	MH/U			5.38					1.000	28.92				28.92	8.68	34.70
			01" pvc 45	4.00	each		0.350	MH/U			7.53					1.400	40.48				40.48	12.14	48.58
			01" pvc coup	4.00	each		0.350	MH/U			7.53					1.400	40.48				40.48	12.14	48.58
			3/4" pvc coup	60.00	each		0.300	MH/U			6.45					18.000	520.52				520.52	10.41	624.62
			3/4" pvc cross	6.00	each		0.600	MH/U			12.90					3.600	104.10				104.10	20.82	124.92
			02" pvc tee	2.00	each		0.800	MH/U			17.20					1.600	46.27				46.27	27.76	55.52
			01" pvc tee	28.00	each		0.600	MH/U			12.90					16.800	485.81				485.81	20.82	582.97
			3/4" pvc tee	26.00	each		0.450	MH/U			9.68					11.700	338.33				338.33	15.62	406.00
			3/4" pvc union	22.00	each		0.400	MH/U			8.60					8.800	254.47				254.47	13.88	305.36
			SOLVENT AND GLUE																				
			solvent	1.00	gal	12.50									13.38						13.38	16.05	16.05
			glue	1.00	gal	12.50									13.38						13.38	16.05	16.05
			HANGERS																				
			<i>hangers appear to unistrut tubing</i>																				
			<i>with unistrut pipe clamp</i>																				
			<i>and refer to standard details</i>																				
			01" hanger std detail 2104	25.00	each		0.750	MH/U			16.13					18.750	542.20				542.20	26.03	650.64
			3/4" hanger std detail 2104	86.00	each		0.500	MH/U			10.75					43.000	1,243.45				1,243.45	17.35	1,492.14
			3/8" hanger std detail 2104	30.00	each		0.400	MH/U			8.60					12.000	347.01				347.01	13.88	416.41
			3/4" hanger std detail 2105	60.00	each		0.500	MH/U			10.75					30.000	867.52				867.52	17.35	1,041.02
			03" hanger std detail 2106	4.00	each		2.000	MH/U			43.00					8.000	231.34				231.34	69.40	277.61
			02" hanger std detail 2106	4.00	each		1.500	MH/U			32.25					6.000	173.50				173.50	52.05	208.20
			3/4" hanger std detail 2106	6.00	each		0.500	MH/U			10.75					3.000	86.75				86.75	17.35	104.10
			SLEEVE																				
			3/4"x 12" water tight sleeve	6.00	each		0.500	MH/U			10.75					3.000	86.75				86.75	17.35	104.10
			FLEX CONNECTION																				
			3/4"x 24" flexible pipe connection	22.00	each		0.750	MH/U			16.13					16.500	477.14				477.14	26.03	572.57

BULK HYPOCHLORITE SYSTEM

ANY TOWN, USA

MECHANICAL ESTIMATE

WBS	Major	Minor	ITEM DESCRIPTIONS	QNTY	UNIT MSR	UNIT \$ MATERIAL	PRODUCTIVITY	UNIT/ TIME	CREW	ADJ. \$ HOURLY	UNIT \$ LABOR	UNIT \$ EQUIP	UNIT \$ SUB-CON	UNIT \$ OTHER	TOTAL MATERIAL	TOTAL.. MANHOURS	TOTAL LABOR	TOTAL EQUIPMENT	TOTAL SUB-CON	TOTAL OTHER TOTAL	COST*	UNIT PRICE	TOTAL AMOUNT
			VALVES																				
			01" ball valve	17.00	each		0.400	MH/U			8.60				-	6.800	196.64	-	-	-	196.64	13.88	235.97
			3/4" ball valve	16.00	each		0.300	MH/U			6.45				-	4.800	138.80	-	-	-	138.80	10.41	166.56
			3/4" angle valve	2.00	each		0.350	MH/U			7.53				-	0.700	20.24	-	-	-	20.24	12.14	24.29
			3/4" flushing valve w/ quick conn.	8.00	each		0.400	MH/U			8.60				-	3.200	92.54	-	-	-	92.54	13.88	111.05
			METERING PUMPS																				
			metering pumps																				
			shclrw-p-1, p-2, p-3	3.00	each		9.000	MH/U			193.50				-	27.000	780.77	-	-	-	780.77	312.31	936.92
			shclrs-w-p-1, p-2, p-3	6.00	each		9.000	MH/U			193.50				-	54.000	1,561.54	-	-	-	1,561.54	312.31	1,873.85
			p-4, p-5, p-6																				
			shclrfw-p1, p-2	2.00	each		9.000	MH/U			193.50				-	18.000	520.52	-	-	-	520.52	312.31	624.62
			NOTE																				
			<i>small metering pumps mounted on some type of common base or stand. nothing shown on dwgs.</i>																				
			SHCLR TANK PIPING																				
			DWG: D-200-02 D-200-03																				
			SYS: SHCLR / VNT / PD																				
			PIPE																				
			03" pvc pipe	220.00	lnft		0.300	MH/U			6.45				-	66.000	1,908.56	-	-	-	1,908.56	10.41	2,290.27
			02" pvc pipe	80.00	lnft		0.200	MH/U			4.30				-	16.000	462.68	-	-	-	462.68	6.94	555.22
			3/8" pvc pipe	20.00	lnft		0.700	MH/U			15.05				-	14.000	404.84	-	-	-	404.84	24.29	485.81
			FITTINGS																				
			03" pvc 90	24.00	each		0.700	MH/U			15.05				-	16.800	485.81	-	-	-	485.81	24.29	582.97
			02" pvc 90	6.00	each		0.500	MH/U			10.75				-	3.000	86.75	-	-	-	86.75	17.35	104.10
			03" pvc tee	5.00	each		1.150	MH/U			24.73				-	5.750	166.28	-	-	-	166.28	39.91	199.54
			02" pvc tee	4.00	each		0.800	MH/U			17.20				-	3.200	92.54	-	-	-	92.54	27.76	111.05
			03" pvc flg	15.00	each		0.700	MH/U			15.05				-	10.500	303.63	-	-	-	303.63	24.29	364.36
			02" pvc flg	4.00	each		0.500	MH/U			10.75				-	2.000	57.84	-	-	-	57.84	17.35	69.41
			BOLT SETS																				
			03" bolt sets	15.00	each		0.250	MH/U			5.38				-	3.750	108.44	-	-	-	108.44	8.68	130.13
			02" bolt sets	4.00	each		0.250	MH/U			5.38				-	1.000	28.92	-	-	-	28.92	8.68	34.70
			SOLVENT AND GLUE																				
			solvent	2.00	qts	12.50									26.75						26.75	16.05	32.10
			glue	2.00	qts	12.50									26.75						26.75	16.05	32.10
			HANAGERS																				
			<i>hangers appear to be unistrut tubing w/ unistrut clamps and refer to standard details</i>																				
			03" hanger standard detail 2104	10.00	each		2.300	MH/U			49.45				-	23.000	665.10	-	-	-	665.10	79.81	798.12
			02" hanger standard detail 2104	5.00	each		2.000	MH/U			43.00				-	10.000	289.18	-	-	-	289.18	69.40	347.02
			03" hanger standard detail 2106	20.00	each		3.000	MH/U			64.50				-	60.000	1,735.05	-	-	-	1,735.05	104.10	2,082.06
			SEAL																				
			03"x 12" core cut w/ water seal	1.00	each		1.000	MH/U			21.50		85.00		-	1.000	28.92	-	85.00	-	113.92	136.70	136.70
			VALVES																				
			03" mov-5 control valve	1.00	each		3.000	MH/U			64.50				-	3.000	86.75	-	-	-	86.75	104.10	104.10
			03" mov-6 control valve	1.00	each		3.000	MH/U			64.50				-	3.000	86.75	-	-	-	86.75	104.10	104.10
			03" ball valve	3.00	each		1.750	MH/U			37.63				-	5.250	151.82	-	-	-	151.82	60.73	182.18
			02" ball valve	5.00	each		1.500	MH/U			32.25				-	7.500	216.88	-	-	-	216.88	52.05	260.26
			02" ball valve w/10' operator stem and stem support bracket	2.00	each		2.500	MH/U			53.75				-	5.000	144.59	-	-	-	144.59	86.75	173.51
			03" check valve	2.00	each		1.000	MH/U			21.50				-	2.000	57.84	-	-	-	57.84	34.70	69.41
			02" flushing valve w/ quick conn.	2.00	each		0.800	MH/U			17.20				-	1.600	46.27	-	-	-	46.27	27.76	55.52
			SCREENS																				
			03" mushroom cap w/ bird screen	1.00	each		0.500	MH/U			10.75				-	0.500	14.46	-	-	-	14.46	17.35	17.35
			EXP JNTS																				
			02" metal expan joint	1.00	each		0.135	MH/U			2.91				-	0.135	3.91	-	-	-	3.91	4.69	4.69
			SLEEVE																				
			02"x 04' water tight wall sleeve	1.00	each		2.000	MH/U			43.00				-	2.000	57.84	-	-	-	57.84	69.41	69.41
			TANKS																				
			shclr-dtk-1&2 horizontal tanks	2.00	each		5.000	MH/U			107.50				-	10.000	289.18	-	-	-	289.18	173.51	347.02
			6'0" dia x 17'0" long mounted on cradles and supported by two concrete beams																				

BULK HYPOCHLORITE SYSTEM

ANY TOWN, USA

MECHANICAL ESTIMATE

WBS	Major	Minor	ITEM DESCRIPTIONS	QNTY	UNIT MSR	UNIT \$ MATERIAL	PRODUCTIVITY	UNIT/ TIME	CREW	ADJ. \$ HOURLY	UNIT \$ LABOR	UNIT \$ EQUIP	UNIT \$ SUB-CON	UNIT \$ OTHER	TOTAL MATERIAL	TOTAL.. MANHOURS	TOTAL LABOR	TOTAL EQUIPMENT	TOTAL SUB-CON	TOTAL OTHER	TOTAL COST*	UNIT PRICE	TOTAL AMOUNT
			12"w x 12"h x 10' long	4.00	each	65.00	3.000	MH/U			64.50				278.20	12.000	347.01	-	-	-	625.21	187.56	750.25
											-				-		-	-	-	-	-	-	-
			SHCLR PUMPS & TANKS								-				-		-	-	-	-	-	-	-
			DWG: D-200-02 D-200-04								-				-		-	-	-	-	-	-	-
			DWG: D-200-06 D-200-07								-				-		-	-	-	-	-	-	-
			SYS: SHCLR / PD / OF / FL								-				-		-	-	-	-	-	-	-
			VNT / PHOS / ALUM								-				-		-	-	-	-	-	-	-
			PIPE: PVC PIPE & FTGS								-				-		-	-	-	-	-	-	-
			08" pvc piping	30.00	lnft		0.600	MH/U			12.90				-	18.000	520.52	-	-	-	520.52	20.82	624.62
			04" pvc piping	130.00	lnft		0.400	MH/U			8.60				-	52.000	1,503.71	-	-	-	1,503.71	13.88	1,804.45
			03" pvc piping	290.00	lnft		0.300	MH/U			6.45				-	87.000	2,515.82	-	-	-	2,515.82	10.41	3,018.98
			02" pvc piping	690.00	lnft		0.200	MH/U			4.30				-	138.000	3,990.62	-	-	-	3,990.62	6.94	4,788.74
			1/2" pvc piping	40.00	lnft		0.150	MH/U			3.23				-	6.000	173.50	-	-	-	173.50	5.21	208.20
			1/4" pvc piping	20.00	lnft		0.120	MH/U			2.58				-	2.400	69.40	-	-	-	69.40	4.16	83.28
			1/8" pvc piping	90.00	lnft		0.100	MH/U			2.15				-	9.000	260.26	-	-	-	260.26	3.47	312.31
			FITTINGS								-				-		-	-	-	-	-	-	-
			08" pvc flg 90	8.00	each		1.200	MH/U			25.80				-	9.600	277.61	-	-	-	277.61	41.64	333.13
			04" pvc flg 90	4.00	each		1.100	MH/U			23.65				-	4.400	127.24	-	-	-	127.24	38.17	152.69
			03" pvc 90	38.00	each		0.700	MH/U			15.05				-	26.600	769.21	-	-	-	769.21	24.29	923.05
			02" pvc 90	70.00	each		0.500	MH/U			10.75				-	35.000	1,012.11	-	-	-	1,012.11	17.35	1,214.53
			1/2" pvc 90	3.00	each		0.250	MH/U			5.38				-	0.750	21.69	-	-	-	21.69	8.68	26.03
			1/4" pvc 90	4.00	each		0.200	MH/U			4.30				-	0.800	23.13	-	-	-	23.13	6.94	27.76
			1/8" pvc 90	5.00	each		0.200	MH/U			4.30				-	1.000	28.92	-	-	-	28.92	6.94	34.70
			03" pvc 45	26.00	each		0.700	MH/U			15.05				-	18.200	526.30	-	-	-	526.30	24.29	631.56
			02" pvc 45	11.00	each		0.500	MH/U			10.75				-	5.500	159.05	-	-	-	159.05	17.35	190.86
			1/8" pvc 45	2.00	each		0.100	MH/U			2.15				-	0.200	5.78	-	-	-	5.78	3.47	6.94
			03" pvc tee	8.00	each		1.150	MH/U			24.73				-	9.200	266.04	-	-	-	266.04	39.91	319.25
			02" pvc tee	7.00	each		0.800	MH/U			17.20				-	5.600	161.94	-	-	-	161.94	27.76	194.33
			1/2" pvc tee	1.00	each		0.400	MH/U			8.60				-	0.400	11.57	-	-	-	11.57	13.88	13.88
			1/4" pvc tee	1.00	each		0.100	MH/U			2.15				-	0.100	2.89	-	-	-	2.89	3.47	3.47
			03" pvc cross	1.00	each		1.500	MH/U			32.25				-	1.500	43.38	-	-	-	43.38	52.06	52.06
			03" pvc cap	1.00	each		0.500	MH/U			10.75				-	0.500	14.46	-	-	-	14.46	17.35	17.35
			03" pvc coup	10.00	each		0.700	MH/U			15.05				-	7.000	202.42	-	-	-	202.42	24.29	242.90
			02" pvc coup	15.00	each		0.500	MH/U			10.75				-	7.500	216.88	-	-	-	216.88	17.35	260.26
			04" pvc flg	14.00	each		0.900	MH/U			19.35				-	12.600	364.36	-	-	-	364.36	31.23	437.23
			03" pvc flg	32.00	each		0.700	MH/U			15.05				-	22.400	647.75	-	-	-	647.75	24.29	777.30
			08" bolt sets	26.00	each		0.300	MH/U			6.45				-	7.800	225.56	-	-	-	225.56	10.41	270.67
			04" bolt sets	22.00	each		0.250	MH/U			5.38				-	5.500	159.05	-	-	-	159.05	8.68	190.86
			03" bolt sets	32.00	each		0.250	MH/U			5.38				-	8.000	231.34	-	-	-	231.34	8.68	277.61
			SOLVENT AND GLUE								-				-		-	-	-	-	-	-	-
			solvent	2.00	gal	50.00					-				107.00		-	-	-	-	107.00	64.20	128.40
			hd glue	2.00	gal	50.00					-				107.00		-	-	-	-	107.00	64.20	128.40
			WALL PIPE								-				-		-	-	-	-	-	-	-
			08"x 02' pvc flg wall pipe	1.00	each		3.500	MH/U			75.25				-	3.500	101.21	-	-	-	101.21	121.45	121.45
			08"x 01' pvc flg wall pipe	3.00	each		3.250	MH/U			69.88				-	9.750	281.95	-	-	-	281.95	112.78	338.34
			04"x 02' pvc flg wall pipe	4.00	each		2.500	MH/U			53.75				-	10.000	289.18	-	-	-	289.18	86.75	347.02
			03"x 01' pvc flg wall pipe	5.00	each		2.000	MH/U			43.00				-	10.000	289.18	-	-	-	289.18	69.40	347.02
			03"x 02' pvc flg wall pipe	1.00	each		2.150	MH/U			46.23				-	2.150	62.17	-	-	-	62.17	74.60	74.60
			SLEEVE								-				-		-	-	-	-	-	-	-
			02"x 01' pvc water tight sleeve	11.00	each		1.750	MH/U			37.63				-	19.250	556.66	-	-	-	556.66	60.73	667.99
			HANAGER AND SUPPORTS								-				-		-	-	-	-	-	-	-
			hangers appear to be unistrut								-				-		-	-	-	-	-	-	-
			channel w/ pipe clamps and								-				-		-	-	-	-	-	-	-
			refer to standard details								-				-		-	-	-	-	-	-	-
			03" hanger detail 2104	28.00	each		0.600	MH/U			12.90				-	16.800	485.81	-	-	-	485.81	20.82	582.97
			02" hanger detail 2104	38.00	each		0.400	MH/U			8.60				-	15.200	439.55	-	-	-	439.55	13.88	527.46
			1/2" hanger detail 2104	6.00	each		0.100	MH/U			2.15				-	0.600	17.35	-	-	-	17.35	3.47	20.82
			vertical 07' piece of pipe for	1.00	each		1.000	MH/U			21.50				-	1.000	28.92	-	-	-	28.92	34.70	34.70
			support of 02" pipe refers								-				-		-	-	-	-	-	-	-
			to detail 2104								-				-		-	-	-	-	-	-	-
			VALVES AMD STRAINERS								-				-		-	-	-	-	-	-	-
			03" basket strainer	1.00	each		3.500	MH/U			75.25				-	3.500	101.21	-	-	-	101.21	121.45	121.45
			02" angle valve	2.00	each		0.500	MH/U			10.75				-	1.000	28.92	-	-	-	28.92	17.35	34.70
			02" flush valve w/quick connect	3.00	each		0.550	MH/U			11.83				-	1.650	47.71	-	-	-	47.71	19.08	57.25
			04" check valve	4.00	each		1.800	MH/U			38.70				-	7.200	208.21	-	-	-	208.21	62.46	249.85
			02" check valve	5.00	each		0.900	MH/U			19.35				-	4.500	130.13	-	-	-	130.13	31.23	156.1

BULK HYPOCHLORITE SYSTEM

ANY TOWN, USA

MECHANICAL ESTIMATE

WBS	Major	Minor	ITEM DESCRIPTIONS	QNTY	UNIT MSR	UNIT \$ MATERIAL	PRODUCTIVITY	UNIT/ TIME	CREW	ADJ. \$ HOURLY	UNIT \$ LABOR	UNIT \$ EQUIP	UNIT \$ SUB-CON	UNIT \$ OTHER	TOTAL MATERIAL	TOTAL.. MANHOURS	TOTAL LABOR	TOTAL EQUIPMENT	TOTAL SUB-CON	TOTAL OTHER	TOTAL COST*	UNIT PRICE	TOTAL AMOUNT
			02" ball valve	8.00	each		1.000	MH/U			21.50				-	8.000	231.34	-	-	-	231.34	34.70	277.61
			1/2" ball valve	2.00	each		0.750	MH/U			16.13				-	1.500	43.38	-	-	-	43.38	26.03	52.06
			1/8" ball valve	2.00	each		0.500	MH/U			10.75				-	1.000	28.92	-	-	-	28.92	17.35	34.70
			03" flex rubber joints	4.00	each		0.350	MH/U			7.53				-	1.400	40.48	-	-	-	40.48	12.14	48.58
			CNTRL VALVE																				
			03" control valves	3.00	each		2.000	MH/U			43.00				-	6.000	173.50	-	-	-	173.50	69.40	208.20
			mov-1 mov-2 mov-3												-								
			SCREENS																				
			insect screens @ 08" tank vents	4.00	each		0.500	MH/U			10.75				-	2.000	57.84	-	-	-	57.84	17.35	69.41
			GROUT																				
			cubic feet grout	11.00	cuft	12.00	0.324	MH/U			6.97				141.24	3.568	103.17	-	-	-	244.41	26.66	293.29
			SHCLR UNLOADING STATION																				
			shclr unloading station	1.00	each		15.500	MH/U			333.25				-	15.500	448.22	-	-	-	448.22	537.86	537.86
			lox box, standard flip top												-								
			fiberglass enclosure (lb) 2												-								
			model gp-2 sized for 3' 0"x 4' 0"												-								
			precast vault												-								
			detailed d-200-02 & d-200-07												-								
			CONTROLLER																				
			lcp-shclr-truck station	1.00	each		10.000	MH/U			215.00				-	10.000	289.18	-	-	-	289.18	347.02	347.02
			controller												-								
			SHCLR TRANSFER PUMPS																				
			shclr transfer pumps	2.00	each		12.000	MH/U			258.00				-	24.000	694.02	-	-	-	694.02	416.41	832.82
			shclr-p-1 & shclr-p-2												-								
			horizontal base mounted end												-								
			suction pumps w/ lcp-shclr-tp												-								
			controller (hp not shown)												-								
			pump pads												-								
			05"x 03"x 06" thick	2.00	each	55.00	5.000	MH/U			107.50				117.70	10.000	289.18	-	-	-	406.88	244.13	488.26
			SUMP PUMPS																				
			sump pumps	2.00	each		5.000	MH/U			107.50				-	10.000	289.18	-	-	-	289.18	173.51	347.02
			smp-p-1 & smp-p-2												-								
			vertical turbine type pumps												-								
			w/16' of pump column and												-								
			suction strainer (hp not listed)	2.00	each		3.000	MH/U			64.50				-	6.000	173.50	-	-	-	173.50	104.10	208.20
			SHCLR-FCP-SMP-1 CONTROLLER																				
			shclr-fcp-smp-1 controller	1.00	each		10.000	MH/U			215.00				-	10.000	289.18	-	-	-	289.18	347.02	347.02
			RELOCATE TANK																				
			relocate existing spill tank	1.00	each		64.000	MH/U			1,376.00				-	64.000	1,850.72	-	-	-	1,850.72	2,220.86	2,220.86
			shclr-tk-1												-								
			tank is 12' dia x 25' high												-								
			provide frp ladder per detail												-								
			sheet d-200-02												-								
			provide new 08" frp nozzle												-								
			provide new 02" frp nozzle												-								
			SHCLR TANKS																				
			unload tanks	4.00	each		1.750	MH/U			37.63				-	7.000	202.42	-	-	-	202.42	60.73	242.90
			shclr tanks	4.00	each		32.000	MH/U			688.00				-	128.000	3,701.44	-	-	-	3,701.44	1,110.43	4,441.73
			shclr-tk-1												-								
			shclr-tk-2												-								
			shclr-tk-3												-								
			shclr-tk-4												-								
			tanks 12' dia x 27' high												-								
			w/ hand rails												-								
			w/ nozzles												-								
			w/ pipe supports												-								
			w/ manways												-								
			w/ specified coatings												-								
			temp jacks, cribbing and etc...	4.00	each							350.00			-			1,498.00	-	-	1,498.00	449.40	1,797.60
			NOTE																				
			hold down lugs and clamps												-								
			installed on tanks by mfg (who provides same)												-								
			NOTE																				
			anchor bolts provided by contractor ??	1.00	isum	250.00									267.50						267.50	321.00	321.00

BULK HYPOCHLORITE SYSTEM

ANY TOWN, USA

MECHANICAL ESTIMATE

WBS	Major	Minor	ITEM DESCRIPTIONS	QNTY	UNIT MSR	UNIT \$ MATERIAL	PRODUCTIVITY	UNIT/ TIME	CREW	ADJ. \$ HOURLY	UNIT \$ LABOR	UNIT \$ EQUIP	UNIT \$ SUB-CON	UNIT \$ OTHER	TOTAL MATERIAL	TOTAL.. MANHOURS	TOTAL LABOR	TOTAL EQUIPMENT	TOTAL SUB-CON	TOTAL OTHER	TOTAL COST*	UNIT PRICE	TOTAL AMOUNT
			COMMISSIONING																				
			start-up utilities	10.00	day																		
			consultants	1.00	inc																		
			crew time	1.00	job																		
			O&M manuals and final submittals	1.00	job																		
			extended warranty (if required)	1.00	inc																		
			SUBTOTAL AMOUNT												3,837.02	3477.451	100,559.23	25,334.18	40,490.93		170,221.35		204,265.62
			----- END NEW MECHANICAL WORK -----																				
5			HEATING & VENTILATING SYSTEM	1.00	LSUM																		
			DWG: M-200-00 MD-200-01																				
			M-200-01																				
			DEMOLITION																				
			remove 40"x 40" frp duct	30.00	lnft		0.650	MH/U		13.98						19.500	563.89				563.89	22.56	676.67
			cap 40"x 40"frp duct	1.00	each	155.00	1.300	MH/U		27.95					165.85	1.300	37.59				203.44	244.13	244.13
			NEW WORK																				
			electric unit heaters	8.00	each		4.500	MH/U		96.75						36.000	1,041.03				1,041.03	156.15	1,249.24
			euh -01 thru euh-08																				
			trane model uxha																				
			7.5 kw, 400 cfm, 1/4 hp, 480 v.																				
			w/ mounting bracket																				
			w/ thermostat ** see elec **																				
			w/ outlet louver																				
			w/ summer / winter switch																				
			EXHAUST FANS																				
			exhaust fans ** see elec **	2.00	each		8.000	MH/U		172.00						16.000	462.68				462.68	277.61	555.22
			ef-01 & ef-02																				
			hartzell model series 59																				
			3350 cfm, 1.0 hp, 480/3/60 volt																				
			w/ frp construction, motor																				
			operated damper, bird screen,																				
			mounting flange, & rear guard																				
			LOUVERS																				
			combination wall louvers	2.00	each		7.000	MH/U		150.50						14.000	404.84				404.84	242.90	485.81
			wl-01 & wl-02																				
			hartzell fan co.																				
			05'-4"x 03'-4" 3500cfm																				
			w/ motorized damper																				
			w/ bird screen																				
			w/ thermostat ** see elec **																				
			w/ frp construction																				
			WTR HEATERS																				
			water heater	1.00	each		3.000	MH/U		64.50						3.000	86.75				86.75	104.10	104.10
			electric instantaneous,100kw,																				
			480/277 volt																				
			eemax, inc.																				
			EXHAUST FAN																				
			exhaust fan motor starters 1hp.	2.00	each																		
			power & control wiring by elec.																				
			CONTROL PANEL																				
			control panel, 16 gauge nema 4	1.00	each																		
			enclosure with lockable																				
			hinged door.																				
			LV TEMPERATURE CONTROL																				
			low voltage temperature control	1.00	lsum																		
			wiring for unit heaters																				
			TEST AND BALANCE																				
			test and balance	1.00	job								750.00								750.00	900.00	900.00
			power / control & interlock wiring																				
			for exhaust fans & louvers is																				
			not included in this estimate.																				
			should be by electrician.																				

BULK HYPOCHLORITE SYSTEM

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4			NO CRANE, HOISTING OR LIFT RENTAL INCLUDED ABOVE																					
5			PLATE SETLERS ARE CONSIDERED ASSEMBLED WHEN DELIVERED?																					
6			DEDUCT \$650.00 FROM THE ABOVE TOTAL FOR ALT.#2																					
7			NO (I & C), INSTRUMENTATION & CONTROLS INCLUDED ABOVE																					
8			NO STANDS, CABINETS OR MOUNTING BRACKETS INCLUDED FOR (I & C)																					
END																								