

NOTICE AND AGENDA

Notice is hereby given that the City Council of the City of Santaquin will hold a City Council Meeting on **Tuesday**, September 04, 2018 in the **Court Room, 275 W Main, upper level** at 6:00 pm.

1. **ROLL CALL**
 2. **PLEDGE OF ALLEGIANCE**
 3. **INVOCATION/INSPIRATIONAL THOUGHT**
 4. **DECLARATION OF ANY CONFLICT OF INTEREST**
 5. **CONSENT AGENDA**
 - a. Minutes:
 1. August 15, 2018
 - b. Bills:
 1. \$302,235.12
 6. **PUBLIC FORUM, BID OPENINGS, AWARDS, AND APPOINTMENTS**
 - a. Community Service Appreciation Award – Leola Winegar – Main Street Planter Boxes
 - b. What Do You Love About Santaquin Video Scholarship Award Presentation – Logan Bennett
 7. **FORMAL PUBLIC HEARING**
 - a. Public Hearing for Little Opee's Annexation
 8. **BUSINESS LICENSES**
 9. **NEW BUSINESS & ADOPTION OF ORDINANCES AND RESOLUTIONS**
 - a. Discussion and Possible Action Regarding the establishment of a Guaranteed Maximum Price for the Water Reclamation Facility Expansion Project
 - b. Resolution 09-01-2018, "A Resolution Approving an Interlocal Agreement Amending and Joining Central Utah 911"
 - c. Ordinance 11-01-2017, "An Ordinance Creating a Mining Zone (Section 10-7-6-R) and Creating Definitions for Mining and Blasting (Section 11-2)"
 10. **CONVENE OF THE COMMUNITY DEVELOPMENT BOARD**
 11. **CONVENE OF THE SANTAQUIN COMMUNITY DEVELOPMENT AGENCY BOARD**
 12. **CONVENE OF THE LOCAL BUILDING AUTHORITY OF SANTAQUIN CITY**
 13. **CONVENE OF THE SANTAQUIN WATER DISTRICT**
 14. **WORK MEETING**
 15. **PETITIONS AND COMMUNICATIONS**
 16. **REPORTS OF OFFICERS, STAFF, BOARDS, AND COMMITTEES**
 - a. City Manager Reeves
 - b. Community Development Director Bond
 - c. City Engineering Director Beagley
 17. **REPORTS BY MAYOR AND COUNCIL MEMBERS**
 - a. Mayor Hunsaker
 - b. Council Members
 18. **EXECUTIVE SESSION** (May be called to discuss the character, professional competence, or physical or mental health of an individual)
 19. **EXECUTIVE SESSION** (May be called to discuss the pending or reasonably imminent litigation, and/or purchase, exchange, or lease of real property)
 20. **ADJOURNMENT**
- If you are planning to attend this Public Meeting and, due to a disability, need assistance in understanding or participating in the meeting, please notify the City ten or more hours in advance and we will, within reason, provide what assistance may be required.

CERTIFICATE OF MAILING/POSTING

The undersigned duly appointed City Recorder for the municipality of Santaquin City hereby certifies that a copy of the foregoing Notice and Agenda was e-mailed to the Payson Chronicle, Payson, UT, 84651, posted on www.santaquin.org, as well as posted on the State of Utah's Public Website.

BY: _____
Susan Farnsworth, City Recorder

**MINUTES OF A CITY COUNCIL MEETING
HELD IN THE COUNCIL CHAMBERS
SEPTEMBER 04, 2018**

The meeting was called to order by Mayor Kirk Hunsaker at 6:00 pm. Council Members attending: Keith Broadhead, Lynn Mecham, Nick Miller, Betsey Montoya, and Chelsea Rowley.

Others attending: City Manager Ben Reeves, City Engineer Norm Beagley, Police Chief Rod Hurst, Fire Chief Steve Olson, Community Development Director Jason Bond, Recreation Director Amy Johnson, Legal Counsel Brett Rich, Leola Winegar, Logan Bennett, Jade Walker, Richard Behling, Jared Jeffs, Kayley Jeffs, Rob Schaefer, Linda Holm, Clyde Holm, Merlin Crossley, Jennifer Crossley, Blake Jorgenson, Sarah Jorgenson, Steve Wellman, Chad Hunsaker, David Charles, Brookside 1st Ward Scouts, Jason Elmont, Cliff Bentley, Robert Haymore, Dustin Holden, Emily Schaefer, Jamie Robinson, Andrea Zeffalow, and other unidentified individual.

PLEDGE OF ALLEGIANCE

Ms. Robinson led the Pledge of Allegiance.

INVOCATION/INSPIRATIONAL THOUGHT

Mr. Dan Olson Offered an Invocation.

DECLARATION OF ANY CONFLICT OF INTEREST

There weren't any Conflict of Interest declared.

CONSENT AGENDA

Minutes:

August 15, 2018

Bills:

\$302,235.12

Council Member Miller moved to approve the Consent Agenda. Council Member Rowley seconded the motion. The vote was as follows:

Council Member Broadhead	Aye
Council Member Mecham	Aye
Council Member Miller	Aye
Council Member Montoya	Aye
Council Member Rowley	Aye

The motion passed 5 to 0.

PUBLIC FORUM, BID OPENINGS, AWARDS, AND APPOINTMENTS

Community Service Appreciation Award – Leola Winegar – Main Street Planter Boxes

Mayor Hunsaker thanked Ms. Winegar for her dedication taking care of the Main Street planter boxes. She kept the flowers watered and blooming as well as any trash out of the boxes. Her efforts were appreciated by all who had the opportunity to drive by the beautiful flowers.

What Do You Love About Santaquin Video Scholarship Award Presentation – Logan Bennett

Mr. Bennett was not able to attend this evening. The award will be given next Council Meeting.

Mr. Reeves addressed those in attendance with regard to the 2nd entrance for Summit Ridge. He indicated the City didn't have any control over the HOA increasing fees to pay their portion of the roadway. He reported the City received a \$700,000 grant to install approximately 1 mile of acceleration and deceleration lanes off of the proposed roadway and Highway 6. He indicated the

total for the remaining project is estimated to be at \$2.9 million with the project being ready to bid. The HOA is responsible for \$146,000 per year to help repay the bond on the project. Currently, if there were no additional growth in the Summit Ridge area, each household would have to pay approximately \$17.38 per year extra in HOA Fees. Currently there are plans for an additional 200 hundred homes for that area which will reduce the household cost significantly over the 10-year payback time frame. There would also be a reimbursement agreement for all who would connect to the new roadway. This fee would be assessed proportionally to their project.

Mr. Jeffs addressed the Mayor and Council Members by indicating he thought the leaders of the City were corrupt. When times get lean, the City doesn't tighten their belts but continues to have Employee parties, give gift cards for Birthdays, as well as bonuses at Christmas. He wants to know how much money is spent each year on such things. He reported he would be filing a GRAMA request to get the totals.

Mr. Jorgenson requested the names and direct numbers of the developers of Summit Ridge. He would like to have answers with regard to their intent before they, the homeowners, have their HOA fees increased. He asked the Council Members to ensure they do everything within their power to protect the residents of the City.

Mr. Holden reported he had lived in Santaquin approximately 16 months. He had comments as to the spending habits of the City. After he completed his comments he was invited to make an appointment and visit with the City Manager to get his questions answered and his concerns addressed.

Mr. Behling asked the City Council contact Union Pacific with regard to them honoring the Quiet Zone that the City adopted. He lives next to the railroad tracks and hears the whistle blow all the time. He was told they had been contacted but the City would have to pay \$10,000 just to have their Engineer fly to Utah and assess the issue.

FORMAL PUBLIC HEARING

Public Hearing for Little Opee's Annexation

Council Member Miller moved to enter into a Public Hearing for the Little Opee's Annexation. Council Member Montoya seconded the motion. The vote was as follows:

Council Member Broadhead	Aye
Council Member Mecham	Aye
Council Member Miller	Aye
Council Member Montoya	Aye
Council Member Rowley	Aye

The motion passed 5 to 0.

Director Bond reviewed the area proposed for annexation. Those in attendance were told the property proposed for annexation includes the building currently housing produce.

Without additional discussion, Council Member Rowley moved to close the Public Hearing for the Little Opee's Annexation. Council Member Montoya seconded the motion. The vote was as follows:

Council Member Broadhead	Aye
Council Member Mecham	Aye
Council Member Miller	Aye
Council Member Montoya	Aye
Council Member Rowley	Aye

The motion passed 5 to 0.

Ms. Walker introduced Ms. Zeffalow as the new Chamber Secretary. She will be working with the Payson/Santaquin Chamber of Commerce.

Ms. Walker also reported the September Business of the Month is Behling Insurance. Mr. Behling stated it was an honor to be recognized by the Chamber. He reported they had been in business, in Payson, for over 50 years as well as serving 7 Western States. He thanked everyone for the continual support.

BUSINESS LICENSES

It was reported year to date there have 118 single family and 3 multi-family building permits issued. This number has exceeded the same time frame of last year.

The following new Business Licenses have been issued since the last Council Meeting.

- Maple Ridge Chiropractic & Massage - Reed Richards – 30 S 300 E
- Vista Internet – Jeremy Sedgwick – 1247 Vista Ridge Dr.
- Crabby's to Go – Cory Crabb – 34 S Highland Drive

NEW BUSINESS & ADOPTION OF ORDINANCES AND RESOLUTIONS

Discussion and Possible Action Regarding the establishment of a Guaranteed Maximum Price for the Water Reclamation Facility Expansion Project

City Engineer Beagley reported Ellsworth-Paulsen were able to finalize their cost to construct the planned Wastewater Reclamation Facility upgrades (see attachment "A" for supporting documents).

Council Member Broadhead moved to approve the GMP Change Order #1 in the amount of \$620,246.00 for the Construction Manager/General Contractor to Ellsworth-Paulsen Construction for the Santaquin WRF Phase III Improvements. Council Member Mecham seconded the motion.

The vote was as follows:

Council Member Broadhead	Aye
Council Member Mecham	Aye
Council Member Miller	Aye
Council Member Montoya	Aye
Council Member Rowley	Aye

The motion passed 5 to 0.

Resolution 09-01-2018, "A Resolution Approving an Interlocal Agreement Amending and Joining Central Utah 911"

Council Member Miller moved to approve Resolution 09-01-2018, "A Resolution Approving an Interlocal Agreement amending and Joining Central Utah 911". Council Member Montoya seconded the motion.

The vote was as follows:

Council Member Broadhead	Aye
Council Member Mecham	Aye
Council Member Miller	Aye
Council Member Montoya	Aye
Council Member Rowley	Aye

The motion passed 5 to 0.

Ordinance 11-01-2017, "An Ordinance Creating a Mining Zone (Section 10-7-6-R) and Creating Definitions for Mining and Blasting (Section 11-2)"

Director Bond asked for input from the Council Members with regard to the proposed Ordinance. A number of Council Members believed a work session was warranted to discuss the proposed Ordinance. Council Member Rowley voiced her concerns with portions of the proposed Ordinance. She had props demonstrating the potential destruction that dust may have on the fruit industry. Council Member Broadhead indicated he would like to see a buffer between the mining and development. It was suggested requiring the roadways be asphalted. After the discussion and the decision to continue this matter to a work session, Council Member Miller moved to table Ordinance 11-01-2017, "An Ordinance Creating a Mining Zone (Section 10-7-6-R) and Creating Definitions for Mining and Blasting (Section 11-2)". Council Member Mecham seconded the motion.

The vote was as follows:

Council Member Broadhead	Aye
Council Member Mecham	Aye
Council Member Miller	Aye
Council Member Montoya	Aye
Council Member Rowley	Aye

The motion passed 5 to 0.

Mr. Schaefer recommended requiring all dump trucks to be covered whether full or empty.

CONVENE OF THE COMMUNITY DEVELOPMENT BOARD

There wasn't a need to convene the Community Development Board.

CONVENE OF THE SANTAQUIN COMMUNITY DEVELOPMENT AGENCY BOARD

There wasn't a need to convene the Santaquin Community Development Agency Board.

CONVENE OF THE LOCAL BUILDING AUTHORITY OF SANTAQUIN CITY

There wasn't a need to convene the Local Building Authority of Santaquin City Board.

CONVENE OF THE SANTAQUIN WATER DISTRICT

There isn't a need to convene the Santaquin Water District Board.

WORK MEETING

There wasn't a need to hold a Work Session.

PETITIONS AND COMMUNICATIONS

There weren't any Petitions or Communications to be addressed.

REPORTS OF OFFICERS, STAFF, BOARDS, AND COMMITTEES

City Manager Reeves

City Manager Reeves asked the Mayor and Council if they would like to hold a mid-year ½ day retreat. The Council Members were in agreement so a date will be set. Council Members would also like to discuss the "Chain of Command" within the Public Works and the Parks and Recreation Departments.

City Manager Reeves also addressed some of the comments made in the Public Forum with regard to the amount of money spent on Employee luncheons, birthday gift cards and a Christmas Party. He indicated the City holds an Employee luncheon once a month for those who would like to attend as well as each Employee receives a \$10 gift card, to a local business, for their birthdays. Employees are encouraged to submit "Pat on the Back's" when they see an Employee going above and beyond. During the luncheon, a drawing is held for each Employee who received a recognition. The winner receives a gift card.

City Manager Reeves also reported he had been approached by Representatives of the Utah League of Cities and Towns requesting he submit a Letter of Interest to serve on the Utah Communications Board. The members of this board are selected by the Governor's Office.

Community Development Director Bond

Director Bond reported the Moderate Housing report has been submitted. He will continue to work on the Moderate Housing Plan for the City and share the information with the Council Members as it becomes available.

He also reported he had spoken with the Utah County Engineer with regard to precluding roadways in Ag Protection areas. He was told the Utah County Commissioners will not be addressing the issue.

City Engineering Director Beagley

City Engineer Beagley reported the Booster Pump Project is moving forward. The hope is to be pumping secondary water before the pressurized irrigation is turned off for the season.

REPORTS BY MAYOR AND COUNCIL MEMBERS

Mayor Hunsaker

Mayor Hunsaker didn't have any items to report on.

Council Members

Council Member Broadhead asked when the Water Conservation Plan is being compiled he would like to be involved in the process. He reported there is grant money available for metering secondary water use and would like to have Santaquin apply for some.

He asked where the "naming the sewer plant" was at. He was told the sign is ordered. He cautioned that everyone keeps in mind there have been a number Mayors throughout time that have done a lot for the City and he hope this is not going to cause issues.

Council Member Rowley reported she has received calls with regard to safety along Center Street while the children are walking to school. She wonders if there can be a 4 way stop installed along that roadway to help slow traffic.

She also reported the website needs to be updated on the new meeting day and location.

Council Member Miller was told Crabby's tall sign permit has been approve. There isn't any hold up on the City's end.

He reported there is a tree blocking the stop sign on Mountain view and Summit Ridge Parkway. He asked that it be trimmed.

He also reported the Police Department had hired a 2 new Officers. One is currently in the academy with the other completing FTO.

Chief Hurst reported it will take time to adjust to traffic flow into Apple Valley Elementary. He however will request a 4-way stop if the Council Members so choose.

Chief Olson reported it was good to be back after his 16 days in California fighting fire. He also reported August has been, to date, the largest call volume month in the department's history. The calls include a few fires that can be billed back to either the State or Utah County.

EXECUTIVE SESSION (May be called to discuss the character, professional competence, or physical or mental health of an individual)

There wasn't a need to hold an Executive Session to discuss the character, professional competence, or physical or mental health of an individual.

EXECUTIVE SESSION (May be called to discuss the pending or reasonably imminent litigation, and/or purchase, exchange, or lease of real property)

There wasn't a need to hold an Executive Session to discuss the pending or reasonably imminent litigation, and/or purchase, exchange, or lease of real property.

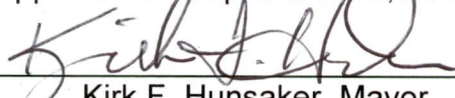
ADJOURNMENT

At 8:06 Council Member Miller moved to adjourn. Council Member Rowley seconded the motion. The vote was as follows:

Council Member Broadhead	Aye
Council Member Mecham	Aye
Council Member Miller	Aye
Council Member Montoya	Aye
Council Member Rowley	Aye

The motion passed 5 to 0.

Approved on September 18, 2018.


Kirk F. Hunsaker, Mayor


Susan B. Farnsworth, City Recorder



Memorandum

To: Mayor Hunsaker and City Council
From: Norm Beagley, P.E., City Engineer
Date: September 1, 2018
Re: **Consideration for WRF Phase II CM/GC Guaranteed Maximum Price (GMP)**

Design work is complete and construction is ready to begin for the WRF Phase II upgrades (increasing the capacities of both the filtration membrane (train 4) and the dewatering (screw press) systems).

Ellsworth-Paulsen was able to finalize their costs to construct the planned upgrades. Per the City's contract with Ellsworth-Paulsen, they have provided their costs in the form of a Guaranteed Maximum Price (GMP) (not to exceed) amount. Ellsworth-Paulsen has proposed a GMP in the amount of \$620,246.00.

The overall project costs are as follows:

• J-U-B design (not to exceed amount):	\$146,200.00
• Suez (formerly GE) contract for new membranes:	\$596,546.00
• FKC contract for new dewatering screw press:	\$249,770.00
• Proposed GMP from Ellsworth-Paulsen:	\$620,246.00
• <u>Estimated SCADA costs</u>	<u>\$ 40,000.00</u>
Total Project Costs:	\$1,652,762.00

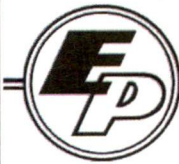
For your information, the estimated total costs for these upgrades as shown in the City's sewer master plan (2016 dollars) were \$1,821,000.00. With the proposed GMP, this puts the total project approximately 10.4% below the previously estimated costs.

For your review and consideration, I have attached the proposed Summary GMP from Ellsworth-Paulsen. I have also attached their line item back up (12 pages total). I am happy to go over any of their proposed costs/items with you if you would like.

We recommend that the Council approve a GMP Change Order in the amount of \$620,246.00 to Ellsworth-Paulsen for this project.

If you have any questions, I would be happy to answer them.

Recommendation: I/we recommend that the City Council approve the GMP Change Order #1 in the amount of \$620,246.00 for the CM/GC to Ellsworth-Paulsen Construction for the Santaquin WRF Phase II Improvements.



ELLSWORTH · PAULSEN
CONSTRUCTION COMPANY

Santaquin WRF Phase II Improvements - Proposed GMP

Date:

8/31/2018

Totals			
	Description	Amount	Totals
	Labor	\$ 67,390.00	
	Material	\$ 210,248.00	
	Subcontract	\$ 163,263.00	
	Equipment	\$ 10,725.00	
	Other	\$ 38,267.00	
	Subtotal	\$ 489,893.00	\$ 489,893.00
	Small Tools & Consumables	\$ 717.00	
	Safety Equipment & Supplies	\$ 502.00	
	Subtotal	\$ 1,219.00	\$ 491,112.00
	General liability Insurance	\$ 1,893.00	
	Excess liability Insurance	\$ 1,274.00	
	Subtotal	\$ 3,167.00	\$ 494,279.00
	Profit Markup on Cost of Work	\$ 24,714.00	
	Profit Markup on Owner Equip	\$ 42,315.80	
	Subtotal	\$ 67,030.00	\$ 561,309.00
	Contingency	\$ 58,937.45	
	Subtotal	\$ 58,937.45	\$ 620,246.45

Location	Uniformat	Phase	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Cost/Unit	Labor Amount	Material Cost/Unit	Material Amount	Sub Amount	Equip Cost/Unit	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Notes
Actuator CO																	
	PER Piping																
		15-2010	BUTTERFLY VALVES														
			Change out Actuators from pneumatic to Electric - Existing	3.00 ea	7.833	0.383 ea/mh	127.17 /ea	382	6,222.20 /ea	18,667	-	19.29 /ea	58	-	6,368.65 /ea	19,106	
			6" Bray butterflyes														
			BUTTERFLY VALVES		7.833		/LS	382	/LS	18,667		/LS	58		/LS	19,106	
			PER Piping		7.833			382		18,667			58			19,106	
			Actuator CO		7.833			382		18,667			58			19,106	
Blower																	
	ALP Piping																
		15-0220	S.STL. COUPLINGS														
			6" Stainless Steel BNG Set (Bolt, Nut, & Gasket Set)	3.00 ea			41.30 /ea	124	83.29 /ea	250	-	-	-	-	124.59 /ea	374	
			12" Stainless Steel BNG Set (Bolt, Nut, & Gasket Set)	2.00 ea				-	218.29 /ea	437	-	-	-	-	218.29 /ea	437	
			S.STL. COUPLINGS				/LS	124	/LS	686		/LS			/LS	810	
			S.STL. BENDS (FL)														
		15-0231	12" Stainless Steel 90 Bend (Flanged x Weld)	1.00 ea	4.000	0.250 ea/mh	187.02 /ea	187	940.28 /ea	940	-	54.21 /ea	54	-	1,181.51 /ea	1,182	
			S.STL. BENDS (FL)		4.000		/LS	187	/LS	940		/LS	54		/LS	1,182	
			S.STL. 6" SPOOLS														
		15-0253	6" x 6" Stainless Steel Spool Fl x Weld w/ 1/2" Thread-o-let	3.00 ea	2.500	1.200 ea/mh	38.97 /ea	117	579.81 /ea	1,739	-	18.33 /ea	55	-	637.11 /ea	1,911	
			S.STL. 6" SPOOLS		2.500		/LS	117	/LS	1,739		/LS	55		/LS	1,911	
			S.STL. 12" SPOOLS														
		15-0256	12" x 4" Stainless Steel Spool Fl x Pe	1.00 ea	1.292	0.774 ea/mh	60.39 /ea	60	1,572.15 /ea	1,572	-	8.29 /ea	8	-	1,640.83 /ea	1,641	
			S.STL. 12" SPOOLS		1.292		/LS	60	/LS	1,572		/LS	8		/LS	1,641	
			S. STL. BLIND FLANGES														
		15-0290	6" Stainless Steel Blind Flange	1.00 ea	0.828	1.208 ea/mh	38.73 /ea	39	117.53 /ea	118	-	5.31 /ea	5	-	161.57 /ea	162	
			S. STL. BLIND FLANGES		0.828		/LS	39	/LS	118		/LS	5		/LS	162	
			BUTTERFLY VALVES														
		15-2010	6" Butterfly Valve with Manual Operated Actuator	1.00 ea	2.614	0.383 ea/mh	122.22 /ea	122	817.40 /ea	817	-	16.77 /ea	17	-	956.39 /ea	956	Bray Valve
			BUTTERFLY VALVES		2.614		/LS	122	/LS	817		/LS	17		/LS	956	
			PIPE INSULATION														
		15-6010	12" Pipe Insulation with All Service Jacket	6.00 lf			-	-	-	-	1,103	-	-	-	183.83 /lf	1,103	
			PIPE INSULATION				/LS		/LS		1,103	/LS			/LS	1,103	
			ALP Piping		11.234			649		5,873	1,103		140			7,765	
Concrete																	
		03-2010	DOWELING														
			#4 x 40 bar diameters 60,000 grade dowel epoxy injected	18.00 ea	0.997	18.061 ea/mh	2.59 /ea	47	2.89 /ea	52	-	-	-	-	5.47 /ea	99	
			DOWELING		0.997		/ls	47	/ls	52		/ls			/ls	99	
			CONCRETE REINFORCEMENT														
		03-2020	Concrete reinforcement in place	0.06 ton	1.400	25.000 mh/ton	1,168.75 /ton	65	1,055.70 /ton	59	-	-	-	-	2,224.50 /ton	125	
			CONCRETE REINFORCEMENT		1.400		/ls	65	/ls	59		/ls			/ls	125	
			CONCRETE READY-MIX														
		03-3001	Concrete ready-mix, 4000 psi, type II cement, air-entrained	0.60 cy			-	-	128.23 /cy	77	-	-	-	-	128.23 /cy	77	
			Concrete Short Load Fee	1.00 ea			-	-	267.12 /ea	267	-	-	-	-	267.12 /ea	267	
			CONCRETE READY-MIX				/cy		/cy	344		/cy			/cy	344	
			SLAB ON GRADE														
		03-3050	Forms, flatwork edge forms	10.00 sfca	2.000	5.000 sfca/mh	9.35 /sfca	94	3.21 /sfca	32	-	-	-	-	12.56 /sfca	126	
			Placing slab-on-grade to 6"	0.60 cy	1.500	0.400 cy/mh	116.92 /cy	70	-	-	-	0.98 /cy	1	-	117.90 /cy	71	
			Slab-on-Grade, hand trowel finish	30.00 sf	3.000	10.000 sf/mh	4.68 /sf	140	-	-	-	-	-	-	4.68 /sf	140	
			Roughen Slab Surface	30.00 sf	3.000	10.000 sf/mh	4.68 /sf	140	-	-	-	0.50 /sf	15	-	5.18 /sf	155	
			SLAB ON GRADE		9.500		/cy	444	/cy	32		/cy	16		/cy	492	

Location	Uniformat	Phase	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Cost/Unit	Labor Amount	Material Cost/Unit	Material Amount	Sub Amount	Equip Cost/Unit	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Notes
			Concrete		11.897			556		487			16			1,059	
	Demo		PIPING DEMOLITION														
		02-0860	Remove existing 12" spool and pipe insulation	1.00 ea	2.100	0.476 ea/mh	98.20 /ea	98	-	-	-	-	-	-	98.20 /ea	98	
			PIPING DEMOLITION		2.100		/ls	98	/ls			/ls			/ls	98	
	Demo				2.100			98								98	
	Ducting		H.V.A.C. SUBCONTRACTOR														
		15-5110	Extend galv duct & Connection	6.00 ft			/LS	-	-	-	1,500	-	-	-	250.00 /ft	1,500	
			H.V.A.C. SUBCONTRACTOR						/LS		1,500	/LS			/LS	1,500	
	Ducting										1,500					1,500	
	Equip		OFFLOADING & STORING OF EQUIPMENT														
		11-0110	Offloading & storage of Process Air Turbo Blowers	1.00 ea	4.600	0.217 ea/mh	215.07 /ea	215	69.45 /ea	69	-	84.33 /ea	84	-	368.85 /ea	369	
			OFFLOADING & STORING OF EQUIPMENT		4.600		/LS	215	/LS	69		/LS	84		/LS	369	
		11-8180	BLOWERS & APPURTENANCES														
			Installation of Process Air Turbo Blower(s), 50 hp, 820 scfm (Supplied by Owner)	1.00 ea	45.998	0.022 ea/mh	2,150.73 /ea	2,151	-	-	-	505.98 /ea	506	-	2,656.71 /ea	2,657	
			BLOWERS & APPURTENANCES		45.998		/LS	2,151	/LS			/LS	506		/LS	2,657	
	Equip				50.598			2,366		69			590			3,026	
	Startup		STARTUP & COMMISSIONING OF EQUIPMENT														
		11-0120	Startup & commissioning of Process Air Turbo Blower	1.00 ea	9.200	0.109 ea/mh	430.16 /ea	430	42.74 /ea	43	-	120.52 /ea	121	-	593.42 /ea	593	
			STARTUP & COMMISSIONING OF EQUIPMENT		9.200		/LS	430	/LS	43		/LS	121		/LS	593	
			Startup		9.200			430		43			121			593	
			Blower		85.028			4,100		6,473	2,603		866			14,041	
Electrical																	
	Elect		ELECTRICAL SUBCONTRACTOR														
		16-0100	Electrical Sub	1.00 ls			/LS	-	-	-	119,800	-	-	-	119,800.00 /ls	119,800	
			ELECTRICAL SUBCONTRACTOR						/LS			/LS			/LS	119,800	
	Elect										119,800					119,800	
			Electrical								119,800					119,800	
GEN																	
	Bond		BONDING														
		01-1010	Increase Bond from \$1.3 million to \$1.4 million (1.52% bond rate)	99.459.00 \$			/ls	-	-	-	-	-	-	1,492	0.02 /\$	1,492	Doesn't include Contingency Amount
			BONDING						/ls			/ls			1,492	1,492	
	Bond														1,492	1,492	
	General Conditions		GENERAL CONDITIONS														
		01-1000	General Conditions	1.00 ls			/ls	-	-	-	-	-	-	36,775	36,775.00 /ls	36,775	
			GENERAL CONDITIONS						/ls			/ls			36,775	36,775	
			General Conditions											36,775		36,775	
	Misc		GENERAL CONDITIONS														
		01-1000	Dumpster	0.00 ls			-	-	-	-	0	-	-	-	0.00 /ls	0	by owner
		01-1450	QUALITY CONTROL														
			Quality control, concrete, cylinder density testing, (4) cylinders every 150 cy	0.00 ea			-	-	-	-	0	-	-	-	0.00 /ea	0	by owner

Location	Unifomat	Phase	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Cost/Unit	Labor Amount	Material Cost/Unit	Material Amount	Sub Amount	Equip Cost/Unit	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Notes
		15-1500	PIPING, GENERAL														
			Testing, Piping Systems	14.00 mh	14.000		46.76 /mh	655	5.34 /mh	75	-	17.44 /mh	244	-	69.54 /mh	974	1.5% of all labor hours contained within Division 15
			PIPING, GENERAL		14.000		/LS	655	/LS	75		/LS	244		/LS	974	
			Misc		14.000			655		75			244			974	
	Paint/Coatings		PAINTING & COATINGS														
		09-9800	Paint/Coatings Subcontractor	1.00 ls			/ls	-	/ls	-	39,850	-	-	-	39,850.00 /ls	39,850	
			PAINTING & COATINGS												/ls	39,850	
			Paint/Coatings								39,850					39,850	
	Pipe Label		PIPING, IDENTIFICATION														
		15-1540	Pipe Labeling	26.00 ea	5.200	5.000 ea/mh	9.35 /ea	243	15.81 /ea	411	-	-	-	-	25.17 /ea	654	
			PIPING, IDENTIFICATION		5.200		/LS	243	/LS	411		/LS			/LS	654	
			Pipe Label		5.200			243		411						654	
			GEN		19.200			898		486	39,850		244	38,267		79,745	
MBR																	
	AHP Piping		S.STL PIPE 316														
		15-0202	1/2" Schedule 40 Type 316 Stainless Steel Pipe with Supports	44.00 lf	5.324	8.264 lf/mh	5.66 /lf	249	11.35 /lf	499	-	-	-	-	17.01 /lf	748	
			3/4" Schedule 40 Type 316 Stainless Steel Pipe with Supports	22.00 lf	2.717	8.097 lf/mh	5.77 /lf	127	13.26 /lf	292	-	-	-	-	19.03 /lf	419	
			1/2" Type 316 Stainless Steel Compression 90 Bend	10.00 ea	5.229	1.913 ea/mh	24.45 /ea	244	20.06 /ea	201	-	-	-	-	44.50 /ea	445	
			3/4" Type 316 Stainless Steel Compression 90 Bend	4.00 ea	2.291	1.746 ea/mh	26.78 /ea	107	20.64 /ea	83	-	-	-	-	47.43 /ea	190	
			1/2" Type 316 Stainless Steel Compression Tee	8.00 ea	6.275	1.275 ea/mh	36.67 /ea	293	29.44 /ea	236	-	-	-	-	66.11 /ea	529	
			3/4" Type 316 Stainless Steel Compression Tee	2.00 ea	1.793	1.116 ea/mh	41.92 /ea	84	30.16 /ea	60	-	-	-	-	72.07 /ea	144	
			1/2" Type 316 Stainless Steel Compression Coupling	15.00 ea	5.154	2.910 ea/mh	16.07 /ea	241	33.03 /ea	495	-	-	-	-	49.09 /ea	736	
			1/2"-3/8" Type 316 Stainless Steel Compression Reducer	2.00 ea	1.046	1.913 ea/mh	24.44 /ea	49	30.52 /ea	61	-	-	-	-	54.96 /ea	110	
			S.STL PIPE 316		29.828		/LS	1,395	/LS	1,926		/LS			/LS	3,321	
		15-2650	STAINLESS STEEL BALL VALVES														
			1/2" Stainless Steel Ball Valve - air service	6.00 ea	1.692	3.546 ea/mh	13.19 /ea	79	48.56 /ea	291	-	1.81 /ea	11	-	63.56 /ea	381	
			3/4" Stainless Steel Ball Valve - air service	2.00 ea	0.620	3.224 ea/mh	14.51 /ea	29	55.84 /ea	112	-	1.99 /ea	4	-	72.34 /ea	145	
			STAINLESS STEEL BALL VALVES		2,312		/LS	108	/LS	403		/LS	15		/LS	526	
			AHP Piping		32.140			1,503		2,329			15			3,847	
	ALP Piping		S.STL COUPLINGS														
		15-0220	6" Stainless Steel BNG Set (Bolt, Nut, & Gasket Set)	3.00 ea			-	-	83.29 /ea	250	-	-	-	-	83.29 /ea	250	
			12" Stainless Steel BNG Set (Bolt, Nut, & Gasket Set)	4.00 ea			-	-	218.28 /ea	873	-	-	-	-	218.28 /ea	873	
			S.STL COUPLINGS				/LS		/LS	1,123		/LS			/LS	1,123	
			S.STL BENDS (WJ)														
		15-0232	6" Stainless Steel 90 Bend (Weld Joint)	1.00 ea	3.429	0.292 ea/mh	160.34 /ea	160	88.33 /ea	88	-	37.72 /ea	38	-	286.39 /ea	286	
			S.STL BENDS (WJ)		3.429		/LS	160	/LS	88		/LS	38		/LS	286	
			S.STL 6" SPOOLS														
		15-0253	6" x 6" Stainless Steel Spool Fl x Pe	1.00 ea	0.852	1.173 ea/mh	39.84 /ea	40	715.89 /ea	716	-	5.47 /ea	5	-	761.20 /ea	761	
			6" x 4" Stainless Steel Spool Pe x Pe	1.00 ea	0.384	2.602 ea/mh	17.97 /ea	18	151.60 /ea	152	-	2.47 /ea	2	-	172.04 /ea	172	
			S.STL 6" SPOOLS		1.237		/LS	58	/LS	867		/LS	8		/LS	933	
			S.STL 12" SPOOLS														
		15-0256	12" x 1" Stainless Steel Spool Fl x Pe	1.00 ea	0.693	1.443 ea/mh	32.39 /ea	32	1,251.70 /ea	1,252	-	4.45 /ea	4	-	1,288.54 /ea	1,289	
			12" x 7" Stainless Steel Spool Pe x Pe	1.00 ea	1.397	0.716 ea/mh	65.34 /ea	65	747.70 /ea	748	-	8.97 /ea	9	-	822.01 /ea	822	
			12" x 12" Stainless Steel Spool Pe x Pe	1.00 ea	2.396	0.417 ea/mh	112.02 /ea	112	1,281.75 /ea	1,282	-	15.37 /ea	15	-	1,409.14 /ea	1,409	
			S.STL 12" SPOOLS		4.486		/LS	210	/LS	3,281		/LS	29		/LS	3,520	
			SSTL REDUCING TEE's (WJ)														
		15-0282	12"-6" Stainless Steel Reducing Tee (WJ)	2.00 ea	18.052	0.111 ea/mh	422.04 /ea	844	206.67 /ea	413	-	99.29 /ea	199	-	727.99 /ea	1,456	
			SSTL REDUCING TEE's (WJ)		18.052		/LS	844	/LS	413		/LS	199		/LS	1,456	

Location	Uniformat	Phase	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Cost/Unit	Labor Amount	Material Cost/Unit	Material Amount	Sub Amount	Equip Cost/Unit	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Notes
		15-0290	S. STL. BLIND FLANGES														
			6" Stainless Steel Blind Flange	2.00 ea	1.656	1.208 ea/mh	38.71 /ea	77	117.54 /ea	235	-	5.31 /ea	11	-	161.55 /ea	323	
			12" Stainless Steel Blind Flange	1.00 ea	1.480	0.676 ea/mh	69.21 /ea	69	-	-	-	9.49 /ea	9	-	78.70 /ea	79	Relocate existing
			S. STL. BLIND FLANGES		3.136		/LS	147	/LS	235		/LS	20		/LS	402	
		15-2010	BUTTERFLY VALVES														
			12" Butterfly Valve with Manual Operated Actuator	1.00 ea	5.228	0.191 ea/mh	244.40 /ea	244	-	-	-	/LS	/LS	-	244.40 /ea	244	Provided by Owner
			BUTTERFLY VALVES		5.228		/LS	244	/LS			/LS			/LS	244	
		15-3310	EXPANSION JOINTS														
			12" Stainless Steel Pipe Expansion Joint	1.00 ea	2.660	0.376 ea/mh	124.40 /ea	124	1,382.21 /ea	1,382	-	17.07 /ea	17	-	1,523.68 /ea	1,524	
			EXPANSION JOINTS		2.660		/LS	124	/LS	1,382		/LS	17		/LS	1,524	
		15-4010	Galv. Pipe Supports														
			12" Galvanized Pipe Support Knee Brackets, stainless u-bolts	4.00 ea	4.938	0.810 ea/mh	57.72 /ea	231	671.63 /ea	2,687	-	6.38 /ea	26	-	735.73 /ea	2,943	
			Galv. Pipe Supports		4.938		/LS	231	/LS	2,687		/LS	26		/LS	2,943	
			ALP Piping		43.165			2,018		10,077			336			12,431	
Chem																	
		15-0660	PVC SCH. 80 PIPE														
			3/4" Schedule 80 PVC Pipe with Supports	30.00 lf	4.034	7.437 lf/mh	6.29 /lf	189	3.46 /lf	104	-	-	-	-	9.75 /lf	292	Chem inject @ Permeate
			1" Schedule 80 PVC Pipe with Supports	30.00 lf	4.407	6.807 lf/mh	6.87 /lf	206	4.34 /lf	130	-	-	-	-	11.21 /lf	336	Chem inject @ Permeate
			3/4" Schedule 80 PVC 90 Bend	10.00 ea	3.427	2.918 ea/mh	16.03 /ea	160	2.07 /ea	21	-	-	-	-	18.10 /ea	181	Chem inject @ Permeate
			1" Schedule 80 PVC 90 Bend	10.00 ea	4.072	2.456 ea/mh	19.04 /ea	190	3.27 /ea	33	-	-	-	-	22.31 /ea	223	Chem inject @ Permeate
			3/4" Schedule 80 PVC Tee	1.00 ea	0.541	1.848 ea/mh	25.30 /ea	25	4.60 /ea	5	-	-	-	-	29.90 /ea	30	Chem inject @ Permeate
			1" Schedule 80 PVC Tee	1.00 ea	0.593	1.687 ea/mh	27.72 /ea	28	5.77 /ea	6	-	-	-	-	33.49 /ea	33	Chem inject @ Permeate
			3/4" Schedule 80 PVC Coupling	6.00 ea	1.863	3.220 ea/mh	14.52 /ea	87	3.74 /ea	22	-	-	-	-	18.26 /ea	110	Chem inject @ Permeate
			1" Schedule 80 PVC Coupling	6.00 ea	2.172	2.762 ea/mh	16.93 /ea	102	3.91 /ea	23	-	-	-	-	20.84 /ea	125	Chem inject @ Permeate
			3/4" Schedule 80 PVC Union	1.00 ea	0.297	3.368 ea/mh	13.88 /ea	14	6.93 /ea	7	-	-	-	-	20.81 /ea	21	Chem inject @ Permeate
			1" Schedule 80 PVC Union	1.00 ea	0.322	3.104 ea/mh	15.08 /ea	15	7.95 /ea	8	-	-	-	-	23.03 /ea	23	Chem inject @ Permeate
			PVC SCH. 80 PIPE		21.728		/LS	1,016	/LS	359		/LS			/LS	1,375	
		15-2430	PVC BALL VALVES														
			3/4" PVC Ball Valve - True union	2.00 ea	0.503	3.976 ea/mh	11.75 /ea	24	63.63 /ea	127	-	1.62 /ea	3	-	76.99 /ea	154	Chem inject @ Permeate
			1" PVC Ball Valve - True union	2.00 ea	0.548	3.651 ea/mh	12.81 /ea	26	84.44 /ea	169	-	1.76 /ea	4	-	99.00 /ea	198	Chem inject @ Permeate
			PVC BALL VALVES		1.051		/LS	49	/LS	296		/LS	7		/LS	352	
		15-2460	PVC DIAPHRAGM VALVES														
			3/4" PVC Diaphragm Valve with Pneumatic Operated Actuator	1.00 ea	0.641	1.559 ea/mh	30.00 /ea	30	1,847.81 /ea	1,848	-	4.12 /ea	4	-	1,881.93 /ea	1,882	Chem inject @ Permeate
			1" PVC Diaphragm Valve with Pneumatic Operated Actuator	1.00 ea	0.802	1.247 ea/mh	37.47 /ea	37	1,908.00 /ea	1,908	-	5.14 /ea	5	-	1,950.61 /ea	1,951	Chem inject @ Permeate
			PVC DIAPHRAGM VALVES		1.443		/LS	67	/LS	3,756		/LS	9		/LS	3,833	
		15-2470	PVC "Y" CHECK VALVES														
			3/4" PVC Ball Check Valve	1.00 ea	0.251	3.976 ea/mh	11.77 /ea	12	151.41 /ea	151	-	1.61 /ea	2	-	164.79 /ea	165	Chem inject @ Permeate
			1" PVC Ball Check Valve	1.00 ea	0.274	3.651 ea/mh	12.81 /ea	13	166.68 /ea	167	-	1.76 /ea	2	-	181.25 /ea	181	Chem inject @ Permeate
			PVC "Y" CHECK VALVES		0.525		/LS	25	/LS	318		/LS	3		/LS	346	
		15-3001	MISC APPURTENANCES														
			1" 316 stainless Thread-o-let	2.00 ea	2.000	1.000 ea/mh	46.75 /ea	93	42.74 /ea	85	-	15.00 /ea	30	-	104.49 /ea	209	Chem inject @ Permeate
			1/2" 316 stainless Thread-o-let	4.00 ea	3.001	1.333 ea/mh	35.08 /ea	140	32.06 /ea	128	-	11.25 /ea	45	-	78.39 /ea	314	Chem inject @ Permeate
			MISC APPURTENANCES		5.001		/LS	234	/LS	214		/LS	75		/LS	523	
			Chem		29.748			1,391		4,942			94			6,428	
Chem Feed Skids																	
			PIPING APPURT. DEMOLITION														
		02-0870	Remove/salvage pump skids	2.00 ea	9.000	0.222 ea/mh	210.42 /ea	421	12.83 /ea	26	-	-	-	-	223.24 /ea	446	
			PIPING APPURT. DEMOLITION		9.000		/ls	421	/ls	26		/ls			/ls	446	
		11-0110	OFFLOADING & STORING OF EQUIPMENT														
			Offloading & startup of chemical feed pumps, tanks, and accessores	2.00 ea	8.791	0.228 ea/mh	205.52 /ea	411	85.48 /ea	171	-	80.58 /ea	161	-	371.58 /ea	743	
			OFFLOADING & STORING OF EQUIPMENT		8.791		/LS	411	/LS	171		/LS	161		/LS	743	
		11-8050	CHEMICAL/POLYMER EQUIP.														

Location	Uniformat	Phase	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Cost/Unit	Labor Amount	Material Cost/Unit	Material Amount	Sub Amount	Equip Cost/Unit	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Notes
		11-8050	CHEMICAL/POLYMER EQUIP.														
			Installation of chemical feed pump skids, tanks, and accessories	2.00 ea	87.951	0.023 ea/mh	2,056.15 /ea	4,112	247.89 /ea	496	-	369.40 /ea	739	-	2,673.44 /ea	5,347	
			Purchase Chem Feed Skid - Citric Acid	1.00 ea		-	-	-	22,752.64 /ea	22,753	-	-	-	-	22,752.64 /ea	22,753	Waterford
			Purchase Chem Feed Skids - Sodium Hypochlorite	1.00 ea		-	-	-	25,538.22 /ea	25,538	-	-	-	-	25,538.22 /ea	25,538	Waterford
			Chem Skids Training	1.00 ea		-	-	-	1,709.60 /ea	1,710	-	-	-	-	1,709.60 /ea	1,710	Waterford
			CHEMICAL/POLYMER EQUIP.		87.951		/LS	4,112	/LS	50,496		/LS	739		/LS	55,347	
			Chem Feed Skids		105.742			4,944		50,693			900			56,537	
Concrete Demo																	
		01-1700	EQUIPMENT RENTAL														
			Compressor, 175-195 cfm, per day	1.00 day		-	-	-	39.00 /day	39	-	160.00 /day	160	-	199.00 /day	199	
			65lb Air Hammer w/ hose, chisel - per day	1.00 day		-	-	-	-	-	-	76.00 /day	76	-	76.00 /day	76	
			EQUIPMENT RENTAL				/ls		/ls	39		/ls	236		/ls	275	
		02-0730	CONCRETE DEMOLITION														
			Demo Knock-out Walls 8" Thick Concrete Wall (Reinforced)	20.00 sf	6.742	2.966 sf/mh	15.76 /sf	315	-	-	-	-	-	-	15.76 /sf	315	
			Concrete Haul-off	1.00 load		-	-	-	-	-	160	-	-	-	160.00 /load	160	
			CONCRETE DEMOLITION		6.742		/ls	315	/ls		160	/ls			/ls	475	
		03-3030	FOUNDATIONS														
			Finishing wall, point and patch knock-out location	12.00 sfca	1.200	10.000 sfca/mh	4.68 /sfca	56	2.14 /sfca	26	-	-	-	-	6.81 /sfca	82	
			FOUNDATIONS		1.200		/cy	56	/cy	26		/cy			/cy	82	
			Concrete Demo		7.942			371		65	160		236			832	
DR																	
		15-2020	PLUG VALVES														
			Exist 6" Plug Valve Add Motor Operated Actuator	1.00 ea	3.521	0.284 ea/mh	171.51 /ea	172	7,279.05 /ea	7,279	-	25.94 /ea	26	-	7,476.50 /ea	7,477	Add Actuator to existing valve (Dezurik)
			PLUG VALVES		3.521		/LS	172	/LS	7,279		/LS	26		/LS	7,477	
			DR		3.521			172		7,279			26			7,477	
Equip																	
		11-0110	OFFLOADING & STORING OF EQUIPMENT														
			Offloading & storing of (Owner Furnished) Membrane Cassette(s), Piping, Valves, Appurtenances, Support Structure	1.00 ls	15.333	0.065 ls/mh	716.91 /ls	717	448.77 /ls	449	-	281.10 /ls	281	-	1,446.78 /ls	1,447	
			OFFLOADING & STORING OF EQUIPMENT		15.333		/LS	717	/LS	449		/LS	281		/LS	1,447	
		11-4200	MEMBRANE FILTER SYSTEMS														
			Installation of Membrane Piping, Valves, & Appurtenances	1.00 ls	75.758	0.013 ls/mh	3,542.17 /ls	3,542	-	-	-	636.36 /ls	636	-	4,178.53 /ls	4,179	
			Installation of Membrane Cassettes (Owner Furnished)	2.00 mod	80.000	0.025 mod/mh	1,870.27 /mod	3,741	-	-	-	104.00 /mod	208	-	1,974.27 /mod	3,949	
			Installation of Membrane Cassette Support Structure	1.00 sect	35.997	0.028 sect/mh	1,683.11 /sect	1,683	-	-	-	93.59 /sect	94	-	1,776.70 /sect	1,777	Concrete Anchors provided?
			Installation of Permeate Pump (Owner Furnished)	1.00 ea	32.000	0.031 ea/mh	1,496.22 /ea	1,496	-	-	-	83.20 /ea	83	-	1,579.42 /ea	1,579	
			MEMBRANE FILTER SYSTEMS		223.755		/LS	10,462	/LS			/LS	1,021		/LS	11,483	
		15-4030	S.S. Pipe Supports														
			6" Stainless Steel Pipe Support Rack - Membrane Header	4.00 ea	5.000	0.800 ea/mh	58.45 /ea	234	1,367.68 /ea	5,471	-	8.25 /ea	33	-	1,434.37 /ea	5,737	
			S.S. Pipe Supports		5.000		/LS	234	/LS	5,471		/LS	33		/LS	5,737	
			Equip		244.087			11,413		5,919			1,335			18,667	
Grout																	
		03-5010	GROUT														
			Standard Grout - Membrane Basin floors	8.00 cy	25.600	0.313 cy/mh	149.62 /cy	1,197	149.59 /cy	1,197	-	48.15 /cy	369	-	345.36 /cy	2,763	Cassette basins (includes trench forms)
			GROUT		25.600		/CY	1,197	/CY	1,197		/CY	369		/CY	2,763	
			Grout		25.600			1,197		1,197			369			2,763	
Misc																	
		03-5010	GROUT														
			Non-Shrink Grout - Pipe Supports	2.40 cf	1.616	1.485 cf/mh	31.48 /cf	76	45.48 /cf	109	-	-	-	-	76.96 /cf	185	
			GROUT		1.616		/CY	76	/CY	109		/CY			/CY	185	
		05-5500	METAL FABRICATIONS														
			36"x36" 316 stainless stop plate w/ angles, gaskets	2.00 ea	8.000	0.250 ea/mh	187.03 /ea	374	1,282.20 /ea	2,564	-	-	-	-	1,469.23 /ea	2,938	
			Inlet SST Baffle	1.00 ea	3.800	0.263 ea/mh	177.69 /ea	178	7,725.72 /ea	7,726	-	51.01 /ea	51	-	7,954.42 /ea	7,954	

Location	Uniformat	Phase	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Cost/Unit	Labor Amount	Material Cost/Unit	Material Amount	Sub Amount	Equip Cost/Unit	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Notes
		05-5500	METAL FABRICATIONS														
			Temp Stop Plates - 1/8" mild steel	2.00 ea	8.000	0.250 ea/mh	187.03 /ea	374	662.47 /ea	1,325	-	-	-	-	849.50 /ea	1,699	
			METAL FABRICATIONS		19.800		/ls	926	/ls	11,615		/ls	51		/ls	12,592	
		06-6600	FRP FABRICATIONS														
			Membrane Covers - move and reinstall to allow for membrane install	163.00 sf	5.433	30.000 sf/mh	1.56 /sf	254	-	-	-	3.47 /sf	566	-	5.03 /sf	820	
			FRP FABRICATIONS		5.433		/ls	254	/ls			/ls	566		/ls	820	
			Misc		26.849			1,255		11,724			617			13,596	
PER Piping																	
		15-0220	S.STL. COUPLINGS														
			6" Stainless Steel BNG Set (Bolt, Nut, & Gasket Set)	14.00 ea			-	-	83.29 /ea	1,166	-	-	-	-	83.29 /ea	1,166	
			12" Stainless Steel BNG Set (Bolt, Nut, & Gasket Set)	4.00 ea			-	-	218.28 /ea	873	-	-	-	-	218.28 /ea	873	
			S.STL. COUPLINGS				/LS		/LS	2,039		/LS			/LS	2,039	
			S.STL. BENDS (FL)														
		15-0231	6" Stainless Steel 90 Bend (Flange x Weld)	1.00 ea	1.667	0.600 ea/mh	77.94 /ea	78	406.03 /ea	406	-	37.74 /ea	38	-	521.71 /ea	522	
			S.STL. BENDS (FL)		1.667		/LS	78	/LS	406		/LS	38		/LS	522	
			S.STL. BENDS (WJ)														
		15-0232	6" Stainless Steel 90 Bend (Weld Joint)	3.00 ea	10.287	0.292 ea/mh	160.33 /ea	481	88.32 /ea	265	-	37.72 /ea	113	-	286.37 /ea	859	
			S.STL. BENDS (WJ)		10.287		/LS	481	/LS	265		/LS	113		/LS	859	
			S.STL. 6" SPOOLS														
		15-0253	6" x 1/8" Stainless Steel Spool Fl x Fl	1.00 ea	0.744	1.344 ea/mh	34.81 /ea	35	1,052.78 /ea	1,053	-	4.77 /ea	5	-	1,092.36 /ea	1,092	
			6" x 1" Stainless Steel Spool Fl x Pe	1.00 ea	0.372	2.688 ea/mh	17.39 /ea	17	526.39 /ea	526	-	2.39 /ea	2	-	546.17 /ea	546	
			6" x 6" Stainless Steel Spool Fl x Pe	1.00 ea	0.372	2.688 ea/mh	17.39 /ea	17	526.38 /ea	526	-	2.39 /ea	2	-	546.16 /ea	546	
			6" x 24" Stainless Steel Spool Fl x Pe	2.00 ea	0.936	2.136 ea/mh	21.89 /ea	44	564.29 /ea	1,129	-	3.01 /ea	6	-	589.18 /ea	1,178	
			6" x 3" Stainless Steel Spool Fl x Pe	1.00 ea	0.564	1.773 ea/mh	26.39 /ea	26	602.20 /ea	602	-	3.62 /ea	4	-	632.21 /ea	632	
			6" x 7" Stainless Steel Spool Pe x Pe	1.00 ea	0.672	1.487 ea/mh	31.42 /ea	31	265.32 /ea	265	-	4.31 /ea	4	-	301.05 /ea	301	
			S.STL. 6" SPOOLS		3.661		/LS	171	/LS	4,102		/LS	23		/LS	4,296	
			S.STL. 12" SPOOLS														
		15-0256	12" x 2" Stainless Steel Spool Fl x Pe	1.00 ea	0.893	1.120 ea/mh	41.73 /ea	42	1,358.52 /ea	1,359	-	5.73 /ea	6	-	1,405.98 /ea	1,406	
			12" x 7" Stainless Steel Spool Fl x Pe	1.00 ea	1.891	0.529 ea/mh	88.42 /ea	88	1,892.58 /ea	1,893	-	12.13 /ea	12	-	1,993.13 /ea	1,993	
			12" x 5" Stainless Steel Spool Pe x Pe	2.00 ea	1.996	1.002 ea/mh	46.67 /ea	93	534.07 /ea	1,068	-	6.41 /ea	13	-	587.14 /ea	1,174	
			S.STL. 12" SPOOLS		4.780		/LS	223	/LS	4,319		/LS	31		/LS	4,573	
		15-0282	SSTL. REDUCING TEE's (WJ)														
			12"-6" Stainless Steel Reducing Tee (WJ)	4.00 ea	36.104	0.111 ea/mh	422.04 /ea	1,688	206.67 /ea	827	-	99.29 /ea	397	-	728.00 /ea	2,912	
			SSTL. REDUCING TEE's (WJ)		36.104		/LS	1,688	/LS	827		/LS	397		/LS	2,912	
			S. STL. BLIND FLANGES														
		15-0290	6" Stainless Steel Blind Flange	2.00 ea	1.656	1.208 ea/mh	38.71 /ea	77	117.54 /ea	235	-	5.31 /ea	11	-	161.56 /ea	323	
			12" Stainless Steel Blind Flange	1.00 ea	1.480	0.676 ea/mh	69.18 /ea	69	-	-	-	9.49 /ea	9	-	78.67 /ea	79	Reuse existing
			S. STL. BLIND FLANGES		3.136		/LS	147	/LS	235		/LS	20		/LS	402	
			PVC SCH. 80 PIPE														
		15-0660	1" Schedule 80 PVC Pipe with Supports	12.00 lf	1.763	6.807 lf/mh	6.87 /lf	82	4.34 /lf	52	-	-	-	-	11.21 /lf	135	Flush Connection
			1" Schedule 80 PVC 90 Bend	6.00 ea	2.443	2.456 ea/mh	19.04 /ea	114	3.27 /ea	20	-	-	-	-	22.31 /ea	134	Flush Connection
			1" Schedule 80 PVC Coupling	2.00 ea	0.724	2.762 ea/mh	16.93 /ea	34	3.91 /ea	8	-	-	-	-	20.84 /ea	42	Flush Connection
			PVC SCH. 80 PIPE		4.930		/LS	231	/LS	79		/LS			/LS	310	
			BUTTERFLY VALVES														
		15-2010	6" Butterfly Valve with Manual Operated Actuator	2.00 ea	5.228	0.383 ea/mh	122.21 /ea	244	817.41 /ea	1,635	-	16.77 /ea	34	-	956.38 /ea	1,913	Bray Valve
			12" Butterfly Valve with Manual Operated Actuator	1.00 ea	5.228	0.191 ea/mh	244.43 /ea	244	-	-	-	-	-	-	244.43 /ea	244	Provided by Owner
			6" Butterfly Valve with Motor Operated Actuator	1.00 ea	3.006	0.333 ea/mh	146.41 /ea	146	7,039.80 /ea	7,040	-	19.29 /ea	19	-	7,205.30 /ea	7,205	Bray Valve
			BUTTERFLY VALVES		13.461		/LS	635	/LS	8,674		/LS	53		/LS	9,362	
			STAINLESS STEEL BALL VALVES														
		15-2660	1" Stainless Steel Ball Valve	2.00 ea	0.652	3.066 ea/mh	15.89 /ea	32	140.57 /ea	281	-	2.10 /ea	4	-	158.56 /ea	317	Flush Connection
			STAINLESS STEEL BALL VALVES		0.652		/LS	32	/LS	281		/LS	4		/LS	317	
			MISC APPURTENANCES														
		15-3001	1" 316 stainless Thread-o-let	2.00 ea	2.000	1.000 ea/mh	46.75 /ea	94	42.74 /ea	85	-	15.00 /ea	30	-	104.49 /ea	209	Flush Connection

Location	Uniformat	Phase	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Cost/Unit	Labor Amount	Material Cost/Unit	Material Amount	Sub Amount	Equip Cost/Unit	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Notes
		15-3001	MISC APPURTENANCES														
			1/2" 316 stainless Thread-o-let	4.00 ea	3.001	1.333 ea/mh	35.08 /ea	140	32.06 /ea	128	-	11.25 /ea	45	-	78.39 /ea	314	Pressure Gauge/transmitter
			MISC APPURTENANCES		5.001		/LS	234	/LS	214		/LS	75		/LS	523	
		15-3310	EXPANSION JOINTS														
			6" Steel Pipe Expansion Joint	2.00 ea	3.539	0.565 ea/mh	82.75 /ea	165	451.34 /ea	903	-	11.36 /ea	23	-	545.44 /ea	1,091	
			12" Stainless Steel Pipe Expansion Joint	1.00 ea	2.660	0.376 ea/mh	124.38 /ea	124	1,382.21 /ea	1,382	-	17.07 /ea	17	-	1,523.66 /ea	1,524	
			EXPANSION JOINTS		6.199		/LS	290	/LS	2,285		/LS	40		/LS	2,615	
		15-4020	Galv. Adj. Pipe Supports														
			6" Galvanized Adjustable Pipe Support w/stainless u-bolt	2.00 ea	1.537	1.301 ea/mh	35.94 /ea	72	350.79 /ea	702	-	4.93 /ea	10	-	391.66 /ea	783	
			Galv. Adj. Pipe Supports		1.537		/LS	72	/LS	702		/LS	10		/LS	783	
		15-4030	S.S. Pipe Supports														
			12" Stainless Steel Pipe Support Hangers	4.00 ea	2.857	1.400 ea/mh	33.40 /ea	134	448.77 /ea	1,795	-	6.38 /ea	26	-	488.54 /ea	1,954	
			S.S. Pipe Supports		2.857		/LS	134	/LS	1,795		/LS	26		/LS	1,954	
		17-1220	FLOW MAGNETIC														
			6" Magnetic Flow Meter	1.00 ea	6.229	6.229 mh/ea	291.23 /ea	291	-	-	-	25.00 /ea	25	-	316.23 /ea	316	20-FIT-301-4
			FLOW MAGNETIC		6.229		/LS	291	/LS			/LS	25		/LS	316	
		17-1310	PRESSURE GAUGES														
			Pressure Gauge Valve & Misc. Fittings	2.00 ea	4.532	2.266 mh/ea	105.95 /ea	212	240.41 /ea	481	-	-	-	-	346.36 /ea	693	
			Pressure Gauge	2.00 ea	1.000	0.500 mh/ea	23.38 /ea	47	85.48 /ea	171	-	-	-	-	108.86 /ea	218	
			PRESSURE GAUGES		5.532		/LS	259	/LS	652		/LS			/LS	910	
			PER Piping		106.033			4,965		26,875			855			32,694	
Permeate Pump																	
		03-2010	DOWELING														
			#4 x 40 bar diameters 60,000 grade dowel epoxy injected	12.00 ea	0.664	18.061 ea/mh	2.59 /ea	31	2.89 /ea	35	-	-	-	-	5.47 /ea	66	
			DOWELING		0.664		/ls	31	/ls	35		/ls			/ls	66	
		03-2020	CONCRETE REINFORCEMENT														
			Concrete reinforcement in place	0.05 ton	1.250	25.000 mh/ton	1,168.80 /ton	58	1,055.80 /ton	53	-	-	-	-	2,224.40 /ton	111	
			CONCRETE REINFORCEMENT		1.250		/ts	58	/ts	53		/ts			/ts	111	
		03-3001	CONCRETE READY-MIX														
			Concrete ready-mix, 4000 psi, type II cement, air-entrained	0.30 cy	-	-	-	-	128.20 /cy	38	-	-	-	-	128.20 /cy	38	
			Concrete Short Load Fee	1.00 ea	-	-	-	-	267.13 /ea	267	-	-	-	-	267.13 /ea	267	
			CONCRETE READY-MIX				/cy		/cy	306		/cy			/cy	306	
		03-3050	SLAB ON GRADE														
			Forms, flatwork edge forms	9.00 sfca	2.250	4.000 sfca/mh	11.69 /sfca	105	3.21 /sfca	29	-	-	-	-	14.90 /sfca	134	
			Placing slab-on-grade to 6"	0.30 cy	1.500	0.200 cy/mh	233.77 /cy	70	-	-	-	0.97 /cy	0	-	234.73 /cy	70	
			Slab-on-Grade, hand trowel finish	12.00 sf	2.400	5.000 sf/mh	9.35 /sf	112	-	-	-	-	-	-	9.35 /sf	112	
			Roughen Slab Surface	12.00 sf	1.200	10.000 sf/mh	4.67 /sf	56	-	-	-	0.50 /sf	6	-	5.17 /sf	62	
			SLAB ON GRADE		7.350		/cy	344	/cy	29		/cy	6		/cy	379	
		03-6010	PUMP & EQUIPMENT BASES														
			Grout Pump Base Plate	1.00 ea	2.069	2.069 mh/ea	96.73 /ea	97	56.85 /ea	57	-	-	-	-	153.58 /ea	154	
			PUMP & EQUIPMENT BASES		2.069		/LS	97	/LS	57		/LS			/LS	154	
		11-0110	OFFLOADING & STORING OF EQUIPMENT														
			Offloading & storage of Permeate Pump	1.00 ea	2.400	0.417 ea/mh	112.22 /ea	112	24.04 /ea	24	-	44.04 /ea	44	-	180.30 /ea	180	
			OFFLOADING & STORING OF EQUIPMENT		2.400		/LS	112	/LS	24		/LS	44		/LS	180	
		11-8300	PUMPS														
			Install Permeate Pump	1.00 ea	24.000	24.000 mh/ea	1,122.18 /ea	1,122	64.11 /ea	64	-	264.00 /ea	264	-	1,450.29 /ea	1,450	Provided by Owner
			PUMPS		24.000		/LS	1,122	/LS	64		/LS	264		/LS	1,450	
			Permeate Pump		37.733			1,764		567			314			2,645	
Sample																	
		15-0650	PVC SCH. 80 PIPE														
			1" Schedule 80 PVC Pipe with Supports	32.00 lf	4.701	6.807 lf/mh	6.87 /lf	220	4.34 /lf	139	-	-	-	-	11.21 /lf	359	
			1" Schedule 80 PVC 90 Bend	6.00 ea	2.443	2.456 ea/mh	19.04 /ea	114	3.27 /ea	20	-	-	-	-	22.31 /ea	134	

Location	Unifomat	Phase	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Cost/Unit	Labor Amount	Material Cost/Unit	Material Amount	Sub Amount	Equip Cost/Unit	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Notes
		15-0660	PVC SCH. 80 PIPE														
			1" Schedule 80 PVC Tee	1.00 ea	0.593	1.687 ea/mh	27.74 /ea	28	5.77 /ea	6	-	-	-	-	33.51 /ea	34	
			1" Schedule 80 PVC Coupling	2.00 ea	0.724	2.762 ea/mh	16.92 /ea	34	3.91 /ea	8	-	-	-	-	20.83 /ea	42	
			PVC SCH. 80 PIPE		8.461		/LS	396	/LS	172		/LS			/LS	568	
		15-2660	STAINLESS STEEL BALL VALVES														
			1" Stainless Steel Ball Valve	1.00 ea	0.326	3.066 ea/mh	15.88 /ea	16	140.57 /ea	141	-	2.09 /ea	2	-	158.54 /ea	159	
			STAINLESS STEEL BALL VALVES		0.326		/LS	16	/LS	141		/LS	2		/LS	159	
		15-2710	SOLENOID VALVES														
			1" Solenoid Valve - Asco	1.00 ea	0.344	2.910 ea/mh	16.07 /ea	16	163.27 /ea	163	-	2.20 /ea	2	-	181.54 /ea	182	
			SOLENOID VALVES		0.344		/LS	16	/LS	163		/LS	2		/LS	182	
		15-3001	MISC APPURTENANCES														
			1" 316 stainless Thread-o-let	2.00 ea	2.000	1.000 ea/mh	46.76 /ea	94	42.74 /ea	85	-	15.00 /ea	30	-	104.50 /ea	209	Sample Line
			MISC APPURTENANCES		2.000		/LS	94	/LS	85		/LS	30		/LS	209	
			Sample		11.131			521		561			34			1,117	
Slide Gate																	
		15-2540	SLIDE/STOP GATES														
			Install 24" Slide Gate w/ Elec Actuator	1.00 ea	9.000	0.111 ea/mh	420.82 /ea	421	85.48 /ea	85	-	76.74 /ea	77	-	583.04 /ea	583	20-FV-110-4
			Purchase Slide Gate w/ Elec Actuator	1.00 ea					16,107.64 /ea	16,108	-		-	-	16,107.64 /ea	16,108	
			SLIDE/STOP GATES		9.000		/LS	421	/LS	16,193		/LS	77		/LS	16,691	
			Slide Gate		9.000			421		16,193			77			16,691	
Startup																	
		11-0120	STARTUP & COMMISSIONING OF EQUIPMENT														
			Startup & commissioning of Membrane Cassette system	1.00 ls	40.000	0.025 ls/mh	1,870.27 /ls	1,870	213.70 /ls	214	-	262.00 /ls	262	-	2,345.97 /ls	2,346	
			Startup & commissioning of chemical feed pumps, tanks, and accessories	2.00 ea	17.586	0.114 ea/mh	411.12 /ea	822	42.74 /ea	85	-	57.58 /ea	115	-	511.44 /ea	1,023	
			Startup & commissioning of Permeate Pump	1.00 ea	4.800	0.208 ea/mh	224.46 /ea	224	40.07 /ea	40	-	31.44 /ea	31	-	295.97 /ea	296	
			STARTUP & COMMISSIONING OF EQUIPMENT		62.386		/LS	2,917	/LS	339		/LS	409		/LS	3,665	
			Startup		62.386			2,917		339			409			3,665	
			MBR		#####			34,852		138,761	160		5,616			179,390	
Press																	
	Catwalk																
		02-0780	EQUIPMENT DEMOLITION														
			Exist Screw Press Platform/Railing Modification	40.00 sf	58.000	0.690 sf/mh	67.80 /sf	2,712	4.81 /sf	192	-	1.00 /sf	40	-	73.61 /sf	2,944	Purchase 3.5"x3.5"x5/16" x 10ft Alum Angle, 20ea 5/8" sst anchor bolts
			EQUIPMENT DEMOLITION		58.000		/ls	2,712	/ls	192		/ls	40		/ls	2,944	
		03-5010	GROUT														
			Non-Shrink Grout - platform	2.00 cf	1.347	1.485 cf/mh	31.49 /cf	63	45.48 /cf	91	-		-	-	76.96 /cf	154	
			GROUT		1.347		/CY	63	/CY	91		/CY			/CY	154	
		05-5500	METAL FABRICATIONS														
			Aluminum catwalk structure	90.00 sf	34.615	2.600 sf/mh	17.98 /sf	1,619	132.38 /sf	11,914	-	1.29 /sf	116	-	151.65 /sf	13,648	
			Catwalk Structural Design/Engineering	1.00 ls							850			-	850.00 /ls	850	
			METAL FABRICATIONS		34.615		/ls	1,619	/ls	11,914	850	/ls	116		/ls	14,498	
		05-5520	HANDRAILS														
			1 1/2" Aluminum Clear Anodized (3) Rail Railing	26.00 lf	12.026	2.162 lf/mh	21.63 /lf	562	40.60 /lf	1,056	-	0.61 /lf	16	-	62.84 /lf	1,634	
			HANDRAILS		12.026		/ls	562	/ls	1,056		/ls	16		/ls	1,634	
		05-5530	METAL GRATINGS														
			1 3/4" Aluminum Grating	90.00 sf	3.302	27.258 sf/mh	1.79 /sf	161	38.83 /sf	3,495	-	0.09 /sf	8	-	40.71 /sf	3,664	
			METAL GRATINGS		3.302		/ls	161	/ls	3,495		/ls	8		/ls	3,664	
			Catwalk		109.290			5,116		16,747	850		180			22,894	
Concrete																	
		03-2010	DOWELING														
			#4 x 40 bar diameters 60,000 grade dowel epoxy injected	40.00 ea	2.215	18.061 ea/mh	2.59 /ea	104	2.89 /ea	115	-	-	-	-	5.47 /ea	219	

Location	Uniformat	Phase	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Cost/Unit	Labor Amount	Material Cost/Unit	Material Amount	Sub Amount	Equip Cost/Unit	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Notes
			DOWELING		2.215		/fs	104	/fs	115		/fs			/fs	219	
			CONCRETE REINFORCEMENT														
		03-2020	Concrete reinforcement in place	0.50 ton	12.500	25.000 mh/ton	1,168.94 /ton	584	1,055.66 /ton	528	-	-	-	-	2,224.60 /ton	1,112	
			CONCRETE REINFORCEMENT		12.500		/fs	584	/fs	528		/fs			/fs	1,112	
			CONCRETE READY-MIX														
		03-3001	Concrete ready-mix, 4000 psi, type II cement, air-entrained	2.04 cy			-	-	128.22 /cy	261	-	-	-	-	128.22 /cy	261	
			Short Load Fee	3.00 ea			-	-	267.12 /ea	801	-	-	-	-	267.12 /ea	801	
			CONCRETE READY-MIX				/cy		/cy	1,063		/cy			/cy	1,063	
			SPREAD FOOTINGS														
		03-3010	Spread footing forms, 1 use	47.50 sfca	9.500	5.000 sfca/mh	9.35 /sfca	444	2.67 /sfca	127	-	-	-	-	12.02 /sfca	571	
			Placing spread/spot footings to 10"	1.10 cy	2.208	0.500 cy/mh	93.51 /cy	103	-	-	-	1.10 /cy	1	-	94.60 /cy	104	
			SPREAD FOOTINGS		11.708		/cy	547	/cy	127		/cy	1		/cy	676	
			COLUMNS														
		03-3040	Column forms	96.42 sfca	29.218	3.300 sfca/mh	14.17 /sfca	1,366	3.74 /sfca	361	-	-	-	-	17.91 /sfca	1,727	
			Placing concrete in columns to 12" thick	0.73 cy	2.908	0.250 cy/mh	187.03 /cy	136	-	-	-	3.30 /cy	2	-	190.33 /cy	138	
			Placing concrete in columns to 16" thick	0.21 cy	0.687	0.300 cy/mh	155.80 /cy	32	-	-	-	3.00 /cy	1	-	158.80 /cy	33	
			Pumping concrete 12" thick, columns	1.73 cy			-	-	3.75 /cy	6	-	278.17 /cy	481	-	281.92 /cy	488	
			Pumping concrete 16" thick, columns	1.21 cy			-	-	3.74 /cy	5	-	397.74 /cy	481	-	401.49 /cy	486	
			Finish column, burlap rubbed with grout finish	96.32 sfca	4.816	20.000 sfca/mh	2.34 /sfca	225	0.27 /sfca	26	-	-	-	-	2.61 /sfca	251	
			COLUMNS		37.629		/cy	1,759	/cy	397		/cy	966		/cy	3,122	
			SLAB ON GRADE														
		03-3050	Slab-on-Grade, hand trowel finish	43.80 sf	4.380	10.000 sf/mh	4.68 /sf	205	-	-	-	-	-	-	4.68 /sf	205	
			Roughen Slab Surface	30.00 sf	3.000	10.000 sf/mh	4.68 /sf	140	-	-	-	0.50 /sf	15	-	5.18 /sf	155	
			SLAB ON GRADE		7.380		/cy	345	/cy			/cy	15		/cy	360	
			GROUT														
		03-5010	Non-Shrink Grout - Screw Press Equip	4.40 cf	2.963	1.485 cf/mh	31.48 /cf	139	45.48 /cf	200	-	-	-	-	76.96 /cf	339	
			GROUT		2.963		/CY	139	/CY	200		/CY			/CY	339	
			Concrete		74.394			3,478		2,430			982			6,890	
DR Piping																	
			D.I. COUPLINGS														
		15-0010	6" Ductile Iron BNG Set (Bolt, Nut, & Gasket Set)	7.00 ea			-	-	23.30 /ea	163	-	-	-	-	23.30 /ea	163	
			8" Ductile Iron BNG Set (Bolt, Nut, & Gasket Set)	1.00 ea			-	-	34.28 /ea	34	-	-	-	-	34.28 /ea	34	
			D.I. COUPLINGS				/LS		/LS	197		/LS			/LS	197	
			PVC DR18-35 PIPE														
		15-0620	6" DR35	10.00 lf	3.125	3.200 lf/mh	14.61 /lf	146	13.76 /lf	138	-	-	-	-	28.38 /lf	284	
			6" DR35 90 Bend - Flanged	3.00 ea	1.500	2.000 ea/mh	23.38 /ea	70	165.41 /ea	496	-	-	-	-	188.79 /ea	566	
			6" DR35 FCA	4.00 ea	2.857	1.400 ea/mh	33.40 /ea	134	79.07 /ea	316	-	-	-	-	112.46 /ea	450	
			8" x 6" DR35 Reducer - Flanged	1.00 ea	0.690	1.450 ea/mh	32.26 /ea	32	197.20 /ea	197	-	-	-	-	229.46 /ea	229	
			PVC DR18-35 PIPE		8.172		/LS	382	/LS	1,147		/LS			/LS	1,529	
			Galv. Pipe Supports														
		15-4010	6" Galvanized Pipe Support	1.00 ea	0.699	1.431 ea/mh	34.03 /ea	34	228.97 /ea	229	-	4.48 /ea	4	-	267.48 /ea	267	
			Galv. Pipe Supports		0.699		/LS	34	/LS	229		/LS	4		/LS	267	
			DR Piping		8.870			416		1,574			4			1,994	
Equip																	
			OFFLOADING & STORING OF EQUIPMENT														
		11-0110	Offloading & storage of screw press dewatering system & appurtenances	1.00 ls	10.600	0.094 ls/mh	495.61 /fs	496	96.17 /fs	96	-	194.31 /fs	194	-	786.09 /fs	786	
			OFFLOADING & STORING OF EQUIPMENT		10.600		/LS	496	/LS	96		/LS	194		/LS	786	
			GRIT COLLECTION EQUIPMENT														
		11-8090	Installation of Screw Press Dewatering System & Appurtenances (Owner Furnished)	1.00 ls	125.945	0.008 ls/mh	5,888.76 /fs	5,889	-	-	-	1,314.95 /fs	1,315	-	7,203.71 /fs	7,204	Provided by Owner
			GRIT COLLECTION EQUIPMENT		125.945		/LS	5,889	/LS			/LS	1,315		/LS	7,204	
			FLOCC/SED BASIN EQUIPMENT														
		11-8090	150 Gal Flocculation Tank & Mixer	1.00 ea	35.997	0.028 ea/mh	1,683.13 /ea	1,683	87.61 /ea	88	-	220.00 /ea	220	-	1,990.74 /ea	1,991	Provided by Owner
			Relocate existing Floc tank & Mixer	1.00 ea	41.999	0.024 ea/mh	2,045.63 /ea	2,046	2,350.70 /ea	2,351	-	275.00 /ea	275	-	4,671.33 /ea	4,671	Relocated

Location	Unifomat	Phase	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Cost/Unit	Labor Amount	Material Cost/Unit	Material Amount	Sub Amount	Equip Cost/Unit	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Notes
			FLOCC/SED BASIN EQUIPMENT		77.996		/LS	3,729	/LS	2,438		/LS	495		/LS	6,662	
	NPW		Equip		214.541			10,113		2,534			2,004			14,652	
		02-0860	PIPING DEMOLITION														
			Demo 2" NPW piping, cap	16.00 lf	2.000	8.000 lf/mh	5.84 /lf	93	1.07 /lf	17	-	-	-	-	6.91 /lf	111	
			PIPING DEMOLITION		2.000		/ls	93	/ls	17		/ls			/ls	111	
		15-3430	HYDRANTS														
			Relocate NPW Hose bibb, piping, valves	1.00 ea	4.717	0.212 ea/mh	220.56 /ea	221	131.21 /ea	131	-	2.68 /ea	3	-	354.45 /ea	354	
			Hydrant Galvanized Hose Rack - Relocate	1.00 ea	1.667	0.600 ea/mh	77.93 /ea	78	12.82 /ea	13	-	4.69 /ea	5	-	95.44 /ea	95	
			HYDRANTS		6.384		/LS	298	/LS	144		/LS	7		/LS	450	
	Pipe Demo		NPW		8.384			392		161			7			560	
		02-0860	PIPING DEMOLITION														
			Demo/Salvage 4" WAS piping, valves, & appurt	11.00 lf	5.789	1.900 lf/mh	24.61 /lf	271	-	-	-	1.00 /lf	11	-	25.61 /lf	282	
			PIPING DEMOLITION		5.789		/ls	271	/ls			/ls	11		/ls	282	
	Polymer		Pipe Demo		5.789			271					11			282	
		02-0730	CONCRETE DEMOLITION														
			4" Thick Concrete Slab (Reinforced) - Polymer Equip Pad	4.00 sf	4.000	1.000 sf/mh	46.75 /sf	187	-	-	-	15.00 /sf	60	-	61.75 /sf	247	
			CONCRETE DEMOLITION		4.000		/ls	187	/ls			/ls	60		/ls	247	
		02-0780	EQUIPMENT DEMOLITION														
			Relocate Polymer Feed System	1.00 ea	26.001	0.038 ea/mh	1,215.73 /ea	1,216	4.81 /ea	5	-	16.80 /ea	17	-	1,237.34 /ea	1,237	Purchase 3.5"x3.5"x5/16" x 10ft Alum Angle, 20ea 5/8" ast anchor bolts
			EQUIPMENT DEMOLITION		26.001		/ls	1,216	/ls	5		/ls	17		/ls	1,237	
		03-3050	SLAB ON GRADE														
			Point & patch floor @ equip pad	4.00 sf	1.000	4.000 sf/mh	11.69 /sf	47	12.82 /sf	51	-	-	-	-	24.51 /sf	98	
			SLAB ON GRADE		1.000		/cy	47	/cy	51		/cy			/cy	98	
		03-6010	PUMP & EQUIPMENT BASES														
			Concrete Chemical Feeder Base	2.00 ea	19.792	9.896 mh/ea	462.72 /ea	925	108.83 /ea	218	-	27.58 /ea	55	-	599.12 /ea	1,198	
			PUMP & EQUIPMENT BASES		19.792		/LS	925	/LS	218		/LS	55		/LS	1,198	
		11-8050	CHEMICAL/POLYMER EQUIP.														
			Installation of new Polymer Feed Sys.	1.00 ea	22.002	0.045 ea/mh	1,071.64 /ea	1,072	117.54 /ea	118	-	168.00 /ea	168	-	1,357.18 /ea	1,357	Provided by Owner
			CHEMICAL/POLYMER EQUIP.		22.002		/LS	1,072	/LS	118		/LS	168		/LS	1,357	
		15-0660	PVC SCH. 80 PIPE														
			1" Schedule 80 PVC Pipe with Supports	40.00 lf	5.876	6.807 lf/mh	6.87 /lf	275	2.17 /lf	87	-	-	-	-	9.04 /lf	362	
			1" Schedule 80 PVC 90 Bend	12.00 ea	4.886	2.456 ea/mh	19.04 /ea	228	1.64 /ea	20	-	-	-	-	20.67 /ea	248	
			1" Schedule 80 PVC 45 Bend	4.00 ea	1.629	2.456 ea/mh	19.04 /ea	76	3.23 /ea	13	-	-	-	-	22.27 /ea	89	
			1" Schedule 80 PVC Tee	1.00 ea	0.593	1.687 ea/mh	27.71 /ea	28	2.88 /ea	3	-	-	-	-	30.59 /ea	31	
			1" Schedule 80 PVC Coupling	6.00 ea	2.172	2.762 ea/mh	16.93 /ea	102	1.96 /ea	12	-	-	-	-	18.89 /ea	113	
			PVC SCH. 80 PIPE		15.156		/LS	709	/LS	134		/LS			/LS	843	
		15-2430	PVC BALL VALVES														
			1" PVC Ball Valve	2.00 ea	0.548	3.651 ea/mh	12.81 /ea	26	84.44 /ea	169	-	1.76 /ea	4	-	99.00 /ea	198	
			PVC BALL VALVES		0.548		/LS	26	/LS	169		/LS	4		/LS	198	
	RSL Piping		Polymer		88.500			4,181		694			303			5,178	
		15-0010	D.I. COUPLINGS														
			4" Ductile Iron BNG Set (Bolt, Nut, & Gasket Set)	6.00 ea			-	-	12.32 /ea	74	-	-	-	-	12.32 /ea	74	
			4" Ductile Iron Dismantling Joint Coupling or FCA	1.00 ea	0.404	2.472 ea/mh	18.90 /ea	19	244.03 /ea	244	-	2.59 /ea	3	-	265.52 /ea	266	
			D.I. COUPLINGS		0.404		/LS	19	/LS	318		/LS	3		/LS	339	
		15-0021	D.I. BENDS (FL)														
			4" Ductile Iron 90 Bend (Flanged Joint), Line-Cmnt, Coat-Prime	2.00 ea	1.124	1.780 ea/mh	27.37 /ea	55	-	-	-	3.61 /ea	7	-	30.98 /ea	62	Use Existing

Location	Uniformat	Phase	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Cost/Unit	Labor Amount	Material Cost/Unit	Material Amount	Sub Amount	Equip Cost/Unit	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Notes
			D.I. BENDS (FL)		1.124		/LS	55	/LS			/LS	7		/LS	62	
			D.I. 4" SPOOLS														
		15-0041	4" x 8' Ductile Iron Spool Fl x Fl Line-Cmnt, Coat-Prime w/ 1" tap	1.00 ea	3.136	0.319 ea/mh	152.71 /ea	153	297.62 /ea	298	-	16.04 /ea	16	-	466.37 /ea	466	
			4" x 8' Ductile Iron Spool Fl x Fl Line-Cmnt, Coat-Prime	2.00 ea	3.136	0.638 ea/mh	76.38 /ea	153	297.62 /ea	595	-	10.06 /ea	20	-	384.06 /ea	768	
			D.I. 4" SPOOLS		6.272		/LS	305	/LS	893		/LS	36		/LS	1,234	
		15-0201	S.STL PIPE THREADED 304														
			1" Schedule 40 Type 304 Stainless Steel Threaded Pipe	2.00 lf	0.142	14.043 lf/mh	3.47 /lf	7	12.70 /lf	25	-	-	-	-	16.17 /lf	32	Flush
			1" Type 304 Stainless Steel Threaded Coupling	1.00 ea	0.420	2.384 ea/mh	20.44 /ea	20	15.49 /ea	15	-	-	-	-	35.93 /ea	36	Flush
			S.STL PIPE THREADED 304		0.562		/LS	27	/LS	41		/LS	-		/LS	68	
		15-2410	AIR RELIEF VALVES														
			4" Air Relief Valve	1.00 ea	2.208	0.453 ea/mh	107.51 /ea	108	2,276.52 /ea	2,277	-	14.16 /ea	14	-	2,398.19 /ea	2,398	
			AIR RELIEF VALVES		2.208		/LS	108	/LS	2,277		/LS	14		/LS	2,398	
		15-2650	STAINLESS STEEL BALL VALVES														
			1" Stainless Steel Ball Valve	1.00 ea	0.326	3.066 ea/mh	15.91 /ea	16	70.28 /ea	70	-	2.09 /ea	2	-	88.28 /ea	88	Flush
			STAINLESS STEEL BALL VALVES		0.326		/LS	16	/LS	70		/LS	2		/LS	88	
			RSL Piping		10.896			530		3,598			62			4,191	
Startup			STARTUP & COMMISSIONING OF EQUIPMENT														
		11-0120	STARTUP & COMMISSIONING OF EQUIPMENT														
			Startup & commissioning of screw press dewatering system & appurtenances	1.00 ls	21.200	0.047 ls/mh	991.23 /ls	991	96.17 /ls	96	-	138.86 /ls	139	-	1,226.26 /ls	1,226	
			STARTUP & COMMISSIONING OF EQUIPMENT		21.200		/LS	991	/LS	96		/LS	139		/LS	1,226	
			Startup		21.200			991		96			139			1,226	
WAS Piping																	
		03-5010	GROUT														
			Non-Shrink Grout - Pipe supports	1.00 cf	0.673	1.485 cf/mh	31.50 /cf	32	45.47 /cf	45	-	-	-	-	76.97 /cf	77	
			GROUT		0.673		/CY	32	/CY	45		/CY	-		/CY	77	
		15-0010	D.I. COUPLINGS														
			3" Ductile Iron BNG Set (Bolt, Nut, & Gasket Set)	6.00 ea			-	-	7.31 /ea	44	-	-	-	-	7.31 /ea	44	
			4" Ductile Iron BNG Set (Bolt, Nut, & Gasket Set)	27.00 ea			-	-	12.32 /ea	333	-	-	-	-	12.32 /ea	333	
			D.I. COUPLINGS				/LS		/LS	376		/LS			/LS	376	
		15-0021	D.I. BENDS (FL)														
			3" Ductile Iron 90 Bend (Flanged Joint), Line-Cmnt, Coat-Prime	2.00 ea	0.858	2.331 ea/mh	20.05 /ea	40	68.73 /ea	137	-	2.75 /ea	6	-	91.53 /ea	183	
			4" Ductile Iron 90 Bend (Flanged Joint), Line-Cmnt, Coat-Prime	4.00 ea	2.248	1.780 ea/mh	27.38 /ea	110	109.68 /ea	439	-	3.61 /ea	14	-	140.66 /ea	563	
			4" Ductile Iron 45 Bend (Flanged Joint), Line-Cmnt, Coat-Prime	2.00 ea	1.068	1.873 ea/mh	24.95 /ea	50	98.71 /ea	197	-	3.43 /ea	7	-	127.08 /ea	254	
			D.I. BENDS (FL)		4.173		/LS	199	/LS	774		/LS	27		/LS	1,000	
		15-0031	D.I. TEES, WYES, X's (FL)														
			4" Ductile Iron Tee (Flanged Joint), Line-Cmnt, Coat-Prime	2.00 ea	1.686	1.186 ea/mh	39.43 /ea	79	205.05 /ea	410	-	5.41 /ea	11	-	249.89 /ea	500	
			D.I. TEES, WYES, X's (FL)		1.686		/LS	79	/LS	410		/LS	11		/LS	500	
		15-0040	D.I. 3" SPOOLS														
			3" x 6" Ductile Iron Spool Fl x Fl Line-Cmnt, Coat-Prime	1.00 ea	0.600	1.667 ea/mh	28.04 /ea	28	409.24 /ea	409	-	3.85 /ea	4	-	441.13 /ea	441	
			D.I. 3" SPOOLS		0.600		/LS	28	/LS	409		/LS	4		/LS	441	
		15-0041	D.I. 4" SPOOLS														
			4" x 1" Ductile Iron Spool Fl x Fl Line-Cmnt, Coat-Prime	2.00 ea	1.375	1.454 ea/mh	32.14 /ea	64	110.23 /ea	220	-	4.41 /ea	9	-	146.78 /ea	294	
			4" x 210" Ductile Iron Spool Fl x Fl Line-Cmnt, Coat-Prime	1.00 ea	0.939	1.065 ea/mh	43.92 /ea	44	163.76 /ea	164	-	6.03 /ea	6	-	213.71 /ea	214	
			4" x 3" Ductile Iron Spool Fl x Fl Line-Cmnt, Coat-Prime	2.00 ea	1.879	1.065 ea/mh	43.93 /ea	88	163.76 /ea	328	-	6.03 /ea	12	-	213.71 /ea	427	
			4" x 5" Ductile Iron Spool Fl x Fl Line-Cmnt, Coat-Prime	2.00 ea	2.382	0.840 ea/mh	55.88 /ea	111	217.31 /ea	435	-	7.64 /ea	15	-	280.62 /ea	561	
			4" x 6" Ductile Iron Spool Fl x Fl Line-Cmnt, Coat-Prime	1.00 ea	1.317	0.760 ea/mh	61.57 /ea	62	244.09 /ea	244	-	8.45 /ea	8	-	314.11 /ea	314	
			D.I. 4" SPOOLS		7.891		/LS	369	/LS	1,390		/LS	51		/LS	1,810	
		15-0061	D.I. REDUCERS (FL)														
			4"-3" Ductile Iron Reducer (Fl)	2.00 ea	0.959	2.085 ea/mh	22.41 /ea	45	165.18 /ea	330	-	3.08 /ea	6	-	190.67 /ea	381	

Location	Unifomat	Phase	Description	Takeoff Quantity	Labor Man Hrs	Labor Productivity	Labor Cost/Unit	Labor Amount	Material Cost/Unit	Material Amount	Sub Amount	Equip Cost/Unit	Equip Amount	Other Amount	Total Cost/Unit	Total Amount	Notes
			D.I. REDUCERS (FL)		0.959		/LS	45	/LS	330		/LS	6		/LS	381	
		15-0090	D.I. BLIND FLANGES														
			4" Ductile Iron Blind Flange	1.00 ea	0.375	2.668 ea/mh	17.54 /ea	18	56.46 /ea	56	-	2.41 /ea	2	-	76.41 /ea	76	
			D.I. BLIND FLANGES		0.375		/LS	18	/LS	56		/LS	2		/LS	76	
		15-2020	PLUG VALVES														
			4" Plug Valve with Motor Operated Actuator - Relocated	2.00 ea	6.863	0.291 ea/mh	167.14 /ea	334	-	-	-	22.02 /ea	44	-	189.15 /ea	378	Relocated
			Add Actuators to existing 4" plug valves	2.00 ea	5.000	0.400 ea/mh	121.77 /ea	244	6,423.28 /ea	12,847	-	22.02 /ea	44	-	6,567.06 /ea	13,134	Add Actuators to Existing Valves
			PLUG VALVES		11.863		/LS	578	/LS	12,847		/LS	88		/LS	13,512	
		15-4020	Galv. Adj. Pipe Supports														
			4" Galvanized Adjustable Pipe Support	7.00 ea	4.375	1.600 ea/mh	29.22 /ea	205	198.24 /ea	1,388	-	3.54 /ea	25	-	231.00 /ea	1,617	
			Galv. Adj. Pipe Supports		4.375		/LS	205	/LS	1,388		/LS	25		/LS	1,617	
		17-1220	FLOW MAGNETIC														
			4" Magnetic Flow Meter -Relocated	1.00 ea	1.267	1.267 mh/ea	59.27 /ea	59	-	-	-	16.67 /ea	17	-	75.94 /ea	76	
			4" Magnetic Flow Meter	1.00 ea	1.267	1.267 mh/ea	59.26 /ea	59	-	-	-	16.67 /ea	17	-	75.93 /ea	76	
			FLOW MAGNETIC		2.534		/LS	119	/LS			/LS	33		/LS	152	
			WAS Piping		35.130			1,670		18,026			247			19,943	
			Press		#####			27,159		45,862	850		3,940			77,811	

Estimate Totals

Description	Amount	Totals	Hours	Rate	Cost Basis	Percent of Total
Labor	67,390		1,434.134 hrs			4.60%
Material	210,248					14.34%
Subcontract	163,263					11.13%
Equipment	10,725		347.499 hrs			0.73%
Other	38,267					2.61%
Subtotal	489,893	489,893				33.40
Small Tools & Consumables	717			0.500 \$/hr	H	0.05%
Safety Equipment & Supplies	502			0.350 \$/hr	H	0.03%
Subtotal	1,219	491,112				0.08
General Liability Insurance	1,893			3.665 %	C	0.13%
Excess Liability Insurance	1,274			2.467 %	C	0.09%
Subtotal	3,167	494,279				0.22
Profit Markup on Cost of Work	24,714			5.000 %	T	1.69%
Profit Markup on Owner Equip	42,316			2.885 %	T	2.89%
Subtotal	67,030	561,309				4.57
Contingency	58,937			10.500 %	T	4.02%
Subtotal	58,937	620,246				4.02
FKC Screw Pump Svs Purchase	249,770				L	17.03%
Zenon Suez MBR System Purchase	587,577				L	40.06%
Zenon Suez Blower Upsize CO	8,968				L	0.61%
Subtotal	846,315	1,466,562				57.71
Total		1,466,562				