



CHANGE ORDER NO. 1
DATE 10/31/2023

This Change Order No. 1 ("Change Order No. 1") to the construction services agreement is made by and between the City of Chandler, an Arizona municipal corporation, ("City") and McCarthy Building Companies, Inc. ("Contractor"), on this ____ day of _____, 2023 ("Effective Date" by Clerk).

Change Order not valid until signed by both the City and the Contractor. Contractor's signature indicates Agreement herewith, including any adjustments in the Agreement Price or Agreement Time.

Project Name: **RECLAIMED WATER CONVEYANCE IMPROVEMENTS (GMP 2)**
 Project No.: **WW2206.401**
 User Dept.: Public Works & Utilities NTP Date: August 31, 2023

TO: PCL Construction, Inc. 1711 W. Greentree Dr., Ste 201 Tempe AZ 85284
 (CONTRACTOR) (Mailing Address)
Seth.Richards@PCL.com
 (Email Address)

Contractor must make the following changes to this Agreement: (Detail scope change (Exh. A) / cost breakdown (Exh. B), if needed)

This scope of work is for the addition of new pumps, new piping, and a new electrical building at the AWRP reclaimed water pump station. Improvements at OWRF include a new flow control structure and piping. The scope also includes the equipping of two ASR Wells

Amendment authorized by Owner name: Josef Kennis Date: 10/31/2023		
Original Agreement amount:	\$2,614,687	
Previous Change Order total:	\$0	
Last Agreement amount approved by Council:	\$0	
This Change Order:	\$10,967,208	
This Change Order + previous Change Order(s) not approved by Council total:	\$10,967,208	
Revised Agreement total:	\$13,581,895	
Council Approval Required (yes indicates approval required)	Yes	No
Change Order(s) total over \$100,000:	☒	☐
Change Order(s) total causes Agreement to exceed \$100,000:	☒	☐
Agreement Time		
Agreement time prior to this Change Order (including previous change order(s):	<u>480</u> Calendar Days	
Net change resulting from this Change Order:	<u>201</u> Calendar Days	

Revised Agreement time (including this Change Order):	<u>681</u> Calendar Days
Council Approval (if applicable)	
Council Approval Date: _____ Item No. _____	

THE ABOVE IS AGREED TO BY:

"CITY" CITY OF CHANDLER

MAYOR

RECOMMENDED BY:

J. Warren White
Warren White, P.E.
Acting CIP City Engineer

APPROVED AS TO FORM:

City Attorney

ATTEST:

City Clerk

Seal

"CONTRACTOR"
PCL Construction, Inc.

Signature

Date

Print Name Richard Hewitt
Vice President &
District Manager

Title

RHEWITT@PCL.COM
Signer Email Address

C: Owner / Project Mgr

Reclaimed Water Conveyance Improvements

GMP 2

Project No. WW2206.401



WILSON
ENGINEERS



Construction Manager at Risk Services
October 25, 2023

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Project Description (Scope):

Reclaimed Water Conveyance Improvements Project

The scope of work to be performed, under the Reclaimed Water Conveyance Improvements project include the following but are not limited to:

1. Airport WRF Reclaimed Water Pump Station:
 - a. Installation of pumps, piping, and incidental electrical work.
 - b. Complete all necessary Site Work.
 - c. Connection of all electrical and mechanical services.
2. Airport WRF Electrical Building:
 - a. Installation of prefabricated electrical building.
 - b. Installation of RWCI Transformers, MCCs, VFDs, and control panels.
 - c. Demolition of existing and installation of proposed 15kv switches.
3. Ocotillo WRF Flow Control Structure:
 - a. Installation of pressure reducing valves, magnetic flow meters, piping, air release valves and other incidental valves.
 - b. Complete all necessary Site Work.
 - c. Connection of all electrical and mechanical services.

Location: Chandler Airport WRF and Ocotillo WRF, in Chandler, Arizona

Type of Job: Conveyance Improvements

Usage: Water Reclamation Facility and Distribution

List Proposed Improvements: (mechanical and electrical)

Section 2

Guaranteed Maximum Price (GMP) Proposal

EXHIBIT D
CM@RISK GMP SUMMARY (PAGE 2 of 2)

Project Name: Reclaimed Water Conveyance Improvements - GMP 2		Date: 10/25/2023
Project Location: AWRF and OWRF		
City of Chandler Project No.: WW2206.401		
		Amount
A. Cost of Work		
A1 Cost of Work (self perform, no mark-up)		\$2,535,855.00
A2 Cost of Work (subcontractors, suppliers, materialmen)		\$3,986,711.00
TOTAL COST OF WORK:		\$6,522,566.00
B. General Conditions		\$1,701,226.00
SUBTOTAL 1 (COST of WORK) (A + B):		\$8,223,791.00
C. CM@Risk's Fee		\$596,225.00
SUBTOTAL 2 (A + B + C):		\$8,820,016.00
D. Bonds and Insurance (on Subtotal 1)		
D1 Bonds (Payment and Performance)		\$113,383.00
D2 Insurance		\$115,133.00
TOTAL BONDS & INSURANCE:		\$228,516.00
SUBTOTAL 3 (SUBTOTAL 2 + BONDS & INS):		\$9,048,532.00
E. Sales Tax		
E1 Sales Tax		\$436,592.00
E2 Tax Credits		-\$67,597.00
TOTAL SALES TAX:		\$368,995.00
F. Approved Allowances		
F1 Owner's Allowance		\$700,000.00
F3 Unforeseen Utility Allowance		\$100,000.00
F4 Temporary Power Allowance		\$273,607.00
F5 Intel Property Access Allowance		\$26,075.00
TOTAL ALLOWANCES:		\$1,099,682.00
G. Contingencies		
G1 Construction Contingency		\$449,999.00
TOTAL CONTINGENCIES:		
TOTAL GMP PROPOSAL:		\$10,967,208.00

Establishment of Values:

- a. Cost of Work (A) and Allowances (F) to be submitted with GMP Proposal.
- b. General Conditions Cost (B) to be established in Baseline Cost Model.
- c. CM@Risk Fee as set forth in Section 3.7.3 of this Contract



Date	October 24, 2023
Time	12:14:53 PM
BE Number	GMP 2 REVISED
Opportunity No	54.501.MAJ.23.120036
Owner File No	WW2206.401
Estimator	Tony Spera

PCL Construction, Inc.

Civil Infrastructure

General Estimate Summary & Item Analysis Sheet

Project	Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 – AWRF & OWRF Imprv)
Location	Chandler, AZ, USA
Owner	City of Chandler
Designer	Wilson Engineers



CONSTRUCTION
BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (G**
Location Chandler AZ, USA

PCL Construction, Inc.
Civil Infrastructure
General Estimate Summary

Summary Page 1 of 2
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Tony Spera

Sheet Name	Description	Quantity UOM	Labor			Equipment			Services/ Tools / Supplies		Material		Subcontract		Total Price	
			Hours	Rate	Total	Hours	Unit	Total	Unit	Total	Unit	Total	Unit	Total	Unit	Total
DIRECT PRICE																
PHASE 1-ON-SITE IMPROVEMENTS		1 LS														
AWRF	AWRF ON SITE IMPROVEMENTS	1 LS	10,168	64.59	656,804	21,753	---	755,432	---	313,744	---	1,160,209	---	1,845,596	---	4,731,785
OWRF	OWRF ON SITE IMPROVEMENTS	1 LS	5,689	67.96	386,603	10,580	---	339,949	---	83,324	---	397,105	---	583,800	---	1,790,780
PHASE 1-ON-SITE IMPROVEMENTS		1 LS	15,857	---	1,043,407	32,333	---	1,095,381	---	397,068	---	1,557,315	---	2,429,396	---	6,522,566
GENERAL CONDITIONS PRICE		1 LS														
GE 2	GENERAL CONDITIONS (EXCLUDING BONDS AND INSURANCE)	1 LS	11,228	105.43	1,183,783	40,130	---	231,671	---	285,772	---	---	---	---	---	1,701,226
GENERAL CONDITIONS PRICE		1 LS	11,228	---	1,183,783	40,130	---	231,671	---	285,772	---	---	---	---	---	1,701,226
DIRECT PRICE			27,085	---	2,227,189	72,463	---	1,327,052	---	682,840	---	1,557,315	---	2,429,396	---	8,223,791
PROJECT BONDING & INSURANCE																
GE.8	PROJECT BONDING	1 LS	---	---	---	---	---	---	---	113,383	---	---	---	---	---	113,383
GE.9	PROJECT INSURANCE	1 LS	---	---	---	---	---	---	---	115,133	---	---	---	---	---	115,133
PROJECT BONDING & INSURANCE			---	---	---	---	---	---	---	228,516	---	---	---	---	---	228,516
TOTAL PRICE			27,085	---	2,227,189	72,463	---	1,327,052	---	911,356	---	1,557,315	---	2,429,396	---	8,452,307
Fee			7.05% T.C.													
TOTAL BID																9,048,532
TAXES																
PRJ TAX	PROJECT TAXES	1 LS	---	---	---	---	---	---	---	368,995	---	---	---	---	---	368,995
TAXES			---	---	---	---	---	---	---	368,995	---	---	---	---	---	368,995
CONTINGENCIES & ALLOWANCES																
CC	CONSTRUCTION CONTINGENCY	1 LS	---	---	---	---	---	---	---	409,012	---	---	---	40,987	---	449,999
UTL A	UNFORESEEN UTILITY ALLOWANCE	1 LS	---	---	---	---	---	---	---	100,000	---	---	---	---	---	100,000
TP A	TEMPORARY POWER ALLOWANCE	1 LS	---	---	---	---	---	---	---	---	---	---	---	273,607	---	273,607



PCL Construction, Inc.
Civil Infrastructure
General Estimate Summary

Tony Spera

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PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

Tony Spera

AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit
DIVISION 1 - GENERAL REQUIREMENTS		1	LS														
SWPPP/Dust Control		1	LS														
Install SWPPP																	
	SWPPP Permit	1	LS	---	---	---	---	---	---	---	1,350	---	---	---	---	---	1,350
	Bckho-Ldr Ct 420C 1.0cy	40	HR	1.000	1.000	40 ^{OP2}	56.93	2,277	70.23	2,809	---	---	---	---	---	127.15	5,086
2	Labor	40	HR	1.000	1.000	80 ^{LG3}	46.17	3,694	---	---	---	---	---	---	---	92.34	3,694
	Foreman	40	HR	1.000	1.000	40 ^{FMB}	87.71	3,508	---	---	---	---	---	---	---	87.71	3,508
	Materials	1	LS	---	---	---	---	---	---	---	7,000	---	---	---	---	---	7,000
Maintain SWPPP																	
	Bckho-Ldr Ct 420C 1.0cy	160	HR	1.000	1.000	160 ^{OP2}	56.93	9,108	70.23	11,236	---	---	---	---	---	127.15	20,344
2	Labor	160	HR	1.000	1.000	320 ^{LG3}	46.17	14,774	---	---	---	---	---	---	---	92.34	14,774
	Foreman	160	HR	1.000	1.000	160 ^{FMB}	87.71	14,033	---	---	---	---	---	---	---	87.71	14,033
	Materials	1	LS	---	---	---	---	---	---	---	3,500	---	---	---	---	---	3,500
Dust Control																	
	Dust Control Permit	1	LS	---	---	---	---	---	---	---	2,000	---	---	---	---	---	2,000
	Trc Water-TA 2000 Gal -O	7.75	MO	1.000	1.000	---	---	---	47.18	63,255	---	---	---	---	---	8,161.92	63,255
	Oper Group 2	3.88	MO	1.000	1.000	672 ^{OP2}	56.93	38,235	---	---	---	---	---	---	---	9,866.99	38,235
	Standpipe (6" J-Stand)	12	MO	1.000	1.000	---	---	---	3.50	7,272	---	---	---	---	---	606.00	7,272
2	6"x50' Layflat Hose-Camlock	12	MO	1.000	1.000	---	---	---	1.69	7,032	---	---	---	---	---	586.00	7,032
	6"vicx6" Female Camlock Adapter	12	MO	1.000	1.000	---	---	---	0.0607	126	---	---	---	---	---	10.50	126
	6" Camlock x 2.5" MPT Adapter	12	MO	1.000	1.000	---	---	---	0.5202	1,080	---	---	---	---	---	90.00	1,080
	Delivery/Pick-up	2	EA	---	---	---	---	---	---	---	462.50	925	---	---	---	462.50	925
Construction Water Usage																	
8,000 GAL/DAY For 12 MO = 2,112,000																	
Est. Prices per water Unit (748 Gallons) = \$2.17																	
\$.0029/Gallon																	

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Construction Water (Dust Cnrl)	2,112,000	GAL	---	---	---	---	---	---	---	---	---	0.002900	6,125	---	---	0.002900	6,125
	Construction water (Earthwork)	38,000	GAL	---	---	---	---	---	---	---	---	---	0.002900	110	---	---	0.002900	110
	SWPPP/Dust Control	1.00	LS	---	---	1,472	58.18	85,629	---	92,810	---	14,775	---	6,235	---	---	---	199,449
	Quality control	1	LS															
	Compaction QC Technician					204.00	HR		12648.000									
	Concrete QC Technician					28.00	HR		1736.000									
	Asphalt QC Technician					4.00	HR		248.000									
	Technician Trip Charges					61.00	EA		2440.000									
	Gradation					2.00	EA		260.000									
	Concrete Cylinders (7 EA Pours)					7.00	EA		560.000									
	Project Management,Reports, and all other price associated with QC Testing Requirements					1.00	LS		0.000	17892.000								
	RAMM																	
	Quality Control Sub	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	17,892	---	17,892
	Quality control	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	17,892	---	17,892
	Survey	1	LS															
	Survey & As-Built Documentation																	
	Survey for AWRF																	
	PCL Survey Equipment	10	MO	1.000	1.000	---	---	---	15.51	26,830	---	---	---	---	---	---	2,682.96	26,830
	Control Points & Benchmarks					1.00	LS									1,600.00		
	Staking for buried pipe install					1.00	LS									2,400.00		
	Staking for structural concrete					1.00	LS									800.00		
	Staking for earthwork (cuts/fills)					1.00	LS									800.00		
	As-Built New Pipe & Electrical					1.00	LS									2,400.00		
	Re-Staking					1.00	LS									6,000.00		

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Lemme Associates AZ														14,000.00			
	Survey (SUB)	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	14,000	---	14,000
	Survey	1.00	LS	---	---	---	---	---	---	26,830	---	---	---	---	---	14,000	---	40,830
	Support Equipment	1	LS															
	Forklift, RT 10,000# Reach (IDLE)	9.50	MO	1.000	1.000	---	---	---	88.09	144,771	---	---	---	---	---	---	15,239.08	144,771
	Support Equipment	1.00	LS	---	---	---	---	---	---	144,771	---	---	---	---	---	---	---	144,771
	Field Supervision	1	LS															
	Assistant Superintendent	6	MO	1.000	1.000	1,040	105.17	109,377	42.07	43,663	---	---	---	---	---	---	25,506.70	153,040
	Cellular Billing; Field Mgmt.	6	MO	---	---	---	---	---	---	---	150.00	900	---	---	---	---	150.00	900
	Computer Equipment, Field Mgmt.	6	MO	---	---	---	---	---	---	---	250.00	1,500	---	---	---	---	250.00	1,500
	Field Supervision	1.00	LS	---	---	1,040	105.17	109,377	---	43,663	---	2,400	---	---	---	---	---	155,440
	Small Tools-Expendables-Safety	100	%															
	Small Tool Assess	27,085	MH	---	---	---	---	---	---	---	1.25	33,856	---	---	---	---	1.25	33,856
	Expendables Assess	27,085	MH	---	---	---	---	---	---	---	0.700000	18,959	---	---	---	---	0.700000	18,959
	Safety Assess (5% of total Hourly Price)	784,070	EA	---	---	---	---	---	---	---	0.050000	39,204	---	---	---	---	0.050000	39,204
	Small Tools-Expendables-Safety	100.00	%	---	---	---	---	---	---	---	920.19	92,019	---	---	---	---	920.19	92,019
	Dumpster	12	MO	---	---	---	---	---	---	---	800.00	9,600	---	---	---	---	800.00	9,600
	DIVISION 1 - GENERAL REQUIRE	1.00	LS	---	---	2,512	77.64	195,005	---	308,075	---	118,794	---	6,235	---	31,892	---	660,001
	DIVISION 2 - SITE CONSTRUCTION	1	LS															

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Demolition	1	LS															
	Demo 15Kv Switch Pads	2	EA															
	Demo STS	1	LS	---	---	---	---	---	---	---	---	1,000	---	---	---	---	---	1,000
	Air Hose,Whip Checks,Bits,Jackhammer(s)																	
2	Labor Group 3	2	EA	0.250	4.000	16	LG3 46.17	739	---	---	---	---	---	---	---	---	369.36	739
	Bckho-Ldr Ct 420C 1.0cy	2	EA	0.250	4.000	8	OP2 56.93	455	70.23	562	---	---	---	---	---	---	508.61	1,017
	Comp 185 CFM Diesel	2	EA	0.250	4.000	---	---	---	42.87	343	---	---	---	---	---	---	171.48	343
	Haul-Off Dumpster (Concrete/Rebar)	1	LD	---	---	---	---	---	---	---	500.00	500	---	---	---	---	500.00	500
	Demo 15Kv Switch Pads	2.00	EA	0.083	12.000	24	49.76	1,194	452.39	905	750.00	1,500	---	---	---	---	1,799.45	3,599
	Demolition	1.00	LS	---	---	24	49.76	1,194	---	905	---	1,500	---	---	---	---	---	3,599
	Site Preperation	40,000	SF															
	Laydown/Restore																	
	Laydown Yard	40,000	SF															
	Assume no clear and grub. Only restore																	
	Restore Site																	
	Purchase DG	475	TN	---	---	---	---	---	---	---	---	---	33.50	15,913	---	---	33.50	15,913
	Labor Group 3	40,000	SF	1,666	0.001	24	LG3 46.17	1,109	---	---	---	---	---	---	---	---	0.027713	1,109
	Ldr 950G RT w/GP-4.0cy	40,000	SF	1,666	0.001	24	OP2 56.93	1,367	79.46	1,908	---	---	---	---	---	---	0.081864	3,275
	Cat 416F2 IL Skiploader-0	40,000	SF	1,666	0.001	24	OP2 56.93	1,367	78.68	1,889	---	---	---	---	---	---	0.081394	3,256
	Trc Water-TA 2000 Gal -O	40,000	SF	1,666	0.001	24	OP2 56.93	1,367	47.18	1,133	---	---	---	---	---	---	0.062487	2,499
	Laydown Yard	40,000.00	SF	416.500	0.002	96	54.24	5,209	0.123240	4,930	---	---	0.397813	15,913	---	---	0.651271	26,051

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
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Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location **Chandler, AZ, USA**

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Site Preparation	40,000.00	SF	416.500	0.002	96	54.24	5,209	0.123240	4,930	---	---	0.397813	15,913	---	---	0.651271	26,051
	Perimeter Fencing	1	LS															
	Area: AWRF																	
	Remove Existing Fence, Supply & Install Fencing/Posts																	
	40 LF (For Pipe Installation)																	
	Liberty Fence & Supply																	
	Fencing Sub	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	3,500	---	3,500
	Perimeter Fencing	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	3,500	---	3,500
	Earthwork	1	LS															
	SOG Earthwork	1	LS															
	SOG Ex	186	CY															
	Pumpstation Pad					60.00	CY											
	Electrical Bld					45.00	CY											
	Transformer Pad					25.00	CY											
	Pipe supports					5.00	CY											
	15 KV Pads					51.00	cy											
	Excavate					186.00	CY											
	Labor Fmn.	186	CY	7.750	0.129	24	FM8 87.71	2,105	---	---	---	---	---	---	---	---	11.32	2,105
	2 Labor Group 3	186	CY	7.750	0.129	48	LG3 46.17	2,216	---	---	---	---	---	---	---	---	11.91	2,216
	Bckho 316EL .68cy -O	186	CY	7.750	0.129	24	OP2 56.93	1,366	142.67	3,424	---	---	---	---	---	---	25.75	4,790
	Ldr 966G RT w/GP-4.5cy -O	186	CY	7.750	0.129	24	OP2 56.93	1,366	117.01	2,808	---	---	---	---	---	---	22.44	4,175
	Trc Water-TA 2000 Gal -O	186	CY	7.750	0.129	24	OP2 56.93	1,366	47.18	1,132	---	---	---	---	---	---	13.43	2,498
	SOG Ex	186.00	CY	1.292	0.774	144	58.47	8,420	39.60	7,365	---	---	---	---	---	---	84.86	15,784
	ABC Subgrade	153	CY															

AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Oct 24, 2023

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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

Tony Spera

AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Pumpstation					60.00	cy											
	Electrical Bld/ Transformer					55.00	cy											
	15 KV Switches					21.00	cy											
	Shrinkage Factor 1.12					152.32	cy											
	Purchase ABC	306	TN	---	---	---	---	---	---	---	---	---	21.25	6,503	---	---	21.25	6,503
	Labor Fmn.	153	CY	4.600	0.217	33	FM8 87.71	2,917	---	---	---	---	---	---	---	---	19.07	2,917
2	Labor Group 3	153	CY	4.600	0.217	67	LG3 46.17	3,071	---	---	---	---	---	---	---	---	20.07	3,071
	Bckho 316EL .68cy -O	153	CY	4.600	0.217	33	OP2 56.93	1,893	142.67	4,745	---	---	---	---	---	---	43.39	6,639
	Ldr 966G RT w/GP-4.5cy -O	153	CY	4.600	0.217	33	OP2 56.93	1,893	117.01	3,892	---	---	---	---	---	---	37.81	5,785
	Trc Water-TA 2000 Gal -O	153	CY	4.600	0.217	33	OP2 56.93	1,893	47.18	1,569	---	---	---	---	---	---	22.63	3,463
	Trench Compactor 24"-33"	153	CY	4.600	0.217	---	---	---	145.51	4,840	---	---	---	---	---	---	31.63	4,840
	ABC Subgrade	153.00	CY	0.767	1.304	200	58.47	11,669	98.34	15,046	---	---	42.50	6,503	---	---	217.11	33,217
	SOG Backfill	68	CY															
	Pumpstation					15.00	cy											
	Electrical BLD/Transformer					30.00	cy											
	15 KV Switches					15.00	cy											
	Shrinkage Factor 1.12					67.20	cy											
	Labor Fmn.	68	CY	5.000	0.200	14	FM8 87.71	1,193	---	---	---	---	---	---	---	---	17.54	1,193
2	Labor Group 3	68	CY	5.000	0.200	27	LG3 46.17	1,256	---	---	---	---	---	---	---	---	18.47	1,256
	Bckho 316EL .68cy -O	68	CY	5.000	0.200	14	OP2 56.93	774	142.67	1,940	---	---	---	---	---	---	39.92	2,715
	Ldr 966G RT w/GP-4.5cy -O	68	CY	5.000	0.200	14	OP2 56.93	774	117.01	1,591	---	---	---	---	---	---	34.79	2,366
	Trc Water-TA 2000 Gal -O	68	CY	5.000	0.200	14	OP2 56.93	774	47.18	642	---	---	---	---	---	---	20.82	1,416
	Trench Compactor 24"-33"	68	CY	5.000	0.200	---	---	---	145.51	1,979	---	---	---	---	---	---	29.10	1,979
	SOG Backfill	68.00	CY	0.833	1.200	82	58.47	4,771	90.47	6,152	---	---	---	---	---	---	160.64	10,923
	SOG Earthwork	1.00	LS	---	---	425	58.47	24,859	---	28,563	---	---	---	6,503	---	---	---	59,925

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Oct 24, 2023

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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

Tony Spera

AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
Retention Basin 5		6,882 SF																
Fill area in Retention Basin to build electrical bld and transformer pad																		
	GPS Equipment	1 MO		---	---	---	---	---	---	---	---	---	4,500.00	4,500	---	---	4,500.00	4,500
Over Ex Bottom of Basin		286 CY																
	Labor Fmn.	286 CY		24.000	0.042	12	FM8 87.71	1,045	---	---	---	---	---	---	---	---	3.65	1,045
2	Labor Group 3	286 CY		24.000	0.042	24	LG3 46.17	1,100	---	---	---	---	---	---	---	---	3.85	1,100
	Bckho 316EL .68cy -O	286 CY		24.000	0.042	12	OP2 56.93	678	142.67	1,700	---	---	---	---	---	---	8.32	2,379
	Ldr 966G RT w/GP-4.5cy -O	286 CY		24.000	0.042	12	OP2 56.93	678	117.01	1,394	---	---	---	---	---	---	7.25	2,073
	Trc Water-TA 2000 Gal -O	286 CY		24.000	0.042	12	OP2 56.93	678	47.18	562	---	---	---	---	---	---	4.34	1,241
Over Ex Bottom of Basin		286.00 CY		4.000	0.250	72	58.47	4,181	12.79	3,657	---	---	---	---	---	---	27.40	7,837
Subgrade Prep		6,882 SF																
Scarify and Recompact																		
	Labor Fmn.	6,882 SF		430.125	0.002	16	FM8 87.71	1,403	---	---	---	---	---	---	---	---	0.203906	1,403
2	Labor Group 3	6,882 SF		430.125	0.002	32	LG3 46.17	1,477	---	---	---	---	---	---	---	---	0.214682	1,477
	Trac D6N Dozr-Wnch 165hp -O	6,882 SF		430.125	0.002	16	OP2 56.93	911	205.86	3,294	---	---	---	---	---	---	0.610962	4,205
	Ldr 966G RT w/GP-4.5cy -O	6,882 SF		430.125	0.002	16	OP2 56.93	911	117.01	1,872	---	---	---	---	---	---	0.404391	2,783
	Trc Water-TA 2000 Gal -O	6,882 SF		430.125	0.002	16	OP2 56.93	911	47.18	755	---	---	---	---	---	---	0.242031	1,666
	Cmpt Vib Pdft Ct CP-433 66"-O	6,882 SF		430.125	0.002	16	OP2 56.93	911	225.82	3,613	---	---	---	---	---	---	0.657366	4,524
Subgrade Prep		6,882.00 SF		61.446	0.016	112	58.25	6,524	1.39	9,534	---	---	---	---	---	---	2.33	16,058
Process Material		920 CY																
	Ldr 966G RT w/GP-4.5cy -O	920 CY		46.000	0.022	20	OP2 56.93	1,139	117.01	2,340	---	---	---	---	---	---	3.78	3,479
	Trc Water-TA 2000 Gal -O	920 CY		46.000	0.022	20	OP2 56.93	1,138	47.18	944	---	---	---	---	---	---	2.26	2,082
Process Material		920.00 CY		23.000	0.043	40	56.93	2,277	3.57	3,284	---	---	---	---	---	---	6.04	5,561

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

Proprietary and Confidential

AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Backfill/Subgrade	920 CY																
	Use from stockpile left over from underground pipe																	
	Labor Fmn.	920 CY		23.000	0.043	40	FM8 87.71	3,508	---	---	---	---	---	---	---	---	3.81	3,508
2	Labor Group 3	920 CY		23.000	0.043	80	LG3 46.17	3,694	---	---	---	---	---	---	---	---	4.01	3,694
	Trac D6N Dozr-Wnch 165hp -O	920 CY		23.000	0.043	40	OP2 56.93	2,277	205.86	8,235	---	---	---	---	---	---	11.43	10,512
	Ldr 966G RT w/GP-4.5cy -O	920 CY		23.000	0.043	40	OP2 56.93	2,277	117.01	4,681	---	---	---	---	---	---	7.56	6,958
	Trc Water-TA 2000 Gal -O	920 CY		23.000	0.043	40	OP2 56.93	2,277	47.18	1,887	---	---	---	---	---	---	4.53	4,164
	Cmpt Vib Pdft Ct CP-433 66"-O	920 CY		23.000	0.043	40	OP2 56.93	2,277	225.82	9,033	---	---	---	---	---	---	12.29	11,310
	Trk Cat,740B ADT 40T	920 CY		23.000	0.043	40	OP2 56.93	2,277	197.91	7,917	---	---	---	---	---	---	11.08	10,194
	Backfill/Subgrade	920.00 CY		2.875	0.348	320	58.08	18,587	34.51	31,752	---	---	---	---	---	---	54.72	50,339
	Finegrade	6,882 SF																
	Labor Fmn.	6,882 SF		287.000	0.003	24	FM8 87.71	2,103	---	---	---	---	---	---	---	---	0.305592	2,103
	Labor Group 3	6,882 SF		287.000	0.003	24	LG3 46.17	1,107	---	---	---	---	---	---	---	---	0.160871	1,107
	Trac D6N Dozr-Wnch 165hp -O	6,882 SF		287.000	0.003	24	OP2 56.93	1,365	205.86	4,936	---	---	---	---	---	---	0.915644	6,301
	Cat 416F2 IL Skiploader-0	6,882 SF		287.000	0.003	24	OP2 56.93	1,365	78.68	1,887	---	---	---	---	---	---	0.472484	3,252
	Trc Water-TA 2000 Gal -O	6,882 SF		287.000	0.003	24	OP2 56.93	1,365	47.18	1,131	---	---	---	---	---	---	0.362731	2,496
	Finegrade	6,882.00 SF		57.400	0.017	120	60.93	7,305	1.16	7,954	---	---	---	---	---	---	2.22	15,260
	Retention Basin 5	6,882.00 SF		10.374	0.096	663	58.60	38,874	8.16	56,181	---	---	0.653880	4,500	---	---	14.47	99,554
	Rip Rap Swale	1,980 SF																
	Swale SF						1,491.00 SF											
	With 2' perimeter around area						1,980.00 SF											
	Ex Rip Rap Swale	91 CY																

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

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Tony Spera

Proprietary and Confidential

AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Labor Fmn.	91	CY	5.690	0.176	16	FM8 87.71	1,403	---	---	---	---	---	---	---	---	15.41	1,403
2	Labor Group 3	91	CY	5.690	0.176	32	LG3 46.17	1,477	---	---	---	---	---	---	---	---	16.23	1,477
	Bckho 316EL .68cy -O	91	CY	5.690	0.176	16	OP2 56.93	910	142.67	2,282	---	---	---	---	---	---	35.08	3,192
	Ldr 966G RT w/GP-4.5cy -O	91	CY	5.690	0.176	16	OP2 56.93	910	117.01	1,871	---	---	---	---	---	---	30.57	2,782
	Trc Water-TA 2000 Gal -O	91	CY	5.690	0.176	16	OP2 56.93	910	47.18	755	---	---	---	---	---	---	18.30	1,665
	Ex Rip Rap Swale	91.00	CY	0.948	1.054	96	58.47	5,611	53.93	4,908	---	---	---	---	---	---	115.59	10,518
	Rough Grade Rip Rap Swale	1,980	SF															
	Labor Fmn.	1,980	SF	82.500	0.012	24	FM8 87.71	2,105	---	---	---	---	---	---	---	---	1.06	2,105
2	Labor Group 3	1,980	SF	82.500	0.012	48	LG3 46.17	2,216	---	---	---	---	---	---	---	---	1.12	2,216
	Bckho 316EL .68cy -O	1,980	SF	82.500	0.012	24	OP2 56.93	1,366	142.67	3,424	---	---	---	---	---	---	2.42	4,790
	Skidsteer Ldr Cat 246C	1,980	SF	82.500	0.012	24	OP2 56.93	1,366	56.36	1,353	---	---	---	---	---	---	1.37	2,719
	Trc Water-TA 2000 Gal -O	1,980	SF	82.500	0.012	24	OP2 56.93	1,366	47.18	1,132	---	---	---	---	---	---	1.26	2,498
	Trench Compactor 24"-33"	1,980	SF	82.500	0.012	---	---	---	145.51	3,492	---	---	---	---	---	---	1.76	3,492
	Rough Grade Rip Rap Swale	1,980.00	SF	13.750	0.073	144	58.47	8,420	4.75	9,401	---	---	---	---	---	---	9.00	17,821
	Rip Rap Swale	1,980.00	SF	8.251	0.121	240	58.47	14,030	7.23	14,309	---	---	---	---	---	---	14.31	28,339
	Remove Asphalt Millings	109	CY															
	Labor Fmn.	109	CY	13.625	0.073	8	FM8 87.71	702	---	---	---	---	---	---	---	---	6.44	702
2	Labor Group 3	109	CY	13.625	0.073	16	LG3 46.17	739	---	---	---	---	---	---	---	---	6.78	739
	Bckho 324DL 1.5CY -O	109	CY	13.625	0.073	8	OP2 56.93	455	155.91	1,247	---	---	---	---	---	---	15.62	1,703
	Ldr 966G RT w/GP-4.5cy -O	109	CY	13.625	0.073	8	OP2 56.93	455	117.01	936	---	---	---	---	---	---	12.77	1,392
	Trc Water-TA 2000 Gal -O	109	CY	13.625	0.073	8	OP2 56.93	455	47.18	377	---	---	---	---	---	---	7.64	833
	Replace Asphalt Millings																	
	Purchased Asphalt Millings	215	TN	---	---	---	---	---	---	---	---	---	13.35	2,870	---	---	13.35	2,870

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

Detail Page 10 of 74
Oct 24, 2023
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Tony Spera

Proprietary and Confidential

AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Labor Fmn.	215	TN	18.000	0.056	12	FM8 87.71	1,048	---	---	---	---	---	---	---	---	4.87	1,048
2	Labor Group 3	215	TN	18.000	0.056	24	LG3 46.17	1,103	---	---	---	---	---	---	---	---	5.13	1,103
	Bckho 324DL 1.5CY -O	215	TN	18.000	0.056	12	OP2 56.93	680	155.91	1,862	---	---	---	---	---	---	11.82	2,542
	Ldr 966G RT w/GP-4.5cy -O	215	TN	18.000	0.056	12	OP2 56.93	680	117.01	1,398	---	---	---	---	---	---	9.66	2,078
	Cmpt Vib Pdft Ct CP-433 66"-O	215	TN	18.000	0.056	---	---	---	225.82	2,697	---	---	---	---	---	---	12.55	2,697
	Trc Water-TA 2000 Gal -O	215	TN	18.000	0.056	12	OP2 56.93	680	47.18	564	---	---	---	---	---	---	5.78	1,243
Remove Asphalt Millings		109.00	CY	0.911	1.098	120	58.47	6,997	83.32	9,082	---	---	26.33	2,870	---	---	173.84	18,949
Remove Rip Rap		136	CY															
	Labor Fmn.	136	CY	4.000	0.250	34	FM8 87.71	2,982	---	---	---	---	---	---	---	---	21.93	2,982
2	Labor Group 3	136	CY	4.000	0.250	68	LG3 46.17	3,140	---	---	---	---	---	---	---	---	23.09	3,140
	Bckho 324DL 1.5CY -O	136	CY	4.000	0.250	34	OP2 56.93	1,935	155.91	5,301	---	---	---	---	---	---	53.21	7,236
	BCKHO 324DL Claw	136	CY	4.000	0.250	---	---	---	155.91	5,301	---	---	---	---	---	---	38.98	5,301
	Ldr 966G RT w/GP-4.5cy -O	136	CY	4.000	0.250	34	OP2 56.93	1,935	117.01	3,978	---	---	---	---	---	---	43.48	5,914
	Trc Water-TA 2000 Gal -O	136	CY	4.000	0.250	34	OP2 56.93	1,935	47.18	1,604	---	---	---	---	---	---	26.03	3,540
Remove Rip Rap		136.00	CY	0.667	1.500	204	58.47	11,928	119.00	16,184	---	---	---	---	---	---	206.71	28,112
Site Rough Grade		8,500	SF															
	Site Fill					22.00	CY											
	Purchased 3/4 Rock	25	TN	---	---	---	---	---	---	---	---	---	31.25	781	---	---	31.25	781
	Labor Group 3	8,500	SF	531.250	0.002	16	LG3 46.17	739	---	---	---	---	---	---	---	---	0.086908	739
	Cat 416F2 IL Skiploader-0	8,500	SF	531.250	0.002	16	OP2 56.93	911	78.68	1,259	---	---	---	---	---	---	0.255252	2,170
	Skidsteer Ldr Cat 246C	8,500	SF	531.250	0.002	16	OP2 56.93	911	56.36	902	---	---	---	---	---	---	0.213251	1,813
	Trc Water-TA 2000 Gal -O	8,500	SF	531.250	0.002	16	OP2 56.93	911	47.18	755	---	---	---	---	---	---	0.195960	1,666
Site Rough Grade		8,500.00	SF	132.813	0.008	64	54.24	3,471	0.343005	2,916	---	---	0.091912	781	---	---	0.843283	7,168

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price		
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
Dirt Haul Off		394	CY															
TOTAL HAUL OFF						394.00	CY											
Dirt Haul Off						286.00	CY											
	Haul Off Trucking	44	HR	---	---	---	---	---	---	---	---	---	---	135.00	5,940	135.00	5,940	
	Dump Fees	22	LD	---	---	---	---	---	---	75.00	1,650	---	---	---	---	75.00	1,650	
	Ldr 966G RT w/GP-4.5cy -O	11	HR	1.000	1.000	11 ^{OP2}	56.93	626	117.01	1,287	---	---	---	---	---	173.94	1,913	
Materials Haul Off						108.00	CY											
Asphalt Millings																		
	Haul Off Trucking	18	HR	---	---	---	---	---	---	---	---	---	---	135.00	2,430	135.00	2,430	
	Dump Fees	9	LD	---	---	---	---	---	---	25.00	225	---	---	---	---	25.00	225	
	Ldr 966G RT w/GP-4.5cy -O	5	HR	1.000	1.000	5 ^{OP2}	56.93	285	117.01	585	---	---	---	---	---	173.94	870	
Dirt Haul Off		394.00	CY	24.625	0.041	16	56.93	911	4.75	1,872	4.76	1,875	---	---	21.24	8,370	33.07	13,028
Earthwork		1.00	LS	---	---	1,732	58.35	101,070	---	129,107	---	1,875	---	14,654	---	8,370	---	255,076
Paving and Grading		10,900	SF															
Asphalt Removal		10,900	SF															
TOTAL SF						10,900.00	SF											
TOTAL SY						1,211.00	SY											
TOTAL CY						133.00	CY											
4" Thick existing asphalt thickness. Curb to Curb																		
	Saw Cut Subcontractor	887	LF	---	---	---	---	---	---	---	---	---	---	0.900000	798	0.900000	798	
	Sawcut Sub Mob	3	EA	---	---	---	---	---	---	---	---	---	---	350.00	1,050	350.00	1,050	
Removal based on Pipe Zone Only																		

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price			
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total		
Excavation/Removal of Asphalt & Native																				
Excavate and Remove Asphalt 4".																				
	Laborer Foreman	10,900 SF		340.625	0.003	32 ^{FM8}	87.71	2,807	---	---	---	---	---	---	---	---	0.257483	2,807		
2	Labor Group 3	10,900 SF		340.625	0.003	64 ^{LG3}	46.17	2,955	---	---	---	---	---	---	---	---	0.271090	2,955		
	Bckho 324DL 1.5CY -O	10,900 SF		340.625	0.003	32 ^{OP2}	56.93	1,822	155.91	4,989	---	---	---	---	---	---	0.624829	6,811		
	Ldr 950G RT w/GP-4.0cy	10,900 SF		340.625	0.003	32 ^{OP2}	56.93	1,822	79.46	2,543	---	---	---	---	---	---	0.400398	4,364		
	Trc Water-TA 2000 Gal -O	10,900 SF		340.625	0.003	32 ^{OP2}	56.93	1,822	47.18	1,510	---	---	---	---	---	---	0.305626	3,331		
TOTAL HAUL OFF						133.00	CY													
	Haul Off Trucking	26 HR		---	---	---	---	---	---	---	---	---	---		135.00	3,510	135.00	3,510		
	Dump Fees	13 LD		---	---	---	---	---	---	---	75.00	975	---	---	---	---	75.00	975		
	Ldr 950G RT w/GP-4.0cy	7 HR		1.000	1.000	7 ^{OP2}	56.93	398	79.46	556	---	---	---	---	---	---	136.39	955		
Asphalt Removal				10,900.00	SF	54.774	0.018	199	58.42	11,625	0.880525	9,598	0.089450	975	---	---	0.491587	5,358	2.53	27,556
Subgrade Prep				10,900	SF															
Clean Asphalt Edges, Get Subgrade to +or- 1", Move Excess ABC																				
Subgrade prep based on Pipe Zone Only																				
Rough Grade																				
	Labor Fmn.	10,900 SF		272.500	0.004	40 ^{FM8}	87.71	3,508	---	---	---	---	---	---	---	---	0.321853	3,508		
2	Labor Group 3	10,900 SF		272.500	0.004	80 ^{LG3}	46.17	3,694	---	---	---	---	---	---	---	---	0.338862	3,694		
	Bckho-Ldr Ct 420C 1.0cy	10,900 SF		272.500	0.004	40 ^{OP2}	56.93	2,277	70.23	2,809	---	---	---	---	---	---	0.466615	5,086		
	Cat 416F2 IL Skiploader-0	10,900 SF		272.500	0.004	40 ^{OP2}	56.93	2,277	78.68	3,147	---	---	---	---	---	---	0.497625	5,424		
	Cmpt SP Vib CAT 433C	10,900 SF		272.500	0.004	---	---	---	203.23	8,129	---	---	---	---	---	---	0.745786	8,129		
	Trc Water-TA 2000 Gal -O	10,900 SF		272.500	0.004	40 ^{OP2}	56.93	2,277	47.18	1,887	---	---	---	---	---	---	0.382032	4,164		
Subgrade Prep				10,900.00	SF	45.417	0.022	240	58.47	14,033	1.47	15,972	---	---	---	---	---	2.75	30,005	
Ashpalt Paving (SUB)				10,900	SF															

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Proprietary and Confidential

AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Gonzalez Asphalt	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	153,175	---	153,175
	Ashpalt Paving (SUB)	10,900.00	SF	---	---	---	---	---	---	---	---	---	---	---	14.05	153,175	14.05	153,175
	Flatwork	1	LS															
	Flatwork Sub																	
	Gonzalez Asphalt	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	1,400	---	1,400
	Remove Sidewalk																	
	Grade Foreman	100	SF	25.000	0.040	4	FM8 87.71	351	---	---	---	---	---	---	---	---	3.51	351
2	Fine Grade Labor	100	SF	25.000	0.040	8	LG3 46.17	369	---	---	---	---	---	---	---	---	3.69	369
	Bckho-Ldr Ct 420C 1.0cy	100	SF	25.000	0.040	4	OP2 56.93	228	70.23	281	---	---	---	---	---	---	5.09	509
	Flatwork	1.00	LS	---	---	16	59.24	948	---	281	---	---	---	---	---	1,400	---	2,629
	Paving and Grading	10,900.00	SF	23.956	0.042	455	58.47	26,605	2.37	25,851	0.089450	975	---	---	14.67	159,933	19.57	213,365
	Landscaping	1	LS															
	Remove Trees and Shrubs	24	EA															
	Labor Fmn.	24	EA	0.500	2.000	48	FM8 87.71	4,210	---	---	---	---	---	---	---	---	175.41	4,210
2	Labor Group 3	24	EA	0.500	2.000	96	LG3 46.17	4,432	---	---	---	---	---	---	---	---	184.68	4,432
	Bckho 324DL 1.5CY -O	24	EA	0.500	2.000	48	OP2 56.93	2,732	155.91	7,484	---	---	---	---	---	---	425.67	10,216
	Ldr 950G RT w/GP-4.0cy	24	EA	0.500	2.000	48	OP2 56.93	2,732	79.46	3,814	---	---	---	---	---	---	272.77	6,547
	Trc Water-TA 2000 Gal -O	24	EA	0.500	2.000	48	OP2 56.93	2,732	47.18	2,265	---	---	---	---	---	---	208.21	4,997
	TOTAL HAUL OFF					4.00	LD											
	13 CY/LD per truck = .25 hour of loading time at Trench. 15 min drive tiime + 15 minutes at dump + 15 minutes at agg site = .75 hours neat roundtrip Based off 3 Trucks.																	

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Haul Off Trucking	8	HR	---	---	---	---	---	---	---	---	---	---	---	135.00	1,080	135.00	1,080
	Dump Fees	4	LD	---	---	---	---	---	---	---	75.00	300	---	---	---	---	75.00	300
	Ldr 950G RT w/GP-4.0cy	2	HR	1.000	1.000	2	56.93	114	79.46	159	---	---	---	---	---	---	136.39	273
	Remove Trees and Shrubs	24.00	EA	0.083	12.083	290	58.46	16,953	571.72	13,721	12.50	300	---	---	45.00	1,080	1,335.60	32,054
	Landscaping Sub	1	LS															
	Supply and Install of DG							1.00									44,800.00	
	Supply and Install of Rip Rap							1.00									35,000.00	
	Supply/Install New Trees & Plants							1.00									29,025.00	
	Supply/Install drip system							1.00									9,000.00	
	Supply & Apply Herbicide							1.00									5,000.00	
	Mobilization							1.00									6,000.00	
	90 Day Maintenance Period							1.00									4,500.00	
													Total				133,325.00	
	Landscape Sub AAA	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	133,325	---	133,325
	Landscaping Sub	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	133,325	---	133,325
	Landscaping	1.00	LS	---	---	290	58.46	16,953	---	13,721	---	300	---	---	---	134,405	---	165,379
	Yard Pipe Materials	1	LS															
	Ferguson Waterworks																	
	Purchase Yard Pipe Materials	1	LS	---	---	---	---	---	---	---	---	---	---	788,076	---	---	---	788,076
	Pipe Rigging STS	1	LS	---	---	---	---	---	---	---	---	2,500	---	---	---	---	---	2,500
	Pipe Installation STS	1	LS	---	---	---	---	---	---	---	---	1,500	---	---	---	---	---	1,500
	Testing STS	1	LS	---	---	---	---	---	---	---	---	5,000	---	---	---	---	---	5,000
	Purchase Bedding/PZ Material (ABC)	1,542	TN	---	---	---	---	---	---	---	---	---	21.25	32,768	---	---	21.25	32,768

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
					Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Purchase CSLM	57 CY	---	---	---	---	---	---	---	---	---	136.00	7,752	---	---	136.00	7,752
	TOTAL HAUL Off						426.00 CY										
	13 CY/LD per truck = .5 hour of loading time at trench																
	1 hour drive time + .5 hour to dump = 2 hours neat roundtrip																
	Based off 3 Trucks.																
	Haul Off Trucking	66 HR	---	---	---	---	---	---	---	135.00	8,910	---	---	---	---	135.00	8,910
	Dump Fees	33 LD	---	---	---	---	---	---	---	75.00	2,475	---	---	---	---	75.00	2,475
	Ldr 966G RT w/GP-4.5cy -O	17 HR	1.000	1.000	17	56.93	968	117.01	1,989	---	---	---	---	---	---	173.94	2,957
	Trench Protection/Equipment																
	Trench Box Mob/Demob				2.00	EA						215.00		430.00			
	Trench Protection (10 x 24)				4.00	MO						3,050.68		12,202.72			
	Speed Shoring				4.00	MO						287.52		1,150.08			
	Speed Shoring Pump				4.00	MO						74.52		298.08			
	Speed Shoring Misc				4.00	MO						89.88		359.52			
	Bridle				4.00	MO						148.92		595.68			
	Bedding Box (9 yard)				4.00	MO						711.85		2,847.40			
												Total		17,883.48			
	Trench Protection	1 LS	---	---	---	---	---	---	---	---	17,883	---	---	---	---	---	17,883
	Trench Protection Assemble/Disassemble																
2	Yard Pipe Crew	16 HR	1.000	1.000	32	56.93	1,822	---	---	---	---	---	---	---	---	113.85	1,822
	Ex Cat 336 (36mt)	16 HR	1.000	1.000	16	56.93	911	175.32	2,805	---	---	---	---	---	---	232.25	3,716
	Temporary Materials	1 LS															
	1 unit of water price 2.17																
	748 gallons of water = 1 unit.																
	Water Meter Deposit	1 LS	---	---	---	---	---	---	---	---	2,500	---	---	---	---	---	2,500
	Temp Layflat & Misc. Fittings/Accy	1 LS	---	---	---	---	---	---	---	---	2,500	---	---	---	---	---	2,500
	Water (Units)	937.09 EA	---	---	---	---	---	---	---	---	---	2.17	2,033	---	---	2.17	2,033
	Temporary Utility Supports	1 LS	---	---	---	---	---	---	---	---	3,500	---	---	---	---	---	3,500

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit
Temporary Materials		1.00	LS	---	---	---	---	---	---	---	8,500	---	2,033	---	---	---	10,533
Yard Pipe Materials		1.00	LS	---	---	65	56.93	3,700	---	4,794	---	46,768	---	830,629	---	---	885,892
Production Pipe Subtotal		1,438	LF														
Yard Pipe Foreman		3	MO	1.000	1.000	520	FM8 87.71	45,607	42.07	21,832	---	---	---	---	---	22,479.44	67,438
Pothole @ Tie-In Location		2	EA														
Tie in Potholes		2	EA														
Hydro Air Ex (soft dig)		2	DAY	---	---	---	---	---	---	---	---	---	---	2,950.00	5,900	2,950.00	5,900
2 Yard Pipe Crew		2	EA	0.100	10.000	40	WK1 56.93	2,277	---	---	---	---	---	---	---	1,138.50	2,277
Bckho 321DL 1.83cy -O		2	EA	0.100	10.000	20	OP2 56.93	1,139	130.73	2,615	---	---	---	---	---	1,876.56	3,753
Tie in Potholes		2.00	EA	0.033	30.000	60	56.93	3,416	1,307.31	2,615	---	---	---	2,950.00	5,900	5,965.06	11,930
Pothole @ Tie-In Location		2.00	EA	0.033	30.000	60	56.93	3,416	1,307.31	2,615	---	---	---	2,950.00	5,900	5,965.06	11,930
Unload & Handle		9	EA														
Unload & Handle		72	HR	1.000	1.000	72	WK1 56.93	4,099	---	---	---	---	---	---	---	56.93	4,099
Forklift, RT 10,000# Reach		36	HR	1.000	1.000	36	OP2 56.93	2,049	127.36	4,585	---	---	---	---	---	184.28	6,634
Unload & Handle		9.00	EA	0.083	12.000	108	56.93	6,148	509.43	4,585	---	---	---	---	---	1,192.53	10,733
RW 42"		461	LF														
42" relcaimed water line from the new vertical turbine pumps to existing distrubtion lines. RW line, DIP cement motar lined Restrained joints with megalug fittings. Average depth of bury is 8' Shored trench																	

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
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AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
Dig / Lay / Bury		461 LF																
Dig / Lay / Bury																		
2	Yard Pipe Crew	461 LF	5.731	0.174	161	WK1	56.93	9,158	---	---	---	---	---	---	---	---	19.87	9,158
	Ex Cat 336 (36mt)	461 LF	5.731	0.174	80	OP2	56.93	4,579	175.32	14,103	---	---	---	---	---	---	40.52	18,682
	Ldr 966G RT w/GP-4.5cy -O	461 LF	5.731	0.174	80	OP2	56.93	4,579	117.01	9,413	---	---	---	---	---	---	30.35	13,992
	Trench Compactor 24"-33"-O	461 LF	5.731	0.174	---	---	---	---	145.51	11,704	---	---	---	---	---	---	25.39	11,704
	Trc Water-TA 2000 Gal -O	461 LF	5.731	0.174	80	OP2	56.93	4,579	47.18	3,795	---	---	---	---	---	---	18.17	8,374
Dig / Lay / Bury		461.00 LF	1.146	0.872	402		56.93	22,895	84.63	39,015	---	---	---	---	---	---	134.29	61,910
Utility Crossings		2 EA																
2	Yard Pipe Crew	2 EA	0.250	4.000	16	WK1	56.93	911	---	---	---	---	---	---	---	---	455.40	911
	Ex Cat 336 (36mt)	2 EA	0.250	4.000	8	OP2	56.93	455	175.32	1,403	---	---	---	---	---	---	928.98	1,858
	Ldr 966G RT w/GP-4.5cy -O	2 EA	0.250	4.000	8	OP2	56.93	455	117.01	936	---	---	---	---	---	---	695.75	1,392
	Trench Compactor 24"-33"-O	2 EA	0.250	4.000	---	---	---	---	145.51	1,164	---	---	---	---	---	---	582.02	1,164
	Trc Water-TA 2000 Gal -O	2 EA	0.250	4.000	8	OP2	56.93	455	47.18	377	---	---	---	---	---	---	416.41	833
	Crossing STS	1 LS	---	---	---	---	---	---	---	---	---	250	---	---	---	---	---	250
	Light Pole support	1 LS	---	---	---	---	---	---	---	---	---	2,643	---	---	---	---	---	2,643
Utility Crossings		2.00 EA	0.050	20.000	40		56.93	2,277	1,940.08	3,880	1,446.50	2,893	---	---	---	---	4,525.08	9,050
Connections to Pipe/Structures		1 EA																
2	Yard Pipe Crew	1 EA	0.125	8.000	16	WK1	56.93	911	---	---	---	---	---	---	---	---	910.80	911
	Ex Cat 336 (36mt)	1 EA	0.125	8.000	8	OP2	56.93	455	175.32	1,403	---	---	---	---	---	---	1,857.97	1,858
Connections to Pipe/Structures		1.00 EA	0.042	24.000	24		56.93	1,366	1,402.57	1,403	---	---	---	---	---	---	2,768.77	2,769
Test		1 EA																
2	Yard Pipe Crew	1 EA	0.063	16.000	32	WK1	56.93	1,822	---	---	---	---	---	---	---	---	1,821.60	1,822
	Comp 185 CFM Diesel	1 EA	0.063	16.000	---	---	---	---	42.87	686	---	---	---	---	---	---	685.91	686
Test		1.00 EA	0.031	32.000	32		56.93	1,822	685.91	686	---	---	---	---	---	---	2,507.51	2,508
RW 42"		461.00 LF	0.925	1.081	498		56.93	28,360	97.58	44,983	6.28	2,893	---	---	---	---	165.37	76,236
RW 30"		924 LF																
30" relcaimed water line From 42" to tie-in																		

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	RW line, DIP cement motar lined Restrained joints with megalug fittings. Average depth of bury is 8-12' Shored trench																	
	Dig / Lay / Bury	924 LF																
	Dig / Lay / Bury																	
2	Yard Pipe Crew	924 LF		5.098	0.196	362	WK1 56.93	20,635	---	---	---	---	---	---	---	---	22.33	20,635
	Ex Cat 336 (36mt)	924 LF		5.098	0.196	181	OP2 56.93	10,318	175.32	31,777	---	---	---	---	---	---	45.56	42,094
	Ldr 966G RT w/GP-4.5cy -O	924 LF		5.098	0.196	181	OP2 56.93	10,318	117.01	21,208	---	---	---	---	---	---	34.12	31,526
	Trench Compactor 24"-33"-O	924 LF		5.098	0.196	---	---	---	145.51	26,373	---	---	---	---	---	---	28.54	26,373
	Trc Water-TA 2000 Gal -O	924 LF		5.098	0.196	181	OP2 56.93	10,318	47.18	8,551	---	---	---	---	---	---	20.42	18,869
	Dig / Lay / Bury	924.00 LF		1.020	0.981	906	56.93	51,588	95.14	87,909	---	---	---	---	---	---	150.97	139,496
	Connections to Pipe/Structures	1 EA																
2	Yard Pipe Crew	1 EA		0.125	8.000	16	WK1 56.93	911	---	---	---	---	---	---	---	---	910.80	911
	Ex Cat 336 (36mt)	1 EA		0.125	8.000	8	OP2 56.93	455	175.32	1,403	---	---	---	---	---	---	1,857.97	1,858
	Connections to Pipe/Structures	1.00 EA		0.042	24.000	24	56.93	1,366	1,402.57	1,403	---	---	---	---	---	---	2,768.77	2,769
	Test	1 EA																
2	Yard Pipe Crew	1 EA		0.063	16.000	32	WK1 56.93	1,822	---	---	---	---	---	---	---	---	1,821.60	1,822
	Comp 185 CFM Diesel	1 EA		0.063	16.000	---	---	---	42.87	686	---	---	---	---	---	---	685.91	686
	Test	1.00 EA		0.031	32.000	32	56.93	1,822	685.91	686	---	---	---	---	---	---	2,507.51	2,508
	RW 30"	924.00 LF		0.960	1.041	962	56.93	54,775	97.40	89,997	---	---	---	---	---	---	156.68	144,772
	Drain 6"	53 LF																
	6" Drain For the ARVs connecting to existing under the slab at the vertical turbine pumps. Drain line, DIP cement motar lined Restrained joints with megalug fittings. Average depth of bury is 6' open cut																	
	Dig / Lay / Bury	53 LF																
	Dig / Lay / Bury																	

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
2	Yard Pipe Crew	53	LF	8.000	0.125	13	WK1 56.93	754	---	---	---	---	---	---	---	---	14.23	754
	Bckho 321DL 1.83cy -O	53	LF	8.000	0.125	7	OP2 56.93	377	130.73	866	---	---	---	---	---	---	23.46	1,243
	Ldr 966G RT w/GP-4.5cy -O	53	LF	8.000	0.125	7	OP2 56.93	377	117.01	775	---	---	---	---	---	---	21.74	1,152
	Trench Compactor 24"-33"-O	53	LF	8.000	0.125	---	---	---	145.51	964	---	---	---	---	---	---	18.19	964
	Trc Water-TA 2000 Gal -O	53	LF	8.000	0.125	7	OP2 56.93	377	47.18	313	---	---	---	---	---	---	13.01	690
Dig / Lay / Bury		53.00	LF	1.600	0.625	33	56.93	1,886	55.05	2,918	---	---	---	---	---	---	90.63	4,803
Risers		2	EA															
2	Yard Pipe Crew	2	EA	0.500	2.000	8	WK1 56.93	455	---	---	---	---	---	---	---	---	227.70	455
	Bckho 321DL 1.83cy -O	2	EA	0.500	2.000	4	OP2 56.93	228	130.73	523	---	---	---	---	---	---	375.31	751
	Ldr 966G RT w/GP-4.5cy -O	2	EA	0.500	2.000	4	OP2 56.93	228	117.01	468	---	---	---	---	---	---	347.88	696
	Trench Compactor 24"-33"-O	2	EA	0.500	2.000	---	---	---	145.51	582	---	---	---	---	---	---	291.01	582
	Trc Water-TA 2000 Gal -O	2	EA	0.500	2.000	4	OP2 56.93	228	47.18	189	---	---	---	---	---	---	208.21	416
Risers		2.00	EA	0.100	10.000	20	56.93	1,139	880.86	1,762	---	---	---	---	---	---	1,450.11	2,900
Connections to Pipe/Structures		1	EA															
2	Yard Pipe Crew	1	EA	0.250	4.000	8	WK1 56.93	455	---	---	---	---	---	---	---	---	455.40	455
	Bckho 321DL 1.83cy -O	1	EA	0.250	4.000	4	OP2 56.93	228	130.73	523	---	---	---	---	---	---	750.62	751
Connections to Pipe/Structures		1.00	EA	0.083	12.000	12	56.93	683	522.92	523	---	---	---	---	---	---	1,206.02	1,206
Test		1	EA															
2	Yard Pipe Crew	1	EA	0.125	8.000	16	WK1 56.93	911	---	---	---	---	---	---	---	---	910.80	911
	Comp 185 CFM Diesel	1	EA	0.125	8.000	---	---	---	42.87	343	---	---	---	---	---	---	342.96	343
Test		1.00	EA	0.063	16.000	16	56.93	911	342.96	343	---	---	---	---	---	---	1,253.76	1,254
Drain 6"		53.00	LF	0.653	1.531	81	56.93	4,618	104.63	5,545	---	---	---	---	---	---	191.76	10,163
Production Pipe Subtotal		1,438.00	LF	0.645	1.550	2,230	64.10	142,923	117.91	169,557	2.01	2,893	---	---	4.10	5,900	223.42	321,273
Pipe Connections MOPO		2	EA															
Three days each Tie-in. A day to excavate and get prepared, a day to tie-in, and a day to backfill.																		
Temporary Support																		

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AWRF **AWRF ON SITE IMPROVEMENTS**

1.00



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Sand Bags	200	EA	---	---	---	---	---	---	---	0.550000	110	---	---	---	---	0.550000	110
	Temporary Fencing	5	DAY	---	---	---	---	---	---	---	38.89	194	---	---	---	---	38.89	194
	Pump 6" Elec Submers -O	1	MO	1.000	1.000	---	---	---	17.52	3,031	---	---	---	---	---	---	3,030.73	3,031
	Temporary Hose	300	LF	---	---	---	---	---	---	---	4.00	1,200	---	---	---	---	4.00	1,200
	Rock for bottom of pits for pumping residual water in line.																	
	57 Rock	60	TN	---	---	---	---	---	---	---	---	---	31.25	1,875	---	---	31.25	1,875
	Draining line																	
2	Yard Pipe Crew	12	HR	1.000	1.000	24	WK1 56.93	1,366	---	---	---	---	---	---	---	---	113.85	1,366
	Ex Cat 336 (36 mt)	12	HR	1.000	1.000	12	OP2 56.93	683	175.32	2,104	---	---	---	---	---	---	232.25	2,787
	Ldr 966G RT w/GP-4.5cy -O	12	HR	1.000	1.000	12	OP2 56.93	683	117.01	1,404	---	---	---	---	---	---	173.94	2,087
	Trc Water-TA 2000 Gal -O	12	HR	1.000	1.000	12	OP2 56.93	683	47.18	566	---	---	---	---	---	---	104.10	1,249
	MOPO																	
2	Yard Pipe Crew	20	HR	1.000	1.000	40	WK1 56.93	2,277	---	---	---	---	---	---	---	---	113.85	2,277
	Ex Cat 336 (36 mt)	20	HR	1.000	1.000	20	OP2 56.93	1,139	175.32	3,506	---	---	---	---	---	---	232.25	4,645
	Ldr 966G RT w/GP-4.5cy -O	20	HR	1.000	1.000	20	OP2 56.93	1,139	117.01	2,340	---	---	---	---	---	---	173.94	3,479
	Trc Water-TA 2000 Gal -O	20	HR	1.000	1.000	20	OP2 56.93	1,139	47.18	944	---	---	---	---	---	---	104.10	2,082
Pipe Connections MOPO		2.00	EA	0.013	80.000	160	56.93	9,108	6,947.58	13,895	752.23	1,504	937.50	1,875	---	---	13,191.30	26,383
Flushing		1	LS															
	Temporary Pipe/Fittings	1	LS	---	---	---	---	---	---	---	---	68,146	---	---	---	---	---	68,146
2	Yard Pipe Crew	1	EA	0.125	8.000	16	WK1 56.93	911	---	---	---	---	---	---	---	---	910.80	911
	Bckho 324DL 1.5CY -O	1	EA	0.125	8.000	8	OP2 56.93	455	155.91	1,247	---	---	---	---	---	---	1,702.66	1,703
	Ldr 966G RT w/GP-4.5cy -O	1	EA	0.125	8.000	8	OP2 56.93	455	117.01	936	---	---	---	---	---	---	1,391.51	1,392
	Trench Compactor 24"-33"-O	1	EA	0.125	8.000	---	---	---	145.51	1,164	---	---	---	---	---	---	1,164.05	1,164
	Trc Water-TA 2000 Gal -O	1	EA	0.125	8.000	8	OP2 56.93	455	47.18	377	---	---	---	---	---	---	832.83	833

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Pump 6" Elec Submers -O	8	HR	1.000	1.000	---	---	---	17.52	140	---	---	---	---	---	---	17.52	140
	Ironclad Environmental	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	105,269	---	105,269
	Flushing	1.00	LS	---	---	40	56.93	2,277	---	3,865	---	68,146	---	---	---	105,269	---	179,557
	ARV Manhole	1	LS															
	60" Flat Top MH w/ 30" Opening	1	LS	---	---	---	---	---	---	---	---	---	---	4,758	---	---	---	4,758
	Manhole Box Rental	1	MO	---	---	---	---	---	---	---	829.17	829	---	---	---	---	829.17	829
	Grout	2	CF	---	---	---	---	---	---	---	---	---	25.00	50	---	---	25.00	50
	57 Rock	14	TN	---	---	---	---	---	---	---	---	---	31.25	438	---	---	31.25	438
	TOTAL HAUL Off							7.00 CY										
	13 CY/LD per truck = .5 hour of loading time at trench																	
	1 hour drive time + .5 hour to dump = 2 hours neat roundtrip																	
	Based off 3 Trucks.																	
	Haul Off Trucking	1	HR	---	---	---	---	---	---	---	135.00	135	---	---	---	---	135.00	135
	Dump Fees	1	LD	---	---	---	---	---	---	---	75.00	75	---	---	---	---	75.00	75
	Ldr 966G RT w/GP-4.5cy -O	1	HR	1.000	1.000	1	OP2 56.93	57	117.01	117	---	---	---	---	---	---	173.94	174
	Excavate Manhole	1	LS															
	10x10x7					30	.00 CY											
	2 Yard Pipe Crew	30	CY	4.000	0.250	15	WK1 56.93	854	---	---	---	---	---	---	---	---	28.46	854
	Bckho 321DL 1.83cy -O	30	CY	4.000	0.250	8	OP2 56.93	427	130.73	980	---	---	---	---	---	---	46.91	1,407
	Ldr 966G RT w/GP-4.5cy -O	30	CY	4.000	0.250	8	OP2 56.93	427	117.01	878	---	---	---	---	---	---	43.48	1,305
	Trench Compactor 24"-33"-O	30	CY	4.000	0.250	---	---	---	145.51	1,091	---	---	---	---	---	---	36.38	1,091
	Trc Water-TA 2000 Gal -O	30	CY	4.000	0.250	8	OP2 56.93	427	47.18	354	---	---	---	---	---	---	26.03	781
	Excavate Manhole	1.00	LS	---	---	38	56.93	2,135	---	3,303	---	---	---	---	---	---	---	5,438
	Set Manhole	1	LS															
	2 Yard Pipe Crew	1	EA	0.167	6.000	12	WK1 56.93	683	---	---	---	---	---	---	---	---	683.10	683
	Bckho 321DL 1.83cy -O	1	EA	0.167	6.000	6	OP2 56.93	342	130.73	784	---	---	---	---	---	---	1,125.94	1,126

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00 LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Ldr 966G RT w/GP-4.5cy -O	1	EA	0.167	6.000	6	OP2 56.93	342	117.01	702	---	---	---	---	---	---	1,043.63	1,044
	Trench Compactor 24"-33"-O	1	EA	0.167	6.000	---	---	---	145.51	873	---	---	---	---	---	---	873.03	873
	Trc Water-TA 2000 Gal -O	1	EA	0.167	6.000	6	OP2 56.93	342	47.18	283	---	---	---	---	---	---	624.62	625
	Set Manhole	1.00	LS	---	---	30	56.93	1,708	---	2,643	---	---	---	---	---	---	---	4,350
	Grout Manhole	1	LS															
2	Yard Pipe Crew	1	EA	0.063	16.000	32	WK1 56.93	1,822	---	---	---	---	---	---	---	---	1,821.60	1,822
	Grout Manhole	1.00	LS	---	---	32	56.93	1,822	---	---	---	---	---	---	---	---	---	1,822
	Backfill Manhole	1	LS															
	10x10x7					25	0.00 CY											
2	Yard Pipe Crew	25	CY	3.253	0.307	15	WK1 56.93	875	---	---	---	---	---	---	---	---	35.00	875
	Bckho 321DL 1.83cy -O	25	CY	3.253	0.307	8	OP2 56.93	437	130.73	1,005	---	---	---	---	---	---	57.69	1,442
	Ldr 966G RT w/GP-4.5cy -O	25	CY	3.253	0.307	8	OP2 56.93	437	117.01	899	---	---	---	---	---	---	53.47	1,337
	Trench Compactor 24"-33"-O	25	CY	3.253	0.307	---	---	---	145.51	1,118	---	---	---	---	---	---	44.73	1,118
	Trc Water-TA 2000 Gal -O	25	CY	3.253	0.307	8	OP2 56.93	437	47.18	363	---	---	---	---	---	---	32.00	800
	Backfill Manhole	1.00	LS	---	---	38	56.93	2,187	---	3,385	---	---	---	---	---	---	---	5,572
	ARV Manhole	1.00	LS	---	---	139	56.93	7,908	---	9,448	---	1,039	---	5,246	---	---	---	23,641
	DIVISION 2 - SITE CONSTRUCTIO	1.00	LS	---	---	5,231	60.59	316,948	---	376,073	---	125,001	---	868,316	---	417,378	---	2,103,716
	DIVISION 3 - CONCRETE	110	CY															
	Sub Grade Prep	2,090	SF															
	Quantities					2,090	0.00											
3	Foundation Prep	2,090	SF	200.000	0.005	31	LG3 46.17	1,447	---	---	---	---	---	---	---	---	0.692550	1,447
	Bckho-Ldr Ct 420C 1.0cy	2,090	SF	200.000	0.005	10	OP2 56.93	595	70.23	734	---	---	---	---	---	---	0.635764	1,329
	Trench Compactor 24"-33"	2,090	SF	200.000	0.005	---	---	---	145.51	1,521	---	---	---	---	---	---	0.727528	1,521
	Sub Grade Prep	2,090.00	SF	50.000	0.020	42	48.86	2,042	1.08	2,254	---	---	---	---	---	---	2.06	4,297

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

Proprietary and Confidential

AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Concrete Formwork	815	SF															
	Fab Formwork	570	SF															
	Fab SOG & Ftg Forms	570	SF															
	Fab SOG Forms (Stick Built)					570.00												
	Fab SOG Forms	570	SF	8.000	0.125	71	56.93	4,056	---	---	---	---	---	---	---	---	7.12	4,056
	Form Ply 3/4"	627	SF	---	---	---	---	---	---	---	1.15	721	---	---	---	---	1.15	721
	Dimen. Lumber (2x4-2x10)	1,254	BF	---	---	---	---	---	---	---	0.800000	1,003	---	---	---	---	0.800000	1,003
	Form Hardware	570	SF	---	---	---	---	---	---	---	0.300000	171	---	---	---	---	0.300000	171
	Fab SOG & Ftg Forms	570.00	SF	8.000	0.125	71	56.93	4,056	---	---	3.33	1,895	---	---	---	---	10.44	5,952
	Fab Formwork	570.00	SF	8.000	0.125	71	56.93	4,056	---	---	3.33	1,895	---	---	---	---	10.44	5,952
	Erect and Strip Formwork	815	SF															
	Totals Formwork					815.00	SF											
	Form Oil	815	SF	---	---	---	---	---	---	---	0.030000	24	---	---	---	---	0.030000	24
	Erect and Strip Supplies	815	SF	---	---	---	---	---	---	---	0.250000	204	---	---	---	---	0.250000	204
	1. AWRF	815	SF															
	1. AWRF					815.00												
	SOGs 1' w/ thick edge	570	SF	1.750	0.571	326	56.93	18,543	---	---	---	---	---	---	---	---	32.53	18,543
	Pipe Fdns/Supports (3'-4' tall)	245	SF	1.000	1.000	245	56.93	13,948	---	---	---	---	---	---	---	---	56.93	13,948
	1. AWRF	815.00	SF	1.428	0.700	571	56.93	32,491	---	---	---	---	---	---	---	---	39.87	32,491
	Loose Formwork	245	SF															
	Pipe Fdns/Supports					245.00	SF											
	Form Ply 3/4"	245	SF	---	---	---	---	---	---	---	1.15	282	---	---	---	---	1.15	282
	Dimen. Lumber (2x4-2x10)	1,078	BF	---	---	---	---	---	---	---	0.800000	862	---	---	---	---	0.800000	862

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Loose Formwork	245.00	SF	---	---	---	---	---	---	---	4.67	1,144	---	---	---	---	4.67	1,144
	Erect and Strip Formwork	815.00	SF	1.428	0.700	571	56.93	32,491	---	---	1.68	1,372	---	---	---	---	41.55	33,863
	Concrete Formwork	815.00	SF	1.270	0.788	642	56.93	36,547	---	---	4.01	3,268	---	---	---	---	48.85	39,815
	03300 Cast In Place Concrete	110	CY															
	Concrete Materials	116	CY															
	TOTAL CONCRETE					110.00	Cy											
	CONC BASE BID					110.00												
	Conc.4000 Psi	110	CY	---	---	---	---	---	---	---	---	---	182.00	20,020	---	---	182.00	20,020
	Conc.4000 Psi Waste 5%	6	CY	---	---	---	---	---	---	---	---	---	182.00	1,092	---	---	182.00	1,092
	Enviromental Fees	11	LDS	---	---	---	---	---	---	---	---	---	25.00	275	---	---	25.00	275
	Fuel Surcharge	11	LDS	---	---	---	---	---	---	---	---	---	29.00	319	---	---	29.00	319
	Hot Weather Concrete-Ice 100%	110	CY	---	---	---	---	---	---	---	---	---	25.00	2,750	---	---	25.00	2,750
	*Nitrocrete @ \$5.00/gallon *5 gallons per yard*																	
	Chilled Water	110	CY	---	---	---	---	---	---	---	---	---	2.00	220	---	---	2.00	220
	Conc. Placing Supplies	110	CY	---	---	---	---	---	---	---	3.03	333	---	---	---	---	3.03	333
	Concrete Materials	116.00	CY	---	---	---	---	---	---	---	2.87	333	212.72	24,676	---	---	215.60	25,009
	Concrete Placement	110	CY															
	Total Concrete CY					110.00	CY											
	1. AWRF	110	CY															
	1. AWRF					110.00	CY											
	SOGs 1' (3 Pour)	106	CY	0.750	1.333	141	WK3 56.93	8,046	---	---	---	---	---	---	---	---	75.91	8,046
	Pipe Fdns/Supports (1 Pour)	4	CY	0.500	2.000	8	WK3 56.93	455	---	---	---	---	---	---	---	---	113.86	455

AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
1. AWRF		110.00	CY	0.737	1.358	149	56.93	8,502	---	---	---	---	---	---	---	---	77.29	8,502
Pumping	110 CY																	
	Concrete Pump					110.00	CY											
	Western Concrete Pumping																	
	36 M 120' Boom (Hourly Charge)	24	HR	---	---	---	---	---	---	---	165.00	3,960	---	---	---	---	165.00	3,960
	36 M 120' Boom (CY Charge)	110	CY	---	---	---	---	---	---	---	3.25	358	---	---	---	---	3.25	358
	Prime/Permit Fee	4	EA	---	---	---	---	---	---	---	65.00	260	---	---	---	---	65.00	260
	Travel Charge	4	EA	---	---	---	---	---	---	---	165.00	660	---	---	---	---	165.00	660
	Energy Charge (10% of total)	1	EA	---	---	---	---	---	---	---	523.80	524	---	---	---	---	523.80	524
Pumping		110.00	CY	---	---	---	---	---	---	---	52.38	5,761	---	---	---	---	52.38	5,761
Concrete Placement		110.00	CY	0.737	1.358	149	56.93	8,502	---	---	52.38	5,761	---	---	---	---	129.66	14,263
03300 Cast In Place Concrete		110.00	CY	0.737	1.358	149	56.93	8,502	---	---	55.41	6,095	224.33	24,676	---	---	357.02	39,272
03251 Concrete Joints	110 CY																	
Joint Prep-Waterblast	35 SF																	
	Horizontal CJ Retardant Labor	35	SF	10.000	0.100	4	WK3 56.93	199	---	---	---	---	---	---	---	---	5.69	199
	Joint Prep (Waterblast)	35	SF	10.000	0.100	4	WK3 56.93	199	---	---	---	---	---	---	---	---	5.69	199
	Waterblast Equip. & STS	1	LS	---	---	---	---	---	---	---	---	1,500	---	---	---	---	---	1,500
	Horizontal CJ + 10% Retardant Purchase	38.50	SF	---	---	---	---	---	---	---	0.300000	12	---	---	---	---	0.300000	12
Joint Prep-Waterblast		35.00	SF	5.000	0.200	7	56.93	399	---	---	43.19	1,512	---	---	---	---	54.57	1,910
Expansion Joint	57 SF																	
	Purchase Expansion Joint Material	57	SF	---	---	---	---	---	---	---	---	---	12.00	684	---	---	12.00	684
	Install Expansion Joint Material	57	SF	6.500	0.154	9	WK5 56.93	499	---	---	---	---	---	---	---	---	8.76	499

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Caulk Joint					58.00	LF											
	Caulk Expansion Joint	58	LF	---	---	---	---	---	---	---	---	---	---	---	14.00	812	14.00	812
	Purchase 15LB Felt Paper Material	49	SF	---	---	---	---	---	---	---	---	---	2.00	98	---	---	2.00	98
	Install Felt Paper Material	49	SF	10.000	0.100	5	WKS 56.93	279	---	---	---	---	---	---	---	---	5.69	279
	Expansion Joint	57.00	SF	4.170	0.240	14	56.93	778	---	---	---	---	13.72	782	14.25	812	41.62	2,372
	03251 Concrete Joints	110.00	CY	5.322	0.188	21	56.93	1,177	---	---	13.74	1,512	7.11	782	7.38	812	38.93	4,282
	Conc Finishing	2,868	SF															
	Quantities					2,868.00	SF											
	Point and Patch Finish	245	SF	40.000	0.025	6	WKS 56.93	349	---	---	---	---	---	---	---	---	1.42	349
	Grout Finish	245	SF	15.000	0.067	16	WKS 56.93	930	---	---	---	---	---	---	---	---	3.80	930
	Finishing Supplies P&P	245	SF	---	---	---	---	---	---	---	0.030000	7	---	---	---	---	0.030000	7
	Finish Supplies Smooth Form	245	SF	---	---	---	---	---	---	---	0.100000	25	---	---	---	---	0.100000	25
	Wet Finish Supplies	2,868	SF	---	---	---	---	---	---	---	0.050000	143	---	---	---	---	0.050000	143
	Conc Finishing	2,868.00	SF	127.703	0.008	22	56.93	1,279	---	---	0.061105	175	---	---	---	---	0.506905	1,454
	Curing	110	CY															
	Curing	3,719	SF															
	Quantities					3,719.00	SF											
	Curing Labor	3,719	SF	200.000	0.005	19	WKS 56.93	1,059	---	---	---	---	---	---	---	---	0.284650	1,059
	Curing Supplies	3,719	SF	---	---	---	---	---	---	---	0.100000	372	---	---	---	---	0.100000	372
	Curing	3,719.00	SF	200.000	0.005	19	56.93	1,059	---	---	0.100000	372	---	---	---	---	0.384650	1,431
	Curing	110.00	CY	5.916	0.169	19	56.93	1,059	---	---	3.38	372	---	---	---	---	13.00	1,431
	03200 Conc Reinforcement	1	LS															

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
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Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price		
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
Rebar Sub: Supply & Install		1	LS															
Camblin Steel																		
03200 Concrete Rebar Sub		1	LS	---	---	---	---	---	---	---	---	---	---	20,856	---	20,856		
Rebar Sub: Supply & Install		1.00	LS	---	---	---	---	---	---	---	---	---	---	20,856	---	20,856		
Drill Dowel		60	EA															
Drill & Dowel Rebar																		
Drill in Dowels up to 12 " Depth		60	EA	3.000	0.333	20	56.93	1,139	---	---	---	---	---	---	---	18.98	1,139	
STS Dowels incl's Epoxy, Drills, Bits Etc.		60	EA	---	---	---	---	---	---	12.00	720	---	---	---	---	12.00	720	
Drill Dowel		60.00	EA	3.000	0.333	20	56.93	1,139	---	---	12.00	720	---	---	---	30.98	1,859	
03200 Conc Reinforcement		1.00	LS	---	---	20	56.93	1,139	---	---	---	720	---	---	---	20,856	---	22,714
Concrete Equipment		1	LS															
Forklift, RT 10,000# Reach		1.50	MO	1.000	1.000	---	---	---	127.36	33,049	---	---	---	---	---	22,032.79	33,049	
Comp 185 CFM Diesel		1.50	MO	1.000	1.000	---	---	---	42.87	11,125	---	---	---	---	---	7,416.41	11,125	
Gen Fldlites 5-10 KW		0.75	MO	1.000	1.000	---	---	---	6.53	847	---	---	---	---	---	1,129.22	847	
Conc Bucket 1-1.5 cy		1.50	MO	1.000	1.000	---	---	---	9.34	2,423	---	---	---	---	---	1,615.25	2,423	
2 Steel Skip Box (Concrete W/O)		1.50	MO	1.000	1.000	---	---	---	0.4335	225	---	---	---	---	---	150.00	225	
Concrete Equipment		1.00	LS	---	---	---	---	---	---	47,669	---	---	---	---	---	---	47,669	
DIVISION 3 - CONCRETE		110.00	CY	0.120	8.317	915	56.56	51,743	453.85	49,923	110.37	12,141	231.44	25,458	196.98	21,668	1,463.03	160,933
DIVISION 5 - METALS		1	LS															
Supply Materials		1	LS															

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



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Location Chandler, AZ, USA

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
Materials for Bollard Install SH Engineering																		
	Purchase Bollards	2	EA	---	---	---	---	---	---	---	---	1,175.00	2,350	---	---	1,175.00	2,350	
	Concrete Class 4 - 3000 psi	0.50	CY	---	---	---	---	---	---	---	---	182.00	91	---	---	182.00	91	
Supply Materials				1.00	LS	---	---	---	---	---	---	---	2,441	---	---	---	2,441	
Install Bollards				1	LS													
	Installation STS	1	LS	---	---	---	---	---	---	---	100	---	---	---	---	---	100	
Install Bollards																		
	Install Bollards	2	EA	0.063	16.000	32	MX1 57.96	1,855	---	---	---	---	---	---	---	927.33	1,855	
	Skidsteer Ldr Cat 246C	2	EA	0.250	4.000	8	OP2 56.93	455	56.36	451	---	---	---	---	---	453.16	906	
	Auger Attachment	2	EA	0.250	4.000	---	---	---	6.68	53	---	---	---	---	---	26.71	53	
	Place Concrete	0.50	CY	0.063	16.000	8	MX1 57.96	464	---	---	---	---	---	---	---	927.33	464	
Install Bollards				1.00	LS	---	57.79	2,774	---	504	---	100	---	---	---	---	---	3,378
DIVISION 5 - METALS				1.00	LS	---	57.79	2,774	---	504	---	100	---	2,441	---	---	---	5,819
DIVISION 9 - FINISHES				1	LS													
Painting & Coating A-O Painting				1	LS													
	Painting and Coating SUB	1	LS	---	---	---	---	---	---	---	---	---	---	---	17,245	---	17,245	
Painting & Coating				1.00	LS	---	---	---	---	---	---	---	---	---	17,245	---	17,245	
DIVISION 9 - FINISHES				1.00	LS	---	---	---	---	---	---	---	---	---	17,245	---	17,245	

AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit
DIVISION 11 - EQUIPMENT		1	LS														
Machining Existing Pump Can Tops		2	EA														
Machine and Level existing pumps cans No. 9 and No. 10. each pump can est. 2 days each flange																	
R&J Manufacturing																	
Machining Sub		1	LS	---	---	---	---	---	---	---	---	---	---	---	18,143	---	18,143
Labor Group 3 (Assist)		16	HR	1.000	1.000	16	LG3 46.17	739	---	---	---	---	---	---	---	46.17	739
Machining Existing Pump Can Tops		2.00	EA	0.125	8.000	16	46.17	739	---	---	---	---	---	9,071.73	18,143	9,441.09	18,882
VerticalTurbine Pumps		2	EA														
RWPS Vertical Turbine Pumps No. 9 and No. 10 Drive Type: Constant Speed. Motor HP: 250.																	
Materials Supply		2	EA														
VTP Supply (GMP 1)																	
Unload & Handle		2	EA														
Unload & Handle Vertical Turbine Pumps		2	EA	0.125	8.000	16	W10 56.93	911	---	---	---	---	---	---	---	455.44	911
Forklift, RT 10,000# Reach		2	EA	0.250	4.000	8	OP2 56.93	455	127.36	1,019	---	---	---	---	---	737.13	1,474
Unload & Handle		2.00	EA	0.083	12.000	24	56.93	1,366	509.43	1,019	---	---	---	---	---	1,192.57	2,385
Materials Supply		2.00	EA	0.083	12.000	24	56.93	1,366	509.43	1,019	---	---	---	---	---	1,192.57	2,385
Vertical Turbine Pumps Install		2	EA														
Hoisting/Support STS		1	LS	---	---	---	---	---	---	---	1,000	---	---	---	---	---	1,000
Install Vertical Turbine Pumps		2	EA	0.016	64.000	128	W10 56.93	7,287	---	---	---	---	---	---	---	3,643.52	7,287
Crane Ruff Ter 70 Ton (OPERATED)		48	HR	---	---	---	---	---	---	275.00	13,200	---	---	---	---	275.00	13,200

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Proprietary and Confidential

AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	MOB IN/OUT	12	EA	---	---	---	---	---	---	---	275.00	3,300	---	---	---	---	275.00	3,300
	Crane Surcharge	6	EA	---	---	---	---	---	---	---	732.00	4,392	---	---	---	---	732.00	4,392
	Forklift, RT 10,000# Reach	2	EA	0.250	4.000	8	OP2 56.93	455	127.36	1,019	---	---	---	---	---	---	737.13	1,474
	Vertical Turbine Pumps Install	2.00	EA	0.015	68.000	136	56.93	7,742	509.43	1,019	10,946.00	21,892	---	---	---	---	15,326.65	30,653
	VerticalTurbine Pumps	2.00	EA	0.013	80.000	160	56.93	9,109	1,018.86	2,038	10,946.00	21,892	---	---	---	---	16,519.22	33,038
	DIVISION 11 - EQUIPMENT	1.00	LS	---	---	176	55.95	9,847	---	2,038	---	21,892	---	---	---	18,143	---	51,921
	DIVISION 15 - MECHANICAL	1	LS															
	Exposed Pipe	1	LS															
	Purchase Pipe Materials (Exposed)	1	LS															
	Exposed Pipe Materials	1	LS															
	Ferguson Waterworks																	
	Purchase Exposed Material Total							1.00 LS					257,009.00					
	Purchase Pipe Materials	1	LS	---	---	---	---	---	---	---	---	---	---	257,009	---	---	---	257,009
	Unload & Store Pipe Materials																	
	Forklift, RT 10,000# Reach	16	HR	1.000	1.000	16	OP2 56.93	911	127.36	2,038	---	---	---	---	---	---	184.28	2,949
	Pipe Fitter Foreman	16	HR	1.000	1.000	16	FM9 87.71	1,403	---	---	---	---	---	---	---	---	87.71	1,403
	Exposed Pipe Crew	64	HR	1.000	1.000	64	mx8 56.55	3,619	---	---	---	---	---	---	---	---	56.55	3,619
	STS - Dunnage	1	LS	---	---	---	---	---	---	---	---	500	---	---	---	---	---	500
	Exposed Pipe Materials	1.00	LS	---	---	96	61.81	5,934	---	2,038	---	500	---	257,009	---	---	---	265,480
	Temporary Pipe Materials	1	LS															

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	STS - Installation (Exposed)	1	LS	---	---	---	---	---	---	---	---	5,000	---	---	---	---	---	5,000
	STS - Rigging (Exposed)	1	LS	---	---	---	---	---	---	---	---	5,000	---	---	---	---	---	5,000
	STS - Testing (Exposed)	1	LS	---	---	---	---	---	---	---	---	1,000	---	---	---	---	---	1,000
	Testing Materials	1	LS	---	---	---	---	---	---	---	---	8,998	---	---	---	---	---	8,998
	Temporary Pipe Plugs	1	LS	---	---	---	---	---	---	---	---	1,030	---	---	---	---	---	1,030
	Cement Mortar Lining Repair																	
	CM Lining Kits	3	EA	---	---	---	---	---	---	---	---	---	250.00	750	---	---	250.00	750
	Pipe Fitter Foreman	3	EA	0.250	4.000	12	FM9 87.71	1,052	---	---	---	---	---	---	---	---	350.82	1,052
	Exposed Pipe Crew	3	EA	0.250	4.000	12	WK8 56.93	683	---	---	---	---	---	---	---	---	227.70	683
	Concrete Pipe Supports						5.00 EA											
	Concrete Pipe Supports Included in Div. 3																	
	STS - Concrete Pipe Support Install	1	LS	---	---	---	---	---	---	---	---	250	---	---	---	---	---	250
	STS - \$50/Support																	
	All-Thread, Nuts, Washers included in pipe purchase																	
	Pipe Supports Unistrut																	
	Epoxy @ 0.25 Tube/EA SUPP																	
	Unistrut Drill & Epoxy						6.00 EA											
	Epoxy Bonding Agent (Hilti-RE 500)	6	EA	---	---	---	---	---	---	---	20.00	120	---	---	---	---	20.00	120
	STS - Unistrut Install	1	LS	---	---	---	---	---	---	---	---	300	---	---	---	---	---	300
	STS - \$50/Support																	
	All-Thread, Nuts, Washers included in pipe purchase																	
	ARV MH Pipe Support																	
	Epoxy @ 0.50 Tube/EA SUPP																	
	Unistrut Drill & Epoxy						1.00 EA											
	Epoxy Bonding Agent (Hilti-RE 500)	1	EA	---	---	---	---	---	---	---	40.00	40	---	---	---	---	40.00	40
	STS - Unistrut Install	1	LS	---	---	---	---	---	---	---	---	50	---	---	---	---	---	50
	STS - \$50/Support																	
	All-Thread, Nuts, Washers included in pipe purchase																	

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AWRF **AWRF ON SITE IMPROVEMENTS**

1.00



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

AWRF **AWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
Temporary Pipe Materials		1.00	LS	---	---	24	72.32	1,736	---	---	---	21,788	---	750	---	---	---	24,274
Purchase Pipe Materials (Exposed)		1.00	LS	---	---	120	63.91	7,669	---	2,038	---	22,288	---	257,759	---	---	---	289,754
Install Piping (Exposed)		1	LS															
Direct Manhours		1	LS															
42" STL Header						407	.00	HR										
16" DI Pump Effluent						111	.00	HR										
3" Drain						61	.00	HR										

Total Direct Manhours						579	.00	HR										
Pipe Fitter Foreman		116	HR	1.000	1.000	116	FM9 87.71	10,174	---	---	---	---	---	---	---	---	87.71	10,174
Exposed Pipe Crew		579	HR	1.000	1.000	579	WKB 56.93	32,960	---	---	---	---	---	---	---	---	56.93	32,960
Direct Manhours		1.00	LS	---	---	695	62.06	43,133	---	---	---	---	---	---	---	---	---	43,133
Adjustments		1	LS															
42" STL Header						77	.00	HR	Rigging	Existing Connec								
16" DI Pump Effluent						9	.00	HR	Existing A									
3" Drain						19	.00	HR	Threading	Slab Penetratio								

Total Adjusted Manhours						86	.00	HR										
Pipe Fitter Foreman		17	HR	1.000	1.000	17	FM9 87.71	1,491	---	---	---	---	---	---	---	---	87.71	1,491
Exposed Pipe Crew		86	HR	1.000	1.000	86	WKB 56.93	4,896	---	---	---	---	---	---	---	---	56.93	4,896
Adjustments		1.00	LS	---	---	103	62.01	6,387	---	---	---	---	---	---	---	---	---	6,387
Pipe Testing		1	LS															

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AWRF **AWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location **Chandler, AZ, USA**

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	- 42" STL Header						1.00 EA											
	- 16" DIP Pump Effluent						2.00 EA											
	- Full System Test						1.00 EA											
	Total System Test						4.00 EA											
	-Full Day Test																	
	Pipe Fitter Foreman	4 EA		0.125	8.000	32	FM9 87.71	2,807	---	---	---	---	---	---	---	---	701.64	2,807
	Exposed Pipe Crew	4 EA		0.031	32.000	128	MX8 56.55	7,239	---	---	---	---	---	---	---	---	1,809.72	7,239
	Comp 185 CFM Diesel	4 EA		0.125	8.000	---	---	---	42.87	1,372	---	---	---	---	---	---	342.96	1,372
	Pipe Testing	1.00 LS		---	---	160	62.78	10,045	---	1,372	---	---	---	---	---	---	---	11,417
	Forklift, RT 10,000# Reach	1 LS																
	42" STL Header						97.00 HR											
	16" DI Pump Effluent						24.00 HR											
	Total Forklift Hours					121	1.00 HR											
	Forklift, RT 10,000# Reach	121 HR		1.000	1.000	121	OP2 56.93	6,888	127.36	15,410	---	---	---	---	---	---	184.28	22,298
	Forklift, RT 10,000# Reach	1.00 LS		---	---	121	56.93	6,888	---	15,410	---	---	---	---	---	---	---	22,298
	Crane 70 ton+travel and setup (Operated)	1 LS																
	Heaviest Pick - 42" STL 24'0" FLGxFLG Spool -				11,340		lbs.											
	Heaviest Pick						11,340.00 LBS											
	Headache Ball						573.00 LBS											
	Safety Factor						1.20 LBS											
	Total Pick						14,296.00 LBS											
	Crane 70 ton+travel and setup																	

AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location **Chandler, AZ, USA**

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Boom Length					60.00	LF											
	Swing Radius					40.00	LF											
	Rating @ 60' Boom w/ 40' Swing					18,200.00	LBS											
	80% Safety Factor					14,560.00	LBS											
	42" STL Header					32.00	HR											
	Total Crane Hours					32.00	HR											
	Crane 70 ton+travel and setup (Operated)	32	HR	---	---	---	---	---	---	---	275.00	8,800	---	---	---	---	275.00	8,800
	Surcharge	4	EA	---	---	---	---	---	---	---	632.00	2,528	---	---	---	---	632.00	2,528
	Mob-IN/Mob-Out	4	EA	---	---	---	---	---	---	---	550.00	2,200	---	---	---	---	550.00	2,200
	Crane 70 ton+travel and setup (Oper	1.00	LS	---	---	---	---	---	---	---	---	13,528	---	---	---	---	---	13,528
	Install Piping (Exposed)	1.00	LS	---	---	1,079	61.59	66,453	---	16,782	---	13,528	---	---	---	---	---	96,763
	Piping Subs	1	LS															
	Pipe Welding	1	LS															
	Vic's Welding 8376 N. El Mirage Rd. Building 3 El Mirage, AZ 85335 (623) 925-5696																	
	PCL Assist																	
	42" Adjustment Weld					1.00	EA		21.549		22.00		2,880.00			2,880.00		
	42" Slip-On Flange					1.00	EA		21.549		22.00		1,920.00			1,920.00		
	Total										44.00					4,800.00		
	Exposed Pipe Weld Sub	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	---	4,800	4,800
	Assist Pipe Welder																	

AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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AWRF	AWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Pipe Fitter Foreman	44	HR	1.000	1.000	44	FM9 87.71	3,859	---	---	---	---	---	---	---	---	87.71	3,859
	Exposed Pipe Crew	44	HR	1.000	1.000	44	WK8 56.93	2,505	---	---	---	---	---	---	---	---	56.93	2,505
	Pipe Welding	1.00	LS	---	---	88	72.32	6,364	---	---	---	---	---	---	---	4,800	---	11,164
	Piping Subs	1.00	LS	---	---	88	72.32	6,364	---	---	---	---	---	---	---	4,800	---	11,164
	Exposed Pipe	1.00	LS	---	---	1,287	62.54	80,486	---	18,820	---	35,816	---	257,759	---	4,800	---	397,681
	DIVISION 15 - MECHANICAL	1.00	LS	---	---	1,287	62.54	80,486	---	18,820	---	35,816	---	257,759	---	4,800	---	397,681
	DIV 16/17 - ELECTRICAL AND I&C	1	LS															
	Electrical Supply & Install (AWRF)	1	LS															
	Ludvik Electric																	
	Electrical Supply & Install	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	1,334,470	---	1,334,470
	Electrical Supply & Install (AWRF)	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	1,334,470	---	1,334,470
	DIV 16/17 - ELECTRICAL AND I&C	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	1,334,470	---	1,334,470
	AWRF ON SITE IMPROVEMENTS	1.00	LS	---	---	10,168	64.59	656,804	---	755,432	---	313,744	---	1,160,209	---	1,845,596	---	4,731,785

AWRF	AWRF ON SITE IMPROVEMENTS	1.00
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PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

Tony Spera

Proprietary and Confidential

OWRF	OWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit
DIVISION 1 - GENERAL REQUIREMENTS		1	LS														
SWPPP/Dust Control		1	LS														
Install SWPPP																	
	SWPPP Permit	1	LS	---	---	---	---	---	---	---	1,350	---	---	---	---	---	1,350
	Bckho-Ldr Ct 420C 1.0cy	40	HR	1.000	1.000	40 ^{OP2}	56.93	2,277	70.23	2,809	---	---	---	---	---	127.15	5,086
2	Labor	40	HR	1.000	1.000	80 ^{LG3}	46.17	3,694	---	---	---	---	---	---	---	92.34	3,694
	Foreman	40	HR	1.000	1.000	40 ^{FMB}	87.71	3,508	---	---	---	---	---	---	---	87.71	3,508
	Materials	1	LS	---	---	---	---	---	---	---	7,000	---	---	---	---	---	7,000
Maintain SWPPP																	
	Bckho-Ldr Ct 420C 1.0cy	80	HR	1.000	1.000	80 ^{OP2}	56.93	4,554	70.23	5,618	---	---	---	---	---	127.15	10,172
2	Labor	80	HR	1.000	1.000	160 ^{LG3}	46.17	7,387	---	---	---	---	---	---	---	92.34	7,387
	Foreman	80	HR	1.000	1.000	80 ^{FMB}	87.71	7,016	---	---	---	---	---	---	---	87.71	7,016
	Materials	1	LS	---	---	---	---	---	---	---	3,500	---	---	---	---	---	3,500
Dust Control																	
	Dust Control Permit	1	LS	---	---	---	---	---	---	---	2,000	---	---	---	---	---	2,000
	Trc Water-TA 2000 Gal -O	4.37	MO	1.000	1.000	757 ^{OP2}	56.93	43,119	47.18	35,668	---	---	---	---	---	18,028.91	78,786
	Standpipe (6" J-Stand)	6	MO	1.000	1.000	---	---	---	3.50	3,636	---	---	---	---	---	606.00	3,636
2	6"x50' Layflat Hose-Camlock	6	MO	1.000	1.000	---	---	---	1.69	3,516	---	---	---	---	---	586.00	3,516
	6"vicx6" Female Camlock Adapter	6	MO	1.000	1.000	---	---	---	0.0607	63	---	---	---	---	---	10.50	63
	6" Camlock x 2.5" MPT Adapter	6	MO	1.000	1.000	---	---	---	0.5202	540	---	---	---	---	---	90.00	540
	Delivery/Pick-up	2	EA	---	---	---	---	---	---	---	462.50	925	---	---	---	462.50	925
SWPPP/Dust Control		1.00	LS	---	---	1,237	57.82	71,555	---	51,850	---	14,775	---	---	---	---	138,180
Quality control		1	LS														

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OWRF	OWRF ON SITE IMPROVEMENTS	1.00
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Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

OWRF	OWRF ON SITE IMPROVEMENTS	1.00	LS
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Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Compaction QC Technician					44.00	HR		2728.000									
	Concrete QC Technician					12.00	HR		744.000									
	Asphalt QC Technician					4.00	HR		248.000									
	Technician Trip Charges					16.00	EA		560.000									
	Gradation					1.00	EA		130.000									
	Concrete Cylinders (3 EA Pours)					3.00	EA		240.000									
	Project Management, Reports, and all other price associated with QC Testing Requirements					1.00	LS		0.000	4650.000								
	RAMM																	
	Quality Control SUB	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	4,650	---	4,650
	Quality control	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	4,650	---	4,650
	Survey	1	LS															
	Survey & As-Built Documentation																	
	Survey for OWRF																	
	PCL Survey Equipment	4	MO	1.000	1.000	---	---	---	15.51	10,732	---	---	---	---	---	---	2,682.96	10,732
	Control Points & Benchmarks					1.00	LS									1,600.00		
	Staking for buried pipe install					1.00	LS									800.00		
	Staking for structural concrete					1.00	LS									800.00		
	Staking for earthwork (cuts/fills)					1.00	LS									1,600.00		
	As-Builts New Pipe & Electrical					1.00	LS									2,400.00		
	Re-Staking					1.00	LS									2,000.00		
	Lemme Associates AZ															9,200.00		
	Survey (SUB)	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	9,200	---	9,200
	Survey	1.00	LS	---	---	---	---	---	---	10,732	---	---	---	---	---	9,200	---	19,932
	Support Equipment	1	LS															

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OWRF	OWRF ON SITE IMPROVEMENTS	1.00
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PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

Tony Spera

OWRF OWRF ON SITE IMPROVEMENTS 1.00 LS

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Forklift, RT 10,000# Reach (IDLE)	4.80	MO	1.000	1.000	---	---	---	88.09	73,148	---	---	---	---	---	---	15,239.08	73,148
	Support Equipment	1.00	LS	---	---	---	---	---	---	73,148	---	---	---	---	---	---	---	73,148
	Field Supervision	1	LS															
	Assistant Superintendent	6	MO	1.000	1.000	1,040	105.17	109,377	42.07	43,663	---	---	---	---	---	---	25,506.70	153,040
	Cellular Billing; Field Mgmt.	6	MO	---	---	---	---	---	---	---	150.00	900	---	---	---	---	150.00	900
	Computer Equipment, Field Mgmt.	6	MO	---	---	---	---	---	---	---	250.00	1,500	---	---	---	---	250.00	1,500
	Field Supervision	1.00	LS	---	---	1,040	105.17	109,377	---	43,663	---	2,400	---	---	---	---	---	155,440
	Dumpster	6	MO	---	---	---	---	---	---	---	800.00	4,800	---	---	---	---	800.00	4,800
	DIVISION 1 - GENERAL REQUIRE	1.00	LS	---	---	2,277	79.44	180,932	---	179,393	---	21,975	---	---	---	13,850	---	396,150
	DIVISION 2 - SITE WORK	1	LS															
	Site Preparation	10,000	SF															
	Laydown/Restore																	
	Laydown Yard	10,000	SF															
	Assume no clear and grub. Only restore																	
	Restore Site																	
	Purchase DG	120	TN	---	---	---	---	---	---	---	---	---	33.50	4,020	---	---	33.50	4,020
	Labor Group 3	10,000	SF	833.000	0.001	12	46.17	554	---	---	---	---	---	---	---	---	0.055426	554
	Ldr 950G RT w/GP-4.0cy	10,000	SF	833.000	0.001	12	56.93	683	79.46	954	---	---	---	---	---	---	0.163728	1,637
	Cat 416F2 IL Skiploader-0	10,000	SF	833.000	0.001	12	56.93	683	78.68	945	---	---	---	---	---	---	0.162789	1,628
	Trc Water-TA 2000 Gal -O	10,000	SF	833.000	0.001	12	56.93	683	47.18	566	---	---	---	---	---	---	0.124974	1,250
	Laydown Yard	10,000.00	SF	208.250	0.005	48	54.24	2,604	0.246479	2,465	---	---	0.402000	4,020	---	---	0.908917	9,089

OWRF OWRF ON SITE IMPROVEMENTS 1.00

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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location **Chandler, AZ, USA**

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

OWRF	OWRF ON SITE IMPROVEMENTS	1.00	LS
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Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Site Preparation	10,000.00	SF	208.250	0.005	48	54.24	2,604	0.246479	2,465	---	---	0.402000	4,020	---	---	0.908917	9,089
	Perimeter Fencing	1	LS															
	Area: OWRF																	
	Remove Existing Fence, Supply & Install New Fencing /Posts/Barbwire																	
	16 LF (For Electrical Ductbank Installation)																	
	Liberty Fence & Supply																	
	Fencing Sub	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	1,500
	Perimeter Fencing	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	1,500	---	1,500
	Earthwork	1	LS															
	SOG Earthwork	1	LS															
	SOG Ex	88	CY															
	Intel Pad					88.00	CY											
	Labor Fmn.	88	CY	7.330	0.136	12	FM8 87.71	1,053	---	---	---	---	---	---	---	---	11.97	1,053
	2 Labor Group 3	88	CY	7.330	0.136	24	LG3 46.17	1,109	---	---	---	---	---	---	---	---	12.60	1,109
	Bckho 316EL .68cy -O	88	CY	7.330	0.136	12	OP2 56.93	683	142.67	1,713	---	---	---	---	---	---	27.23	2,396
	Ldr 950G RT w/GP-4.0cy	88	CY	7.330	0.136	12	OP2 56.93	683	79.46	954	---	---	---	---	---	---	18.61	1,637
	Trc Water-TA 2000 Gal -O	88	CY	7.330	0.136	12	OP2 56.93	683	47.18	566	---	---	---	---	---	---	14.20	1,250
	SOG Ex	88.00	CY	1.222	0.819	72	58.47	4,212	36.74	3,233	---	---	---	---	---	---	84.60	7,445
	ABC Subgrade	56	CY															
	Intel Pad					50.00	Cy											
	Compaction Factor of 1.12					56.00												
	Purchase ABC	112	TN	---	---	---	---	---	---	---	---	---	21.25	2,380	---	---	21.25	2,380
	Labor Fmn.	56	CY	7.000	0.143	8	FM8 87.71	702	---	---	---	---	---	---	---	---	12.53	702

OWRF	OWRF ON SITE IMPROVEMENTS	1.00
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PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

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Tony Spera

OWRF **OWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
2	Labor Group 3	56	CY	7.000	0.143	16	LG3 46.17	739	---	---	---	---	---	---	---	---	13.19	739
	Bckho 316EL .68cy -O	56	CY	7.000	0.143	8	OP2 56.93	455	142.67	1,141	---	---	---	---	---	---	28.51	1,597
	Ldr 950G RT w/GP-4.0cy	56	CY	7.000	0.143	8	OP2 56.93	455	79.46	636	---	---	---	---	---	---	19.48	1,091
	Trc Water-TA 2000 Gal -O	56	CY	7.000	0.143	8	OP2 56.93	455	47.18	377	---	---	---	---	---	---	14.87	833
	Trench Compactor 24"-33"	56	CY	7.000	0.143	---	---	---	145.51	1,164	---	---	---	---	---	---	20.79	1,164
ABC Subgrade		56.00	CY	1.167	0.857	48	58.47	2,807	59.26	3,319	---	---	42.50	2,380	---	---	151.88	8,505
SOG Backfill		28	CY															
	Intel Pad						25.00 CY											
	Compaction Factor of 1.12						28.00											
	Labor Fmn.	28	CY	3.125	0.320	9	FMB 87.71	786	---	---	---	---	---	---	---	---	28.07	786
2	Labor Group 3	28	CY	3.125	0.320	18	LG3 46.17	827	---	---	---	---	---	---	---	---	29.55	827
	Bckho 316EL .68cy -O	28	CY	3.125	0.320	9	OP2 56.93	510	142.67	1,278	---	---	---	---	---	---	63.87	1,788
	Ldr 950G RT w/GP-4.0cy	28	CY	3.125	0.320	9	OP2 56.93	510	79.46	712	---	---	---	---	---	---	43.64	1,222
	Trc Water-TA 2000 Gal -O	28	CY	3.125	0.320	9	OP2 56.93	510	47.18	423	---	---	---	---	---	---	33.31	933
	Trench Compactor 24"-33"	28	CY	3.125	0.320	---	---	---	145.51	1,304	---	---	---	---	---	---	46.56	1,304
SOG Backfill		28.00	CY	0.521	1.920	54	58.47	3,143	132.74	3,717	---	---	---	---	---	---	245.00	6,860
SOG Earthwork		1.00	LS	---	---	174	58.47	10,162	---	10,269	---	---	---	2,380	---	---	---	22,810
Remove Rip Rap		20	CY															
	Labor Fmn.	20	CY	2.500	0.400	8	FMB 87.71	702	---	---	---	---	---	---	---	---	35.08	702
2	Labor Group 3	20	CY	2.500	0.400	16	LG3 46.17	739	---	---	---	---	---	---	---	---	36.94	739
	Bckho 324DL 1.5CY -O	20	CY	2.500	0.400	8	OP2 56.93	455	155.91	1,247	---	---	---	---	---	---	85.13	1,703
	BCKHO 324DL Claw	20	CY	2.500	0.400	---	---	---	155.91	1,247	---	---	---	---	---	---	62.37	1,247
	Ldr 950G RT w/GP-4.0cy	20	CY	2.500	0.400	8	OP2 56.93	455	79.46	636	---	---	---	---	---	---	54.55	1,091
	Trc Water-TA 2000 Gal -O	20	CY	2.500	0.400	8	OP2 56.93	455	47.18	377	---	---	---	---	---	---	41.64	833
Remove Rip Rap		20.00	CY	0.417	2.400	48	58.47	2,807	175.38	3,508	---	---	---	---	---	---	315.71	6,314

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OWRF **OWRF ON SITE IMPROVEMENTS** **1.00**



PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

Tony Spera

Proprietary and Confidential

OWRF	OWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Rip Rap Swale	609	SF															
	Ex Rip Rap Swale	42	CY															
	Labor Fmn.	42	CY	5.250	0.190	8	FM8 87.71	702	---	---	---	---	---	---	---	---	16.71	702
2	Labor Group 3	42	CY	5.250	0.190	16	LG3 46.17	739	---	---	---	---	---	---	---	---	17.59	739
	Bckho 316EL .68cy -O	42	CY	5.250	0.190	8	OP2 56.93	455	142.67	1,141	---	---	---	---	---	---	38.02	1,597
	Ldr 950G RT w/GP-4.0cy	42	CY	5.250	0.190	8	OP2 56.93	455	79.46	636	---	---	---	---	---	---	25.98	1,091
	Trc Water-TA 2000 Gal -O	42	CY	5.250	0.190	8	OP2 56.93	455	47.18	377	---	---	---	---	---	---	19.83	833
	Ex Rip Rap Swale	42.00	CY	0.875	1.143	48	58.47	2,807	51.30	2,154	---	---	---	---	---	---	118.12	4,961
	Rough Grade Rip Rap Swale	609	SF															
	Labor Fmn.	609	SF	50.750	0.020	12	FM8 87.71	1,052	---	---	---	---	---	---	---	---	1.73	1,052
2	Labor Group 3	609	SF	50.750	0.020	24	LG3 46.17	1,108	---	---	---	---	---	---	---	---	1.82	1,108
	Bckho 316EL .68cy -O	609	SF	50.750	0.020	12	OP2 56.93	683	142.67	1,712	---	---	---	---	---	---	3.93	2,395
	Skidsteer Ldr Cat 246C	609	SF	50.750	0.020	12	OP2 56.93	683	56.36	676	---	---	---	---	---	---	2.23	1,359
	Trc Water-TA 2000 Gal -O	609	SF	50.750	0.020	12	OP2 56.93	683	47.18	566	---	---	---	---	---	---	2.05	1,249
	Trench Compactor 24"-33"	609	SF	50.750	0.020	---	---	---	145.51	1,746	---	---	---	---	---	---	2.87	1,746
	Rough Grade Rip Rap Swale	609.00	SF	8.458	0.118	72	58.47	4,210	7.72	4,701	---	---	---	---	---	---	14.63	8,911
	Rip Rap Swale	609.00	SF	5.075	0.197	120	58.47	7,016	11.26	6,855	---	---	---	---	---	---	22.78	13,872
	Rough Grade Swale	320	LF															
	Labor Fmn.	320	LF	10.000	0.100	32	FM8 87.71	2,807	---	---	---	---	---	---	---	---	8.77	2,807
	Labor Group 3	320	LF	10.000	0.100	32	LG3 46.17	1,477	---	---	---	---	---	---	---	---	4.62	1,477
	Bckho 316EL .68cy -O	320	LF	10.000	0.100	32	OP2 56.93	1,822	142.67	4,566	---	---	---	---	---	---	19.96	6,387
	Skidsteer Ldr Cat 246C	320	LF	10.000	0.100	32	OP2 56.93	1,822	56.36	1,804	---	---	---	---	---	---	11.33	3,625
	Trc Water-TA 2000 Gal -O	320	LF	10.000	0.100	32	OP2 56.93	1,822	47.18	1,510	---	---	---	---	---	---	10.41	3,331

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OWRF	OWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

Proprietary and Confidential

OWRF	OWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Rough Grade Swale	320.00	LF	2.000	0.500	160	60.93	9,749	24.62	7,879	---	---	---	---	---	---	55.09	17,628
	Rough Grade Site	6,784	SF															
	Site Cut					133.00		CY										
	Labor Group 3	6,784	SF	212.000	0.005	32	LG3 46.17	1,477	---	---	---	---	---	---	---	---	0.217783	1,477
	Cat 416F2 IL Skiploader-0	6,784	SF	212.000	0.005	32	OP2 56.93	1,822	78.68	2,518	---	---	---	---	---	---	0.639636	4,339
	Skidsteer Ldr Cat 246C	6,784	SF	212.000	0.005	32	OP2 56.93	1,822	56.36	1,804	---	---	---	---	---	---	0.534385	3,625
	Trc Water-TA 2000 Gal -O	6,784	SF	212.000	0.005	32	OP2 56.93	1,822	47.18	1,510	---	---	---	---	---	---	0.491055	3,331
	Rough Grade Site	6,784.00	SF	53.000	0.019	128	54.24	6,942	0.859534	5,831	---	---	---	---	---	---	1.88	12,773
	Dirt Haul Off	207	CY															
	TOTAL HAUL OFF					207.00		CY										
	Haul Off Trucking	32	HR	---	---	---	---	---	---	---	---	---	---	---	135.00	4,320	135.00	4,320
	Dump Fees	16	LD	---	---	---	---	---	---	---	75.00	1,200	---	---	---	---	75.00	1,200
	Ldr 950G RT w/GP-4.0cy	8	HR	1.000	1.000	8	OP2 56.93	455	79.46	636	---	---	---	---	---	---	136.39	1,091
	Dirt Haul Off	207.00	CY	25.875	0.039	8	56.93	455	3.07	636	5.80	1,200	---	---	20.87	4,320	31.94	6,611
	Earthwork	1.00	LS	---	---	638	58.22	37,131	---	34,977	---	1,200	---	2,380	---	4,320	---	80,008
	Paving and Grading	378	SF															
	Asphalt Removal	378	SF															
	TOTAL SF					378.00		SF										
	TOTAL SY					42.00		SY										
	TOTAL CY					5.00		CY										

OWRF	OWRF ON SITE IMPROVEMENTS	1.00
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PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

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Oct 24, 2023
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Tony Spera

OWRF OWRF ON SITE IMPROVEMENTS 1.00 LS

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	4" Thick existing asphalt thickness. Curb to Curb																	
	Saw Cut Subcontractor	102	LF	---	---	---	---	---	---	---	---	---	---	---	0.900000	92	0.900000	92
	Sawcut Sub Mob	1	EA	---	---	---	---	---	---	---	---	---	---	---	350.00	350	350.00	350
	Removal based on Pipe Zone Only Excavation/Removal of Asphalt & Native Excavate and Remove Asphalt 4".																	
	Labor Fmn.	378	SF	50.000	0.020	8	FM8 87.71	663	---	---	---	---	---	---	---	---	1.75	663
2	Labor Group 3	378	SF	50.000	0.020	15	LG3 46.17	698	---	---	---	---	---	---	---	---	1.85	698
	Bckho 324DL 1.5CY -O	378	SF	50.000	0.020	8	OP2 56.93	430	155.91	1,179	---	---	---	---	---	---	4.26	1,609
	Ldr 966G RT w/GP-4.5cy -O	378	SF	50.000	0.020	8	OP2 56.93	430	117.01	885	---	---	---	---	---	---	3.48	1,315
	Trc Water-TA 2000 Gal -O	378	SF	50.000	0.020	8	OP2 56.93	430	47.18	357	---	---	---	---	---	---	2.08	787
	TOTAL HAUL OFF 13 CY/LD per truck = .25 hour of loading time at Trench. 30 minute drive time + 15 minutes at dump + 15 minutes at agg site = 1 hours neat roundtrip Based off 3 Trucks.						6.00 CY											
	Haul Off Trucking	2	HR	---	---	---	---	---	---	---	---	---	---	---	135.00	270	135.00	270
	Dump Fees	1	LD	---	---	---	---	---	---	---	75.00	75	---	---	---	---	75.00	75
	Ldr 966G RT w/GP-4.5cy -O	1	HR	1.000	1.000	1	OP2 56.93	57	117.01	117	---	---	---	---	---	---	173.94	174
Asphalt Removal		378.00	SF	8.154	0.123	46	58.44	2,709	6.71	2,537	0.198413	75	---	---	1.88	712	15.96	6,033
Subgrade Prep		378	SF															
	Clean Asphalt Edges, Get Subgrade to +or- 1", Move Excess ABC																	
	Subgrade prep based on Pipe Zone Only Rough Grade																	
	Labor Fmn.	378	SF	23.625	0.042	16	FM8 87.71	1,403	---	---	---	---	---	---	---	---	3.71	1,403
2	Labor Group 3	378	SF	23.625	0.042	32	LG3 46.17	1,477	---	---	---	---	---	---	---	---	3.91	1,477

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OWRF OWRF ON SITE IMPROVEMENTS 1.00



PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

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Tony Spera

OWRF OWRF ON SITE IMPROVEMENTS 1.00 LS

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Bckho-Ldr Ct 420C 1.0cy	378	SF	23.625	0.042	16	OP2 56.93	911	70.23	1,124	---	---	---	---	---	---	5.38	2,034
	Skidsteer Ldr Cat 246C	378	SF	23.625	0.042	16	OP2 56.93	911	56.36	902	---	---	---	---	---	---	4.80	1,813
	Cmpt SP Vib CAT 433C	378	SF	23.625	0.042	---	---	---	203.23	3,252	---	---	---	---	---	---	8.60	3,252
	Trc Water-TA 2000 Gal -O	378	SF	23.625	0.042	16	OP2 56.93	911	47.18	755	---	---	---	---	---	---	4.41	1,666
Subgrade Prep		378.00	SF	3.938	0.254	96	58.47	5,613	15.96	6,032	---	---	---	---	---	---	30.81	11,645
Ashpalt Paving		378	SF															
	4" AC Pavement on 8" AB																	
	Gonzalez Asphalt	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	7,240	---	7,240
Ashpalt Paving		378.00	SF	---	---	---	---	---	---	---	---	---	---	---	19.15	7,240	19.15	7,240
Paving and Grading		378.00	SF	2.655	0.377	142	58.46	8,322	22.67	8,569	0.198413	75	---	---	21.04	7,952	65.92	24,918
Landscaping		1	LS															
Landscaping Sub		1	LS															
	Supply and Install of DG					1.00	LS									25,200.00		
	Supply and Install of Rip Rap					1.00	LS									14,000.00		
	Supply/Install New Trees & Plants					1.00	LS									24,775.00		
	Supply/Install drip system					1.00	LS									6,000.00		
	Supply & Apply Herbicide					1.00	LS									2,000.00		
	Mobilization					1.00	LS									4,000.00		
	90 Day Maintenance Period					1.00	LS									3,000.00		
													Total			78,975.00		
Landscape Sub AAA		1	LS	---	---	---	---	---	---	---	---	---	---	---	---	78,975	---	78,975
Landscaping Sub		1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	78,975	---	78,975

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OWRF OWRF ON SITE IMPROVEMENTS 1.00



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location **Chandler, AZ, USA**

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

Proprietary and Confidential

OWRF	OWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price		
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
Remove Landscaping		17	EA															
Remove Trees and Bushes						17	1.00	ea										
2	Labor Group 3	17	EA	0.500	2.000	68	46.17	3,140	---	---	---	---	---	---	---	184.68	3,140	
	Bckho 324DL 1.5CY -O	17	EA	0.500	2.000	34	56.93	1,935	155.91	5,301	---	---	---	---	---	425.67	7,236	
	Ldr 966G RT w/GP-4.5cy -O	17	EA	0.500	2.000	34	56.93	1,935	117.01	3,978	---	---	---	---	---	347.88	5,914	
TOTAL HAUL OFF						4	1.00	LD										
	Haul Off Trucking	8	HR	---	---	---	---	---	---	---	---	---	---	135.00	1,080	135.00	1,080	
	Dump Fees	4	LD	---	---	---	---	---	---	75.00	300	---	---	---	---	75.00	300	
	Ldr 966G RT w/GP-4.5cy -O	2	HR	1.000	1.000	2	56.93	114	117.01	234	---	---	---	---	---	173.94	348	
Remove Landscaping		17.00	EA	0.123	8.118	138	51.63	7,124	559.61	9,513	17.65	300	---	---	63.53	1,080	1,059.86	18,018
Landscaping		1.00	LS	---	---	138	51.63	7,124	---	9,513	---	300	---	---	---	80,055	---	96,993
Yard Pipe Materials		1	LS															
Ferguson Waterworks																		
	Purchase Yard Pipe Materials	1	LS	---	---	---	---	---	---	---	---	73,428	---	---	---	---	73,428	
	Pipe Rigging STS	1	LS	---	---	---	---	---	---	---	500	---	---	---	---	---	500	
	Pipe Installation STS	1	LS	---	---	---	---	---	---	---	1,500	---	---	---	---	---	1,500	
	Testing STS	1	LS	---	---	---	---	---	---	---	1,000	---	---	---	---	---	1,000	
	Purchase Bedding/PZ Material (ABC)	134	TN	---	---	---	---	---	---	---	---	21.25	2,848	---	---	21.25	2,848	
TOTAL HAUL Off						16	1.00	CY										
13 CY/LD per truck = .5 hour of loading time at trench																		
1 hour drive time + .5 hour to dump = 2 hours neat roundtrip																		
Based off 3 Trucks.																		

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OWRF	OWRF ON SITE IMPROVEMENTS	1.00
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PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

Tony Spera

OWRF OWRF ON SITE IMPROVEMENTS 1.00 LS

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Haul Off Trucking	2	HR	---	---	---	---	---	---	---	135.00	270	---	---	---	---	135.00	270
	Dump Fees	1	LD	---	---	---	---	---	---	---	75.00	75	---	---	---	---	75.00	75
	Ldr 950G RT w/GP-4.0cy	1	HR	1.000	1.000	1	OP2 56.93	57	79.46	79	---	---	---	---	---	---	136.39	136
	Trench Protection/Equipment																	
	Trench box mob/demob					4.00	EA						215.00			860.00		
	Trench Protection (10x24)					2.00	MO						3,050.68			6,101.36		
	Speed Shoring					2.00	MO						575.04			1,150.08		
	Speed Shoring Pump					2.00	MO						74.52			149.04		
	Speed Shoring Misc					2.00	MO						89.88			179.76		
	Bridle					2.00	MO						148.92			297.84		
	Bedding Box (9 yard)					2.00	MO						711.85			1,423.70		
																10,161.78		
	Trench Protection	1	LS	---	---	---	---	---	---	---	---	10,162	---	---	---	---	---	10,162
	Trench Protection Assemble/Disassemble																	
2	Yard Pipe Crew	8	HR	1.000	1.000	16	WK1 56.93	911	---	---	---	---	---	---	---	---	113.85	911
	Ex Cat 336 (36mt)	8	HR	1.000	1.000	8	OP2 56.93	455	175.32	1,403	---	---	---	---	---	---	232.25	1,858
	Yard Pipe Materials	1.00	LS	---	---	25	56.93	1,423	---	1,482	---	13,507	---	76,275	---	---	---	92,687
	Production Pipe Subtotal	167	LF															
	Yard Pipe Foreman	1.25	MO	1.000	1.000	217	FM8 87.71	19,003	42.07	9,097	---	---	---	---	---	---	22,479.44	28,099
	Pothole @ Tie-In Location	4	EA															
	Tie in Potholes	2	EA															
	Hydro Air Ex (soft dig)	2	DAY	---	---	---	---	---	---	---	---	---	---	---	2,950.00	5,900	2,950.00	5,900
2	Yard Pipe Crew	2	EA	0.100	10.000	40	WK1 56.93	2,277	---	---	---	---	---	---	---	---	1,138.50	2,277
	Bckho 321DL 1.83cy -O	2	EA	0.100	10.000	20	OP2 56.93	1,139	130.73	2,615	---	---	---	---	---	---	1,876.56	3,753
	Tie in Potholes	2.00	EA	0.033	30.000	60	56.93	3,416	1,307.31	2,615	---	---	---	---	2,950.00	5,900	5,965.06	11,930

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OWRF OWRF ON SITE IMPROVEMENTS 1.00



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

OWRF	OWRF ON SITE IMPROVEMENTS	1.00	LS
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Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Pothole @ Tie-In Location	4.00	EA	0.067	15.000	60	56.93	3,416	653.65	2,615	---	---	---	---	1,475.00	5,900	2,982.53	11,930
	Unload & Handle	1	EA															
	Unload & Handle	8	HR	1.000	1.000	8	WK1 56.93	455	---	---	---	---	---	---	---	---	56.93	455
	Forklift, RT 10,000# Reach	4	HR	1.000	1.000	4	OP2 56.93	228	127.36	509	---	---	---	---	---	---	184.28	737
	Unload & Handle	1.00	EA	0.083	12.000	12	56.93	683	509.43	509	---	---	---	---	---	---	1,192.53	1,193
	RW 24"	167	LF															
	24" Rw line from Intel PRV Station to existing Intel piping Ductile iron pipe cement motor lined Restrained joints, Megalug fittings average Bury depth of 8' shored trench																	
	Dig / Lay / Bury	167	LF															
	Dig / Lay / Bury																	
	2 Yard Pipe Crew	167	LF	5.000	0.200	67	WK1 56.93	3,803	---	---	---	---	---	---	---	---	22.77	3,803
	Bckho 329EL 2.5CY -O	167	LF	5.000	0.200	33	OP2 56.93	1,901	165.45	5,526	---	---	---	---	---	---	44.47	7,427
	Ldr 950G RT w/GP-4.0cy	167	LF	5.000	0.200	33	OP2 56.93	1,901	79.46	2,654	---	---	---	---	---	---	27.28	4,555
	Trench Compactor 24"-33"-O	167	LF	5.000	0.200	---	---	---	145.51	4,860	---	---	---	---	---	---	29.10	4,860
	Trc Water-TA 2000 Gal -O	167	LF	5.000	0.200	33	OP2 56.93	1,901	47.18	1,576	---	---	---	---	---	---	20.82	3,477
	Dig / Lay / Bury	167.00	LF	1.000	1.000	167	56.93	9,506	87.52	14,616	---	---	---	---	---	---	144.44	24,122
	Risers	2	EA															
	2 Yard Pipe Crew	2	EA	0.500	2.000	8	WK1 56.93	455	---	---	---	---	---	---	---	---	227.70	455
	Bckho 329EL 2.5CY -O	2	EA	0.500	2.000	4	OP2 56.93	228	165.45	662	---	---	---	---	---	---	444.74	889
	Ldr 950G RT w/GP-4.0cy	2	EA	0.500	2.000	4	OP2 56.93	228	79.46	318	---	---	---	---	---	---	272.77	546
	Trench Compactor 24"-33"-O	2	EA	0.500	2.000	---	---	---	145.51	582	---	---	---	---	---	---	291.01	582
	Trc Water-TA 2000 Gal -O	2	EA	0.500	2.000	4	OP2 56.93	228	47.18	189	---	---	---	---	---	---	208.21	416

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OWRF	OWRF ON SITE IMPROVEMENTS	1.00
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PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

Tony Spera

Proprietary and Confidential

OWRF	OWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Risers	2.00	EA	0.100	10.000	20	56.93	1,139	875.18	1,750	---	---	---	---	---	---	1,444.43	2,889
	Utility Crossings	2	EA															
2	Yard Pipe Crew	2	EA	0.250	4.000	16	56.93	911	---	---	---	---	---	---	---	---	455.40	911
	Bckho 329EL 2.5CY -O	2	EA	0.250	4.000	8	56.93	455	165.45	1,324	---	---	---	---	---	---	889.48	1,779
	Ldr 950G RT w/GP-4.0cy	2	EA	0.250	4.000	8	56.93	455	79.46	636	---	---	---	---	---	---	545.54	1,091
	Trench Compactor 24"-33"-O	2	EA	0.250	4.000	---	---	---	145.51	1,164	---	---	---	---	---	---	582.02	1,164
	Trc Water-TA 2000 Gal -O	2	EA	0.250	4.000	8	56.93	455	47.18	377	---	---	---	---	---	---	416.41	833
	Crossing STS	1	LS	---	---	---	---	---	---	---	---	250	---	---	---	---	---	250
	Utility Crossings	2.00	EA	0.050	20.000	40	56.93	2,277	1,750.36	3,501	125.00	250	---	---	---	---	3,013.86	6,028
	Valve Adjustments	2	EA															
2	Yard Pipe Crew	2	EA	0.250	4.000	16	56.93	911	---	---	---	---	---	---	---	---	455.40	911
	Bckho-Ldr Ct 420C 1.0cy	2	EA	0.250	4.000	8	56.93	455	70.23	562	---	---	---	---	---	---	508.61	1,017
	Conc 3000 PSI	1	CY	---	---	---	---	---	---	---	---	---	163.00	163	---	---	163.00	163
	Valve Adjustments	2.00	EA	0.083	12.000	24	56.93	1,366	280.91	562	---	---	81.50	163	---	---	1,045.51	2,091
	Connections to Pipe/Structures	2	EA															
2	Yard Pipe Crew	2	EA	0.250	4.000	16	56.93	911	---	---	---	---	---	---	---	---	455.40	911
	Bckho 329EL 2.5CY -O	2	EA	0.250	4.000	8	56.93	455	165.45	1,324	---	---	---	---	---	---	889.48	1,779
	Connections to Pipe/Structures	2.00	EA	0.083	12.000	24	56.93	1,366	661.78	1,324	---	---	---	---	---	---	1,344.88	2,690
	Test	2	EA															
2	Yard Pipe Crew	2	EA	0.063	16.000	64	56.93	3,643	---	---	---	---	---	---	---	---	1,821.60	3,643
	Comp 185 CFM Diesel	2	EA	0.063	16.000	---	---	---	42.87	1,372	---	---	---	---	---	---	685.91	1,372
	Test	2.00	EA	0.031	32.000	64	56.93	3,643	685.91	1,372	---	---	---	---	---	---	2,507.51	5,015
	RW 24"	167.00	LF	0.493	2.030	339	56.93	19,298	138.47	23,124	1.50	250	0.976048	163	---	---	256.49	42,834
	Production Pipe Subtotal	167.00	LF	0.266	3.758	628	67.55	42,399	211.64	35,344	1.50	250	0.976048	163	35.33	5,900	503.33	84,056
	Valve Support	1	LS															
	Concrete Material	1	LS															

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OWRF	OWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

OWRF **OWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Conc.4000 Psi						2.00	CY										
	Conc.4000 Psi -Short Load	2	CY	---	---	---	---	---	---	---	---	---	225.00	450	---	---	225.00	450
	Conc.4000 Psi Waste 10% - Short Load	0.20	CY	---	---	---	---	---	---	---	---	---	225.00	45	---	---	225.00	45
	Enviromental Fees	1	LDS	---	---	---	---	---	---	---	---	---	25.00	25	---	---	25.00	25
	Fuel Surcharge	1	LDS	---	---	---	---	---	---	---	---	---	29.00	29	---	---	29.00	29
	Valve Support Pad Rebar Sub	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	750	---	750
	Valve Support Pad Form Ply 3/4"	24	SF	---	---	---	---	---	---	---	1.15	28	---	---	---	---	1.15	28
	Valve Support Pad Dimen. Lumber (2x4-2x10)	48	BF	---	---	---	---	---	---	---	0.800000	38	---	---	---	---	0.800000	38
	Conc. Placing Supplies	2	CY	---	---	---	---	---	---	---	3.03	6	---	---	---	---	3.03	6
	Valve Support Pad STS	1	LS	---	---	---	---	---	---	---	---	500	---	---	---	---	---	500
	Concrete Material	1.00	LS	---	---	---	---	---	---	---	---	572	---	549	---	750	---	1,871
	24" Valve Support Pad	1	EA															
	Pour (Form) Valve Support Pad	1	CY															
	Form Valve Support Pad	13	SF	0.800	1.250	16	MX1 57.96	942	---	---	---	---	---	---	---	---	72.45	942
	Pour Valve Support Pad	1	CY	0.250	4.000	4	MX7 58.78	235	---	---	---	---	---	---	---	---	235.12	235
	32 M 105' Boom	4	HR	---	---	---	---	---	---	---	150.00	600	---	---	---	---	150.00	600
	32 M 105' Boom	2	CY	---	---	---	---	---	---	---	3.25	7	---	---	---	---	3.25	7
	Travel Charge	1.50	HR	---	---	---	---	---	---	---	165.00	248	---	---	---	---	165.00	248
	Prime/Permit Fee	1	EA	---	---	---	---	---	---	---	65.00	65	---	---	---	---	65.00	65
	Energy Surcharge	1	EA	---	---	---	---	---	---	---	91.60	92	---	---	---	---	91.60	92
	Conc Bucket 1-1.5 cy	1	CY	2.000	0.500	---	---	---	9.34	5	---	---	---	---	---	---	4.67	5
	Pour (Form) Valve Support Pad	1.00	CY	0.049	20.250	20	58.12	1,177	4.67	5	1,010.60	1,011	---	---	---	---	2,192.22	2,192
	24" Valve Support Pad	1.00	EA	0.049	20.250	20	58.12	1,177	4.67	5	1,010.60	1,011	---	---	---	---	2,192.22	2,192
	20" Valve Support Pad	1	EA															

U01 STANDARD-LANDSCAPE-MASTER.RPT

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OWRF **OWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

Detail Page 50 of 74
Oct 24, 2023
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Tony Spera

OWRF **OWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
Pour (Form) Valve Support Pad		1 CY																
	Form Valve Support Pad	11 SF	0.700	1.429	16	MX1 57.96	911	---	---	---	---	---	---	---	---	---	82.80	911
	Pour Valve Support Pad	1 CY	0.250	4.000	4	MX7 58.78	235	---	---	---	---	---	---	---	---	---	235.12	235
	Conc Bucket 1-1.5 cy	1 CY	2.000	0.500	---	---	---	9.34	5	---	---	---	---	---	---	---	4.67	5
Pour (Form) Valve Support Pad		1.00 CY	0.051	19.714	20	58.13	1,146	4.67	5	---	---	---	---	---	---	---	1,150.57	1,151
20" Valve Support Pad		1.00 EA	0.051	19.714	20	58.13	1,146	4.67	5	---	---	---	---	---	---	---	1,150.57	1,151
Valve Support		1.00 LS	---	---	40	58.12	2,323	---	9	---	1,583	---	549	---	750	---	5,214	
Mopo's		4 EA																
Three days each Tie-in. A day to excavate and get prepared, a day to tie-in, and a day to backfill.																		
Tap Masters																		
	Hot tap Sub	1 LS	---	---	---	---	---	---	---	---	---	---	---	---	132,576	---	132,576	
	Manhole Box Rental	1 MO	---	---	---	---	---	---	---	829.17	829	---	---	---	---	---	829.17	829
24" Hot tap		1 LS																
24" Hot tap Excavate/prep																		
	Hydro Air Ex (soft dig)	3 DAY	---	---	---	---	---	---	---	---	---	---	---	2,950.00	8,850	2,950.00	8,850	
2	Yard Pipe Crew	1 EA	0.033	30.000	60	WK1 56.93	3,416	---	---	---	---	---	---	---	---	---	3,415.50	3,416
	Bckho 329EL 2.5CY -O	1 EA	0.033	30.000	30	OP2 56.93	1,708	165.45	4,963	---	---	---	---	---	---	---	6,671.11	6,671
	Trc Water-TA 2000 Gal -O	1 EA	0.033	30.000	30	OP2 56.93	1,708	47.18	1,415	---	---	---	---	---	---	---	3,123.11	3,123
24" Hot Tap Support																		
2	Yard Pipe Crew	1 EA	0.125	8.000	16	WK1 56.93	911	---	---	---	---	---	---	---	---	---	910.80	911
	Bckho 329EL 2.5CY -O	1 EA	0.125	8.000	8	OP2 56.93	455	165.45	1,324	---	---	---	---	---	---	---	1,778.96	1,779
	Ldr 950G RT w/GP-4.0cy	1 EA	0.125	8.000	8	OP2 56.93	455	79.46	636	---	---	---	---	---	---	---	1,091.08	1,091
	Trench Compactor 24"-33"-O	1 EA	0.125	8.000	---	---	---	145.51	1,164	---	---	---	---	---	---	---	1,164.05	1,164
	Trc Water-TA 2000 Gal -O	1 EA	0.125	8.000	8	OP2 56.93	455	47.18	377	---	---	---	---	---	---	---	832.83	833

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OWRF **OWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location **Chandler, AZ, USA**

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

OWRF **OWRF ON SITE IMPROVEMENTS** **1.00** **LS**

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	24" Hot tap	1.00	LS	---	---	160	56.93	9,108	---	9,879	---	---	---	---	---	8,850	---	27,837
	20" Hot tap	1	LS															
	20" Hot tap Excavate/prep																	
	Hydro Air Ex (soft dig)	3	DAY	---	---	---	---	---	---	---	---	---	---	---	2,950.00	8,850	2,950.00	8,850
2	Yard Pipe Crew	1	EA	0.033	30.000	60	56.93	3,416	---	---	---	---	---	---	---	---	3,415.50	3,416
	Bckho 329EL 2.5CY -O	1	EA	0.033	30.000	30	56.93	1,708	165.45	4,963	---	---	---	---	---	---	6,671.11	6,671
	Trc Water-TA 2000 Gal -O	1	EA	0.033	30.000	30	56.93	1,708	47.18	1,415	---	---	---	---	---	---	3,123.11	3,123
	20" Hot Tap Support																	
2	Yard Pipe Crew	1	EA	0.125	8.000	16	56.93	911	---	---	---	---	---	---	---	---	910.80	911
	Bckho 329EL 2.5CY -O	1	EA	0.125	8.000	8	56.93	455	165.45	1,324	---	---	---	---	---	---	1,778.96	1,779
	Ldr 950G RT w/GP-4.0cy	1	EA	0.125	8.000	8	56.93	455	79.46	636	---	---	---	---	---	---	1,091.08	1,091
	Trench Compactor 24"-33"-O	1	EA	0.125	8.000	---	---	---	145.51	1,164	---	---	---	---	---	---	1,164.05	1,164
	Trc Water-TA 2000 Gal -O	1	EA	0.125	8.000	8	56.93	455	47.18	377	---	---	---	---	---	---	832.83	833
	20" Hot tap	1.00	LS	---	---	160	56.93	9,108	---	9,879	---	---	---	---	---	8,850	---	27,837
	Mopo's	4.00	EA	0.013	80.000	320	56.93	18,216	4,939.72	19,759	207.29	829	---	---	37,569.00	150,276	47,270.01	189,080
	Flushing	1	LS															
	Temporary Pipe/Fittings	1	LS	---	---	---	---	---	---	---	---	24,080	---	---	---	---	---	24,080
2	Yard Pipe Crew	3	EA	0.125	8.000	48	56.93	2,732	---	---	---	---	---	---	---	---	910.80	2,732
	Bckho 324DL 1.5CY -O	3	EA	0.125	8.000	24	56.93	1,366	155.91	3,742	---	---	---	---	---	---	1,702.66	5,108
	Ldr 950G RT w/GP-4.0cy	3	EA	0.125	8.000	24	56.93	1,366	79.46	1,907	---	---	---	---	---	---	1,091.08	3,273
	Trench Compactor 24"-33"-O	3	EA	0.125	8.000	---	---	---	145.51	3,492	---	---	---	---	---	---	1,164.05	3,492
	Trc Water-TA 2000 Gal -O	3	EA	0.125	8.000	24	56.93	1,366	47.18	1,132	---	---	---	---	---	---	832.83	2,498
	Pump 6" Elec Submers -O	24	HR	1.000	1.000	---	---	---	17.52	420	---	---	---	---	---	---	17.52	420

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OWRF **OWRF ON SITE IMPROVEMENTS** **1.00**



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location **Chandler, AZ, USA**

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Oct 24, 2023
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Tony Spera

OWRF	OWRF ON SITE IMPROVEMENTS	1.00	LS
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Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price		
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Ironclad Environmental	1	LS	---	---	---	---	---	---	---	---	---	---	25,478	---	25,478		
	Flushing	1.00	LS	---	---	120	56.93	6,831	---	10,694	---	24,080	---	---	25,478	---	67,082	
	DIVISION 2 - SITE WORK	1.00	LS	---	---	2,099	60.21	126,374	---	122,812	---	41,824	---	83,387	---	276,230	---	650,628
	DIVISION 3 - CONCRETE	33	CY															
	Sub Grade Prep	706	SF															
	Quantities					706.00												
3	Foundation Prep	706	SF	130.000	0.008	16	46.17	752	---	---	---	---	---	---	---	1.07	752	
	Bckho-Ldr Ct 420C 1.0cy	706	SF	130.000	0.008	5	56.93	309	70.23	381	---	---	---	---	---	0.978098	691	
	Trench Compactor 24"-33"	706	SF	130.000	0.008	---	---	---	145.51	790	---	---	---	---	---	1.12	790	
	Sub Grade Prep	706.00	SF	32.500	0.031	22	48.86	1,061	1.66	1,172	---	---	---	---	---	3.16	2,233	
	Concrete Formwork	282	SF															
	Fab Formwork	236	SF															
	Fab SOG & Ftg Forms	236	SF															
	Fab SOG Forms (Stick Built)					236.00												
	Fab SOG Forms	236	SF	8.000	0.125	30	56.93	1,679	---	---	---	---	---	---	---	7.12	1,679	
	Form Ply 3/4"	259.60	SF	---	---	---	---	---	---	---	1.15	299	---	---	---	1.15	299	
	Dimen. Lumber (2x4-2x10)	519.20	BF	---	---	---	---	---	---	---	0.800000	415	---	---	---	0.800000	415	
	Form Hardware	236	SF	---	---	---	---	---	---	---	0.300000	71	---	---	---	0.300000	71	
	Fab SOG & Ftg Forms	236.00	SF	8.000	0.125	30	56.93	1,679	---	---	3.33	785	---	---	---	10.44	2,464	
	Fab Formwork	236.00	SF	8.000	0.125	30	56.93	1,679	---	---	3.33	785	---	---	---	10.44	2,464	

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OWRF	OWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

OWRF OWRF ON SITE IMPROVEMENTS 1.00 LS

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit
Erect and Strip Formwork		282 SF															
Totals Formwork						282.00	SF										
	Form Oil	282 SF	---	---	---	---	---	---	---	0.030000	8	---	---	---	---	0.030000	8
	Erect and Strip Supplies	282 SF	---	---	---	---	---	---	---	0.250000	71	---	---	---	---	0.250000	71
1. OWRF		282 SF															
1. OWRF						282.00											
	SOGs 1' w/1.75 edge	236 SF	1.750	0.571	135	WKS 56.93	7,677	---	---	---	---	---	---	---	---	32.53	7,677
	SOG CJ	46 SF	1.500	0.667	31	WKS 56.93	1,746	---	---	---	---	---	---	---	---	37.95	1,746
1. OWRF		282.00 SF	1.704	0.587	166	56.93	9,423	---	---	---	---	---	---	---	---	33.42	9,423
Loose Formwork		46 SF															
Bulkhead Mtls: Misc						46.00											
	Form Ply 3/4"	46 SF	---	---	---	---	---	---	---	1.15	53	---	---	---	---	1.15	53
	Dimen. Lumber (2x4-2x10)	202.40 BF	---	---	---	---	---	---	---	0.800000	162	---	---	---	---	0.800000	162
Loose Formwork		46.00 SF	---	---	---	---	---	---	---	4.67	215	---	---	---	---	4.67	215
Erect and Strip Formwork		282.00 SF	1.704	0.587	166	56.93	9,423	---	---	1.04	294	---	---	---	---	34.46	9,717
Concrete Formwork		282.00 SF	1.446	0.692	195	56.93	11,103	---	---	3.82	1,078	---	---	---	---	43.20	12,181
03300 Cast In Place Concrete		33 CY															
Concrete Materials		35 CY															
TOTAL CONCRETE						33.00	Cy										
CONC BASE BID						33.00											
	Conc.4000 Psi	33 CY	---	---	---	---	---	---	---	---	---	182.00	6,006	---	---	182.00	6,006

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OWRF OWRF ON SITE IMPROVEMENTS 1.00



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

OWRF	OWRF ON SITE IMPROVEMENTS	1.00	LS
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Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Conc.4000 Psi Waste 5%	2	CY	---	---	---	---	---	---	---	---	---	182.00	364	---	---	182.00	364
	Enviromental Fees	3	LDS	---	---	---	---	---	---	---	---	---	25.00	75	---	---	25.00	75
	Fuel Surcharge	3	LDS	---	---	---	---	---	---	---	---	---	29.00	87	---	---	29.00	87
	Hot Weather Concrete-Ice 100%	33	CY	---	---	---	---	---	---	---	---	---	25.00	825	---	---	25.00	825
	*Nitrocrete @ \$5.00/gallon *5 gallons per yard*																	
	Chilled Water	33	CY	---	---	---	---	---	---	---	---	---	2.00	66	---	---	2.00	66
	Conc. Placing Supplies	33	CY	---	---	---	---	---	---	---	3.03	100	---	---	---	---	3.03	100
Concrete Materials		35.00	CY	---	---	---	---	---	---	---	2.86	100	212.09	7,423	---	---	214.94	7,523
Concrete Placement		33	CY															
Total Concrete CY						33.00	CY											
1. OWRF		33	CY															
1. OWRF						33.00	CY											
SOGs 1' (2 Pours)		33	CY	0.750	1.333	44	56.93	2,505	---	---	---	---	---	---	---	---	75.91	2,505
1. OWRF		33.00	CY	0.750	1.333	44	56.93	2,505	---	---	---	---	---	---	---	---	75.91	2,505
Pumping		33	CY															
Concrete Pump						33.00	CY											
Western Concrete Pumping																		
36 M 120' Boom (Hourly Charge)		10	HR	---	---	---	---	---	---	---	165.00	1,650	---	---	---	---	165.00	1,650
36 M 120' Boom (CY Charge)		33	CY	---	---	---	---	---	---	---	3.25	107	---	---	---	---	3.25	107
Prime/Permit Fee		2	EA	---	---	---	---	---	---	---	65.00	130	---	---	---	---	65.00	130
Travel Charge		2	EA	---	---	---	---	---	---	---	165.00	330	---	---	---	---	165.00	330
Energy Charge (10% of total)		1	EA	---	---	---	---	---	---	---	523.80	524	---	---	---	---	523.80	524
Pumping		33.00	CY	---	---	---	---	---	---	---	83.06	2,741	---	---	---	---	83.06	2,741
Concrete Placement		33.00	CY	0.750	1.333	44	56.93	2,505	---	---	83.06	2,741	---	---	---	---	158.97	5,246

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OWRF	OWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location **Chandler, AZ, USA**

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

Detail Page 55 of 74
Oct 24, 2023
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Tony Spera

OWRF OWRF ON SITE IMPROVEMENTS 1.00 LS

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	03300 Cast In Place Concrete	33.00	CY	0.750	1.333	44	56.93	2,505	---	---	86.09	2,841	224.94	7,423	---	---	386.94	12,769
	03251 Concrete Joints	33	CY															
	Concrete Joint Qty					46.00												
	Joint Prep-Waterblast	46	SF															
	Vertical CJ Retardant Labor	46	SF	10.000	0.100	5 WK3	56.93	262	---	---	---	---	---	---	---	---	5.69	262
	Joint Prep (Waterblast)	46	SF	10.000	0.100	5 WK3	56.93	262	---	---	---	---	---	---	---	---	5.69	262
	Waterblast Equip. & STS	1	LS	---	---	---	---	---	---	---	---	300	---	---	---	---	---	300
	Vertical CJ + 10% Retardant Purchase	50.60	SF	---	---	---	---	---	---	---	0.600000	30	---	---	---	0.600000	30	
	Joint Prep-Waterblast	46.00	SF	5.000	0.200	9	56.93	524	---	---	7.18	330	---	---	---	---	18.57	854
	03251 Concrete Joints	33.00	CY	3.587	0.279	9	56.93	524	---	---	10.01	330	---	---	---	---	25.88	854
	Conc Finishing	893	SF															
	Quantities					893.00 SF												
	Point and Patch Finish	134	SF	40.000	0.025	3 WK3	56.93	191	---	---	---	---	---	---	---	---	1.42	191
	Grout Finish	134	SF	15.000	0.067	9 WK3	56.93	509	---	---	---	---	---	---	---	---	3.80	509
	Finishing Supplies P&P	134	SF	---	---	---	---	---	---	---	0.030000	4	---	---	---	---	0.030000	4
	Finish Supplies Smooth Form	134	SF	---	---	---	---	---	---	---	0.100000	13	---	---	---	---	0.100000	13
	Finish Supplies	893	SF	---	---	---	---	---	---	---	0.050000	45	---	---	---	---	0.050000	45
	Conc Finishing	893.00	SF	72.700	0.014	12	56.93	699	---	---	0.069507	62	---	---	---	---	0.852587	761
	Curing	33	CY															
	Curing	1,221	SF															
	Quantities					1,221.00 SF												
	Curing Labor	1,221	SF	200.000	0.005	6 WK3	56.93	348	---	---	---	---	---	---	---	---	0.284650	348
	Curing Supplies	1,221	SF	---	---	---	---	---	---	---	0.100000	122	---	---	---	---	0.100000	122

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OWRF OWRF ON SITE IMPROVEMENTS 1.00



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Oct 24, 2023
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Tony Spera

Proprietary and Confidential

OWRF	OWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Curing	1,221.00	SF	200.000	0.005	6	56.93	348	---	---	0.100000	122	---	---	---	---	0.384650	470
	Curing	33.00	CY	5.405	0.185	6	56.93	348	---	---	3.70	122	---	---	---	---	14.23	470
	03200 Conc Reinforcement	1	LS															
	Rebar Sub: Supply & Install	1	LS															
	Camblin Steel																	
	03200 Concrete Rebar Sub	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	6,284	---	6,284
	Rebar Sub: Supply & Install	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	6,284	---	6,284
	03200 Conc Reinforcement	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	6,284	---	6,284
	Concrete Equipment	1	LS															
	Forklift, RT 10,000# Reach	0.50	MO	1.000	1.000	---	---	---	127.36	11,016	---	---	---	---	---	---	22,032.79	11,016
	Comp 185 CFM Diesel	0.50	MO	1.000	1.000	---	---	---	42.87	3,708	---	---	---	---	---	---	7,416.41	3,708
	Gen Fldlites 5-10 KW	0.25	MO	1.000	1.000	---	---	---	6.53	282	---	---	---	---	---	---	1,129.22	282
	Conc Bucket 1-1.5 cy	0.50	MO	1.000	1.000	---	---	---	9.34	808	---	---	---	---	---	---	1,615.25	808
	Steel Skip Box (Concrete W/O)	0.50	MO	1.000	1.000	---	---	---	0.4335	38	---	---	---	---	---	---	75.00	38
	Concrete Equipment	1.00	LS	---	---	---	---	---	---	15,852	---	---	---	---	---	---	---	15,852
	DIVISION 3 - CONCRETE	33.00	CY	0.114	8.737	288	56.32	16,240	515.87	17,024	134.37	4,434	224.94	7,423	190.43	6,284	1,557.71	51,405
	DIVISION 9 - FINISHES	1	LS															
	Painting & Coating	1	LS															
	A-O Painting																	

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OWRF	OWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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OWRF	OWRF ON SITE IMPROVEMENTS	1.00	LS
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Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Painting and Coating SUB	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	12,245	---	12,245
	Painting & Coating	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	12,245	---	12,245
	DIVISION 9 - FINISHES	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	12,245	---	12,245
	DIVISION 15 - MECHANICAL	1	LS															
	Exposed Pipe	1	LS															
	Purchase Pipe Materials (Exposed)	1	LS															
	Exposed Pipe Materials	1	LS															
	Intel Flow Control Structure					1.00	LS						306,295.06					
	Total Pipe Material Purchase												306,295.06					
	Ferguson Waterworks																	
	Purchase Pipe Materials	1	LS	---	---	---	---	---	---	---	---	---	---	306,295	---	---	---	306,295
	Unload & Store Pipe Materials																	
	Forklift, RT 10,000# Reach	16	HR	1.000	1.000	16	OP2 56.93	911	127.36	2,038	---	---	---	---	---	---	184.28	2,949
	Pipe Fitter Foreman	16	HR	1.000	1.000	16	FM9 87.71	1,403	---	---	---	---	---	---	---	---	87.71	1,403
	Exposed Pipe Crew	64	HR	1.000	1.000	64	mx8 56.55	3,619	---	---	---	---	---	---	---	---	56.55	3,619
	Exposed Pipe Materials	1.00	LS	---	---	96	61.81	5,934	---	2,038	---	---	---	306,295	---	---	---	314,266
	Temporary Pipe Materials	1	LS															
	STS - Installation (Exposed)	1	LS	---	---	---	---	---	---	---	---	2,500	---	---	---	---	---	2,500
	STS - Rigging (Exposed)	1	LS	---	---	---	---	---	---	---	---	2,500	---	---	---	---	---	2,500
	STS - Testing	1	LS	---	---	---	---	---	---	---	---	1,000	---	---	---	---	---	1,000

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OWRF	OWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location **Chandler, AZ, USA**

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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OWRF OWRF ON SITE IMPROVEMENTS 1.00 LS

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Testing Materials (Exposed)	1	LS	---	---	---	---	---	---	---	---	5,561	---	---	---	---	---	5,561
	Temporary Pipe Plugs	1	LS	---	---	---	---	---	---	---	---	430	---	---	---	---	---	430
	Cement Mortar Lining Repair																	
	CM Lining Kits	3	EA	---	---	---	---	---	---	---	250.00	750	---	---	---	---	250.00	750
	Pipe Fitter Foreman	3	EA	0.250	4.000	12	87.71	1,052	---	---	---	---	---	---	---	---	350.82	1,052
	Exposed Pipe Crew	3	EA	0.250	4.000	12	56.93	683	---	---	---	---	---	---	---	---	227.70	683
	PIPE SUPPORTS GROUTING																	
	Non-Shrink Grout @ 0.3 CF/EA SUPP																	
	Epoxy @ 0.50 Tube/EA SUPP																	
	Pipe Supports Q-ty:					12.00	EA											
	Non-Shrink Grout	3.60	CF	---	---	---	---	---	---	---	25.00	90	---	---	---	---	25.00	90
	Epoxy Bonding Agent (Hilti-RE 500)	12	EA	---	---	---	---	---	---	---	40.00	480	---	---	---	---	40.00	480
	STS - Pipe Support Install	1	LS	---	---	---	---	---	---	---	---	1,200	---	---	---	---	---	1,200
	STS - \$100/Support																	
	All-Thread, Nuts, Washers included in pipe purchase																	
	Pipe Supports Unistrut																	
	Epoxy @ 0.25 Tube/EA SUPP																	
	Unistrut Drill & Epoxy					4.00	EA											
	Epoxy Bonding Agent (Hilti-RE 500)	4	EA	---	---	---	---	---	---	---	20.00	80	---	---	---	---	20.00	80
	STS - Unistrut Install	1	LS	---	---	---	---	---	---	---	---	500	---	---	---	---	---	500
	STS - \$100/Support																	
	All-Thread, Nuts, Washers included in pipe purchase																	
	Temporary Pipe Materials	1.00	LS	---	---	24	72.32	1,736	---	---	---	15,091	---	---	---	---	---	16,827
	Purchase Pipe Materials (Exposed)	1.00	LS	---	---	120	63.91	7,669	---	2,038	---	15,091	---	306,295	---	---	---	331,093
	Install Piping (Exposed)	1	LS															
	Direct Manhours	1	LS															

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OWRF OWRF ON SITE IMPROVEMENTS 1.00



PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

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Proprietary and Confidential

OWRF	OWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Intel Flow Control Structure					440	.00 HR											
	Total Direct Manhours					440	.00 HR											
	Pipe Fitter Foreman	88	HR	1.000	1.000	88	FM9 87.71	7,718	---	---	---	---	---	---	---	---	87.71	7,718
	Exposed Pipe Crew	440	HR	1.000	1.000	440	WK8 56.93	25,047	---	---	---	---	---	---	---	---	56.93	25,047
	Direct Manhours	1.00	LS	---	---	528	62.06	32,765	---	---	---	---	---	---	---	---	---	32,765
	Adjustments	1	LS															
	Intel Flow Control Structure					160	.00 HR											
	Total Adjusted Manhours					160	.00 HR											
	Pipe Fitter Foreman	32	HR	1.000	1.000	32	FM9 87.71	2,807	---	---	---	---	---	---	---	---	87.71	2,807
	Exposed Pipe Crew	160	HR	1.000	1.000	160	WK8 56.93	9,108	---	---	---	---	---	---	---	---	56.93	9,108
	Adjustments	1.00	LS	---	---	192	62.06	11,915	---	---	---	---	---	---	---	---	---	11,915
	Pipe Testing	1	LS															
	Intel Flow Control Structure					1	.00 EA											
	Total System Test					1	.00 EA											
	- Full System Test																	
	Pipe Fitter Foreman	1	EA	0.125	8.000	8	FM9 87.71	702	---	---	---	---	---	---	---	---	701.64	702
	Exposed Pipe Crew	1	EA	0.031	32.000	32	MX8 56.55	1,810	---	---	---	---	---	---	---	---	1,809.72	1,810
	Comp 185 CFM Diesel	1	EA	0.125	8.000	---	---	---	42.87	343	---	---	---	---	---	---	342.96	343
	Pipe Testing	1.00	LS	---	---	40	62.78	2,511	---	343	---	---	---	---	---	---	---	2,854

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OWRF	OWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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OWRF	OWRF ON SITE IMPROVEMENTS	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Forklift, RT 10,000# Reach	1	LS															
	Intel Flow Control Structure					144	.00	HR										
	Total Forklift Hours					144	.00	HR										
	Forklift, RT 10,000# Reach	144	HR	1.000	1.000	144	OP2 56.93	8,197	127.36	18,339	---	---	---	---	---	---	184.28	26,537
	Forklift, RT 10,000# Reach	1.00	LS	---	---	144	56.93	8,197	---	18,339	---	---	---	---	---	---	---	26,537
	Install Piping (Exposed)	1.00	LS	---	---	904	61.27	55,388	---	18,682	---	---	---	---	---	---	---	74,071
	Exposed Pipe	1.00	LS	---	---	1,024	61.58	63,057	---	20,720	---	15,091	---	306,295	---	---	---	405,163
	DIVISION 15 - MECHANICAL	1.00	LS	---	---	1,024	61.58	63,057	---	20,720	---	15,091	---	306,295	---	---	---	405,163
	DIV 16/17 - ELECTRICAL AND I&C	1	LS															
	Electrical Supply & Install (OWRF)	1	LS															
	Ludvik Electric																	
	Electrical Supply & Install	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	275,190	---	275,190
	Electrical Supply & Install (OWRF)	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	275,190	---	275,190
	DIV 16/17 - ELECTRICAL AND I&C	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	275,190	---	275,190
	OWRF ON SITE IMPROVEMENTS	1.00	LS	---	---	5,689	67.96	386,603	---	339,949	---	83,324	---	397,105	---	583,800	---	1,790,780

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OWRF	OWRF ON SITE IMPROVEMENTS	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

Proprietary and Confidential

GE 2	GENERAL CONDITIONS (EXCLUDING BONDS AND INSURANCE)	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit
	Construction Manager at Risk (CMAR) Services																
	The PCL GMP for the RW Conveyance Improvements Project is based in whole, on the following: Standard Equipment Watch, 2023 Blue Book equipment rates, have been utilized in the development of this price model. Billable hourly rates are estimates of projected market conditions at the time the work will be performed and may not reflect PCL's actual labor price.																
	Mobilization and Demobilization	1 LS															
	Mobilization and Demobilization					1.00 LS											
	AWRF & OWRF																
2	Load at Yard/Unload at Job Site (Mobilization)	40 HR		1.000	1.000	80 WKS	56.93	4,554	---	---	---	---	---	---	---	113.86	4,554
	Equipment & Material Freight (Mobilization)	1 EA		---	---	---	---	---	---	---	10,000.00	10,000	---	---	---	10,000.00	10,000
2	Load at Job site/Unload at Yard (Demobilization)	40 HR		1.000	1.000	80 WKS	56.93	4,554	---	---	---	---	---	---	---	113.86	4,554
	Equipment & Material Freight (Demobilization)	1 EA		---	---	---	---	---	---	---	10,000.00	10,000	---	---	---	10,000.00	10,000
	Mobilization and Demobilization	1.00 LS		---	---	160	56.93	9,109	---	---	---	20,000	---	---	---	---	29,109
	Temporary Construction Facilities	1 LS															
	FOR OWRF & AWRF																
	Temporary Construction Facilities	1 LS															
	Assume construction water supply shall be pulled from existing fire hydrants located adjacent to operations; materials set-up shall consist of hoses, valves, appurtenances and traffic ramps as applicable.																
	Water Source Development					1.00 LS											
2	Set Up Construction Water; Labor	16 HR		1.000	1.000	32 WKS	56.93	1,822	---	---	---	---	---	---	---	113.86	1,822
2	Set Up Construction Water; Materials	1 EA		---	---	---	---	---	---	---	5,000.00	10,000	---	---	---	10,000.00	10,000
	Hydrant Connection Deposit and Install	1 LS		---	---	---	---	---	---	---	---	2,000	---	---	---	---	2,000
	BFP and Hoses	1 LS		---	---	---	---	---	---	---	---	4,000	---	---	---	---	4,000
	Potable Water; Contr. Field Office					1.00 LS											
2	Set Up Potable Water; Labor	24 HR		1.000	1.000	48 WKS	56.93	2,733	---	---	---	---	---	---	---	113.86	2,733

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GE 2	GENERAL CONDITIONS (EXCLUDING BONDS AND INSURANCE)	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location **Chandler, AZ, USA**

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

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GE 2	GENERAL CONDITIONS (EXCLUDING BONDS AND INSURANCE)	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Set Up Potable Water; Materials	2	EA	---	---	---	---	---	---	---	3,000.00	6,000	---	---	---	---	3,000.00	6,000
	Temporary Sanitary and First Aid Facilities	1	LS															
	For OWRF/AWRF Sites																	
	*6 MO OWRF + 12 MO AWRF = 18 MO																	
	Site Services; Constr. Operations							1.00 LS										
2	Portable Toilets	18	MO	---	---	---	---	---	---	---	40.00	1,440	---	---	---	---	80.00	1,440
2	Handwash Station (dual)	18	MO	---	---	---	---	---	---	---	40.00	1,440	---	---	---	---	80.00	1,440
4	Two Times/Week Service	18	MO	---	---	---	---	---	---	---	400.00	28,800	---	---	---	---	1,600.00	28,800
4	Contamination Tray	18	MO	---	---	---	---	---	---	---	20.00	1,440	---	---	---	---	80.00	1,440
4	Fuel Surcharge	18	MO	---	---	---	---	---	---	---	4.50	324	---	---	---	---	18.00	324
	Temporary Sanitary and First Aid Facil	1.00	LS	---	---	---	---	---	---	---	---	33,444	---	---	---	---	---	33,444
	Temporary Construction Facilities	1.00	LS	---	---	80	56.93	4,554	---	---	---	55,444	---	---	---	---	---	59,998
	Temporary Sanitary	1	LS															
	For AWRF Office Trailer(s)																	
	Site Services; Constr. Operations							1.00 LS										
	Sewage Holding Tank w/ Routine Service	12	MO	---	---	---	---	---	---	---	400.00	4,800	---	---	---	---	400.00	4,800
	Two Times/Week Service	12	MO	---	---	---	---	---	---	---	400.00	4,800	---	---	---	---	400.00	4,800
	Fuel Surcharge	12	MO	---	---	---	---	---	---	---	4.50	54	---	---	---	---	4.50	54
	Temporary Sanitary	1.00	LS	---	---	---	---	---	---	---	---	9,654	---	---	---	---	---	9,654
	Temporary Construction Facilites	1.00	LS	---	---	80	56.93	4,554	---	---	---	65,098	---	---	---	---	---	69,652
	Dismantle and Restore Site	1	LS															
	AWRF & OWRF																	
	Cleanup							1.00 LS										

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GE 2	GENERAL CONDITIONS (EXCLUDING BONDS AND INSURANCE)	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Oct 24, 2023
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Tony Spera

Proprietary and Confidential

GE 2 GENERAL CONDITIONS (EXCLUDING BONDS AND INSURANCE) 1.00 LS

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
2	Site Cleanup Allowance	1	EA	---	---	---	---	---	---	---	7,500.00	15,000	---	---	---	---	15,000.00	15,000
Site Restoration																		
2	Grade Checker	40	HR	1.000	1.000	80	FM1 87.71	7,016	---	---	---	---	---	---	---	---	175.41	7,016
2	Bckho-Ldr Ct 450 E-Stick BH/L 1.5cy -O	40	HR	1.000	1.000	80	OP2 56.93	4,554	120.85	9,668	---	---	---	---	---	---	355.55	14,222
Dismantle and Restore Site																		
1.00	LS	---	---	---	---	160	72.32	11,570	---	9,668	---	15,000	---	---	---	---	---	36,238
Contractor's Field Office, Sheds and Supplies																		
Field Offices (Onsite)																		
Main Office Set up @ AWRF																		
1.00 LS																		
	Trailr Office 12'x60' - PCL	12	MO	1.000	1.000	---	---	---	7.94	16,489	---	---	---	---	---	---	1,374.11	16,489
	Set Up and Delivery; Field Offices	1	LS	---	---	---	---	---	---	---	---	1,995	---	---	---	---	---	1,995
	Removal Price	1	LS	---	---	---	---	---	---	---	---	1,215	---	---	---	---	---	1,215
	Trailr Office 12'x60' - Wilson	13	MO	1.000	1.000	---	---	---	7.94	17,863	---	---	---	---	---	---	1,374.11	17,863
	Set Up and Delivery; Field Offices	1	LS	---	---	---	---	---	---	---	---	1,995	---	---	---	---	---	1,995
	Removal Price	1	LS	---	---	---	---	---	---	---	---	1,215	---	---	---	---	---	1,215
2	Set Up Office-Labor	40	HR	1.000	1.000	80	WKS 56.93	4,554	---	---	---	---	---	---	---	---	113.86	4,554
	Set Up Office-Material	2	EA	---	---	---	---	---	---	---	3,500.00	7,000	---	---	---	---	3,500.00	7,000
	PCL - Onsite Office Furniture	1	EA	---	---	---	---	---	---	---	7,500.00	7,500	---	---	---	---	7,500.00	7,500
	Engineer Office Material/Furniture	1	EA	---	---	---	---	---	---	---	15,000.00	15,000	---	---	---	---	15,000.00	15,000
	Copier, Rental and Monthly Service	12	MO	---	---	---	---	---	---	---	800.00	9,600	---	---	---	---	800.00	9,600
Engineer Trailer Copier																		
	Copier, Rental and Monthly Service	13	MO	---	---	---	---	---	---	---	800.00	10,400	---	---	---	---	800.00	10,400
	Internet Connection - OWRF	6	MO	---	---	---	---	---	---	---	650.00	3,900	---	---	---	---	650.00	3,900
	Internet Connection - AWRF	13	MO	---	---	---	---	---	---	---	650.00	8,450	---	---	---	---	650.00	8,450
	Electric bills (2 - Office Trls @ AWRF)	13	MO	---	---	---	---	---	---	---	1,000.00	13,000	---	---	---	---	1,000.00	13,000
	Monthly Water Bill	13	MO	---	---	---	---	---	---	---	100.00	1,300	---	---	---	---	100.00	1,300
AWRF/OWRF PCL Office Supplies																		

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GE 2 GENERAL CONDITIONS (EXCLUDING BONDS AND INSURANCE) 1.00



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

GE 2 GENERAL CONDITIONS (EXCLUDING BONDS AND INSURANCE) 1.00 LS

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Onsite Office Supplies	18	MO	---	---	---	---	---	---	---	500.00	9,000	---	---	---	---	500.00	9,000
	Engineer Office Supplies																	
	Onsite Office Supplies	13	MO	---	---	---	---	---	---	---	500.00	6,500	---	---	---	---	500.00	6,500
	Eng. Supplies,Blueprints	12	MO	---	---	---	---	---	---	---	50.00	600	---	---	---	---	50.00	600
	Janitor, Monthly Cleaning Service	12	MO	---	---	---	---	---	---	---	300.00	3,600	---	---	---	---	300.00	3,600
	Engineer Trailer Cleaning																	
	Janitor, Monthly Cleaning Service	13	MO	---	---	---	---	---	---	---	300.00	3,900	---	---	---	---	300.00	3,900
	Handheld Site Radio	58	MO	1.000	1.000	---	---	---	0.3925	3,938	---	---	---	---	---	---	67.90	3,938
	OWRF Site																	
	20' Office Combo Unit	6	MO	1.000	1.000	---	---	---	1.99	2,070	---	---	---	---	---	---	345.00	2,070
	Delivery/Pickup	2	EA	---	---	---	---	---	---	---	129.00	258	---	---	---	---	129.00	258
	Gen Set 20 KW Diesel	6	MO	1.000	1.000	---	---	---	17.17	17,826	---	---	---	---	---	---	2,970.97	17,826
	Freight In/Out	2	EA	---	---	---	---	---	---	---	50.00	100	---	---	---	---	50.00	100
	Project Engineering Documentation							1.00 LS										
	Construction Progress Photographs	12	MO	---	---	---	---	---	---	---	50.00	600	---	---	---	---	50.00	600
	Tool Connex/Trade Shack (Onsite)							1.00 LS										
	OWRF																	
2	Onsite Tool Connex; 8'x40'	6	MO	1.000	1.000	---	---	---	1.76	3,650	---	---	---	---	---	---	608.25	3,650
2	Set Up Connex-Labor	32	HR	1.000	1.000	64	WKS 56.93	3,644	---	---	---	---	---	---	---	---	113.86	3,644
	Set Up Connex-Material	2	EA	---	---	---	---	---	---	---	1,000.00	2,000	---	---	---	---	1,000.00	2,000
	Water Coolers	4	EA	---	---	---	---	---	---	---	50.00	200	---	---	---	---	50.00	200
	Drinking Water & Ice	6	MO	---	---	---	---	---	---	---	400.00	2,400	---	---	---	---	400.00	2,400
	AWRF																	
2	Onsite Tool Connex; 8'x40'	12	MO	1.000	1.000	---	---	---	1.76	7,299	---	---	---	---	---	---	608.25	7,299
2	Set Up Connex-Labor	32	HR	1.000	1.000	64	WKS 56.93	3,644	---	---	---	---	---	---	---	---	113.86	3,644
	Set Up Connex-Material	2	EA	---	---	---	---	---	---	---	1,000.00	2,000	---	---	---	---	1,000.00	2,000
	Water Coolers	4	EA	---	---	---	---	---	---	---	50.00	200	---	---	---	---	50.00	200
	Drinking Water & Ice	12	MO	---	---	---	---	---	---	---	400.00	4,800	---	---	---	---	400.00	4,800
	Safety Equipment																	

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GE 2 GENERAL CONDITIONS (EXCLUDING BONDS AND INSURANCE) 1.00



PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

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Tony Spera

GE 2 GENERAL CONDITIONS (EXCLUDING BONDS AND INSURANCE) 1.00 LS

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
AWRF 12 + OWRF 6 = 18 MO																		
	Air Monitors	18 MO		1.000	1.000	---	---	---	0.9709	3,023	---	---	---	---	---	---	167.97	3,023
	Rescue Tripod w/yo yo	18 MO		1.000	1.000	---	---	---	0.9709	3,023	---	---	---	---	---	---	167.97	3,023
	Yo Yo Winch	18 MO		1.000	1.000	---	---	---	0.9709	3,023	---	---	---	---	---	---	167.97	3,023
	F.A. & Safety Supplies	27,085 MH		---	---	---	---	---	---	---	0.120000	3,250	---	---	---	---	0.120000	3,250
	Fire Protection	27,085 MH		---	---	---	---	---	---	---	0.070000	1,896	---	---	---	---	0.070000	1,896
Contractor's Field Office, Sheds an		1.00 LS		---	---	208	56.93	11,841	---	78,206	---	123,874	---	---	---	---	---	213,921
Project Staff, Field Management		1 LS																
Project Management																		
	Construction Manager	2 MO		1.000	1.000	347	ST ⁴ 143.41	49,715	5.78	2,000	---	---	---	---	---	---	25,857.71	51,715
	*Proj Mgr	14 MO		1.000	1.000	2,427	ST ¹ 133.85	324,809	5.78	14,000	---	---	---	---	---	---	24,200.65	338,809
	*General Supt.	12 MO		1.000	1.000	2,080	ST ³ 130.02	270,441	42.07	87,327	---	---	---	---	---	---	29,814.03	357,768
	Project Engineer	13 MO		1.000	1.000	2,253	EN ¹ 93.53	210,754	5.78	13,000	---	---	---	---	---	---	17,211.85	223,754
	Field Engineer	12 MO		1.000	1.000	2,080	EN ² 79.81	166,005	---	---	---	---	---	---	---	---	13,833.72	166,005
	Accountant (1 week/month)	12 WK		1.000	1.000	480	OF ² 45.50	21,840	---	---	---	---	---	---	---	---	1,820.00	21,840
	Scheduler (8 hrs/month)	96 HR		---	---	---	---	---	---	---	150.00	14,400	---	---	---	---	150.00	14,400
	Safety Coordinator	3.50 MO		1.000	1.000	607	EN ¹ 93.53	56,741	42.07	25,470	---	---	---	---	---	---	23,489.10	82,212
Safety Assessment							TB						0.01					
	Cellular Billing; Field Mgmt.	54 MO		---	---	---	---	---	---	---	150.00	8,100	---	---	---	---	150.00	8,100
	Computer Equipment, Field Mgmt.	54 MO		---	---	---	---	---	---	---	250.00	13,500	---	---	---	---	250.00	13,500
Start-Up and Operational Testing						2.00 MO												
	Start-Up and Commissioning Mgr.	2 MO		1.000	1.000	347	ST ¹ 133.85	46,401	5.78	2,000	---	---	---	---	---	---	24,200.65	48,401
	Cellular Billings; Start-up Mgr.	2 MO		---	---	---	---	---	---	---	150.00	300	---	---	---	---	150.00	300
	Computer Equipment; Start-up Mgr.	2 MO		---	---	---	---	---	---	---	250.00	500	---	---	---	---	250.00	500
PCL Provide Services																		
	Pipe modeling	1 LS		---	---	---	---	---	---	---	---	25,000	---	---	---	---	---	25,000

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GE 2 GENERAL CONDITIONS (EXCLUDING BONDS AND INSURANCE) 1.00



BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

Proprietary and Confidential

GE 2	GENERAL CONDITIONS (EXCLUDING BONDS AND INSURANCE)	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Project Staff, Field Management	1.00	LS	---	---	10,620	107.98	1,146,707	---	143,797	---	61,800	---	---	---	---	---	1,352,305
	GENERAL CONDITIONS (EXCLUDING	1.00	LS	---	---	11,228	105.43	1,183,783	---	231,671	---	285,772	---	---	---	---	---	1,701,226

GE 2	GENERAL CONDITIONS (EXCLUDING BONDS AND INSURANCE)	1.00
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GE.8	PROJECT BONDING	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor		Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit
US CONTRACT BOND Class B		100 %															
	US CONTRACT BOND Class B	8,223,791	DC	---	---	---	---	---	---	0.008000	65,790	---	---	---	---	0.008000	65,790
US CONTRACT BOND Class B		100.00 %		---	---	---	---	---	---	657.90	65,790	---	---	---	---	657.90	65,790
SUBCONTRACT BOND		100 %															
	Sub-Contract SDI (Less Ludvik)	819,736	EA	---	---	---	---	---	---	0.013250	10,862	---	---	---	---	0.013250	10,862
	Ludvik Electric Bond @ 1%	1,609,660	EA	---	---	---	---	---	---	0.010000	16,097	---	---	---	---	0.010000	16,097
	Material SDI	1,557,315	MC	---	---	---	---	---	---	0.013250	20,634	---	---	---	---	0.013250	20,634
SUBCONTRACT BOND		100.00 %		---	---	---	---	---	---	475.93	47,593	---	---	---	---	475.93	47,593
PROJECT BONDING		1.00	LS	---	---	---	---	---	---	---	113,383	---	---	---	---	---	113,383



BE Number GMP 2 REVISED
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Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Proprietary and Confidential

GE.9	PROJECT INSURANCE	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	General Liability	100 %																
	Gen Liab-USA	8,223,791	DC	---	---	---	---	---	---	---	0.010000	82,238	---	---	---	---	0.010000	82,238
	General Liability	100.00 %		---	---	---	---	---	---	---	822.38	82,238	---	---	---	---	822.38	82,238
	Builders Risk Insurance	100 %																
	Builders Risk	8,223,791	DC	---	---	---	---	---	---	---	0.004000	32,895	---	---	---	---	0.004000	32,895
	Builders Risk Insurance	100.00 %		---	---	---	---	---	---	---	328.95	32,895	---	---	---	---	328.95	32,895
	PROJECT INSURANCE	1.00	LS	---	---	---	---	---	---	---	---	115,133	---	---	---	---	---	115,133

GE.9	PROJECT INSURANCE	1.00
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PCL Construction, Inc.
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Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
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Tony Spera

PRJ TAX PROJECT TAXES 1.00 LS

Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
TAXES		100 %																
	Arizona Gross Receipts Tax	9,048,532	TB	---	---	---	---	---	---	0.048250	436,592	---	---	---	---	0.048250	436,592	
	Total Tax Credits	1,400,964	EA	---	---	---	---	---	---	-0.048250	-67,597	---	---	---	---	-0.048250	-67,597	
	AWRF:																	
	Yard Pipe Supply (AWRF)					1.00	LS					788,076.37						
	Exposed Pipe Supply (AWRF)					1.00	LS					257,008.90						
	AWRF Total					1.00	LS					1,045,085.27						
	Materials Less than 4"					1.00	LS					-19,282.00						
	AWRF Total Tax Credit					1.00	LS					1,025,803.27						
	OWRF:																	
	Yard Pipe Supply (OWRF)					1.00	LS					73,427.82						
	Exposed Pipe Supply (OWRF)					1.00	LS					306,295.06						
	OWRF Total					1.00	LS					379,722.88						
	Materials Less than 4"					1.00	LS					-4,562.07						
	OWRF Total Tax Credit					1.00	LS					375,160.81						
	Total Pipe Package Tax Credit					1.00	LS					1,400,964.08						
TAXES		100.00 %		---	---	---	---	---	---	3,689.95	368,995	---	---	---	---	3,689.95	368,995	
PROJECT TAXES		1.00 LS		---	---	---	---	---	---	---	368,995	---	---	---	---	---	368,995	



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Location **Chandler, AZ, USA**

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

Proprietary and Confidential

CC	CONSTRUCTION CONTINGENCY	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Construction Contingency	1	LS															
	Contractor's Contingency	1	LS															
	unexpected prices due to scope gaps between trade subcontractors, contract default by trade subcontractors, price overruns not covered by allowances, prices of corrective work not provided for elsewhere, and implementation of any recovery plan.																	
	Contractor's Contingency	1	LS	---	---	---	---	---	---	---	---	200,000	---	---	---	---	---	200,000
	Contractor's Contingency	1.00	LS	---	---	---	---	---	---	---	---	200,000	---	---	---	---	---	200,000
	Design Contingency	1	LS															
	Potential modified scope(s) from 90% to 100% design and modifications during the submittal review process as related to the items in this GMP.																	
	Design Contingency	1	LS	---	---	---	---	---	---	---	---	100,000	---	---	---	---	---	100,000
	Design Contingency	1.00	LS	---	---	---	---	---	---	---	---	100,000	---	---	---	---	---	100,000
	Escalation Contingency	1	LS															
	Material Escalation (7%)	1,557,315	MC	---	---	---	---	---	---	---	0.070000	109,012	---	---	---	---	0.070000	109,012
	Subcontractor (5%) (Less Ludvik Elect)	819,736	EA	---	---	---	---	---	---	---	---	---	---	---	0.050000	40,987	0.050000	40,987
	Escalation Contingency	1.00	LS	---	---	---	---	---	---	---	---	109,012	---	---	---	40,987	---	149,999
	Construction Contingency	1.00	LS	---	---	---	---	---	---	---	---	409,012	---	---	---	40,987	---	449,999
	CONSTRUCTION CONTINGENCY	1.00	LS	---	---	---	---	---	---	---	---	409,012	---	---	---	40,987	---	449,999

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CC	CONSTRUCTION CONTINGENCY	1.00
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Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

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Tony Spera

Proprietary and Confidential

UTL A	UNFORESEEN UTILITY ALLOWANCE	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	UNFORESEEN UTILITY ALLOWANCE	1	LS	---	---	---	---	---	---	---	---	100,000	---	---	---	---	---	100,000
	UNFORESEEN UTILITY ALLOWANCE	1.00	LS	---	---	---	---	---	---	---	---	100,000	---	---	---	---	---	100,000



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Location Chandler, AZ, USA

PCL Construction, Inc.
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Tony Spera

Proprietary and Confidential

TP A	TEMPORARY POWER ALLOWANCE	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	AWRF																	
	Temporary Power Allowance	1	LS															
	Office Trailer Power Connection(s)	1	LS															
	Conduit/Wire Feed Supply & Install to Site Office Trailers at AWRF																	
P	Office Trailer Temp Power	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	10,000	---	10,000
	Office Trailer Power Connection(s)	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	10,000	---	10,000
	MOPO Temporary Power (AWRF)	1	LS															
	Stand-by Generators to back up 4-1500 KVA Transformers & 2-500KVA transformers																	
P	Stand-By Generators and Labor/Material	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	242,607	---	242,607
P	1-Day of Fuel	1	LS	---	---	---	---	---	---	---	---	---	---	---	---	21,000	---	21,000
	MOPO Temporary Power (AWRF)	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	263,607	---	263,607
	Temporary Power Allowance	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	273,607	---	273,607
	TEMPORARY POWER ALLOWANCE	1.00	LS	---	---	---	---	---	---	---	---	---	---	---	---	273,607	---	273,607

U01 STANDARD-LANDSCAPE-MASTER.RPT

C:\Users\aspera\AppData\Local\BEST\LocalFiles\ed65cceb-e03f-47eb-a769-25fed3b1ciaf\

TP A	TEMPORARY POWER ALLOWANCE	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

Detail Page 73 of 74
Oct 24, 2023
12:14:55 PM

Tony Spera

OA	OWNER'S ALLOWANCE	1.00	LS
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Proprietary and Confidential

No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	OWNERS ALLOWANCE	1	LS	---	---	---	---	---	---	---	---	700,000	---	---	---	---	---	700,000
	OWNER'S ALLOWANCE	1.00	LS	---	---	---	---	---	---	---	---	700,000	---	---	---	---	---	700,000

OA	OWNER'S ALLOWANCE	1.00
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BE Number GMP 2 REVISED
Opportunity No 54.501.MAJ.23.120036
Owner File No WW2206.401
Project **Chandler Reclaimed Water Conveyance (CMAR) (GMP 2 –**
Location Chandler, AZ, USA

PCL Construction, Inc.
Civil Infrastructure
Item Analysis Sheet

Detail Page 74 of 74
Oct 24, 2023
12:14:55 PM

Tony Spera

Proprietary and Confidential

IA	INTEL PROPERTY ACCESS ALLOWANCE	1.00	LS
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No.	Description	Quantity	UOM	Units Per Hours	ManHrs Per Unit	Labor			Equipment		Services/ Tools/Supplies		Perm. Material		SubContract		Total Price	
						Hours	\$ / hr	Total	\$ / hr	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	\$/ItemUnit	Total	Unit	Total
	Intel Property Access Allowance	1	LS															
	Background Check/Screening	1	LS															
	Subcontractor - Tap Masters																	
	PCL Staff & Pipe Crew																	
	@85.00 each																	
P	Background Check/Screening	1	LS	---	---	---	---	---	---	---	---	1,275	---	---	---	---	---	1,275
	Background Check/Screening	1.00	LS	---	---	---	---	---	---	---	---	1,275	---	---	---	---	---	1,275
	Safety/Orientation Courses	1	LS															
	Subcontractor - Tap Masters																	
	PCL Staff & Pipe Crew																	
	est.2 days of Saftey/Orientation @ 8hrs/day per individual																	
P	Safety/Orientation Courses	1	LS	---	---	---	---	---	---	---	---	23,000	---	---	---	---	---	23,000
	Safety/Orientation Courses	1.00	LS	---	---	---	---	---	---	---	---	23,000	---	---	---	---	---	23,000
	Registration Requirements	1	LS															
	est. \$900/Year per company per Intel																	
	PCL/Tap Masters																	
P	Registration Fee	1	LS	---	---	---	---	---	---	---	---	1,800	---	---	---	---	---	1,800
	Registration Requirements	1.00	LS	---	---	---	---	---	---	---	---	1,800	---	---	---	---	---	1,800
	Intel Property Access Allowance	1.00	LS	---	---	---	---	---	---	---	---	26,075	---	---	---	---	---	26,075
	INTEL PROPERTY ACCESS ALLOWANC	1.00	LS	---	---	---	---	---	---	---	---	26,075	---	---	---	---	---	26,075



**Reclaimed Water Conveyance Improvements
GMP 2
Project No. WW2206.401**

**Supplier/Subcontractor Matrix
Summary**

Subcontractor/Supplier Selection Summary

Price Description	SELECTION BY QUALIFICATION AND COMPETITIVE BID		
	Subcontractor/Supplier No.1	Subcontractor/Supplier No.2	Subcontractor/Supplier No.3
Quality Control	Ninyo and Moore	Ramm	SAECO
AWRF	\$21,744.00	\$17,892.00	\$21,311.00
OWRF	\$5,840.00	\$4,650.00	\$5,955.00
Bid Total	\$27,584.00	\$22,542.00	\$27,266.00
Survey	Conzor	Lemme	Hansen Engineering and Surveying
AWRF	\$28,560.00	\$14,000.00	
OWRF	\$14,960.00	\$9,200.00	
Bid Total	\$43,520.00	\$23,200.00	DECLINED TO BID
Site Work			
Site Prep, Earthwork, Excavation, and Backfill (Self Perform)	PCL Construction, Inc.		
Landscape	AAA Landscaping	Gothic Landscaping AZ	Brightview Landscape
AWRF	\$133,325.00		
OWRF	\$78,975.00		
Bid Total	\$212,300.00	DECLINED TO BID	DECLINED TO BID
Asphalt/Flatwork/Curb&Gutter	Gonzalez Asphalt	Cactus Asphalt	ABC Asphalt
AWRF	\$154,575.00	\$124,092.00	
OWRF	\$7,240.00	\$40,783.00	
Bid Total	\$161,815.00	\$164,875.00	NON RESPONSIVE
Concrete F/P/S (Self Perform)	PCL Construction, Inc.		
Concrete Supply	Cemex	Cal Portland	
AWRF	\$24,676.00	\$26,092.00	
OWRF	\$7,423.00	\$7,752.00	
Bid Total	\$32,099.00	\$33,844.00	
Rebar Supply & Install	Harris Rebar	CMC	Camblin Steel
AWRF	\$20,993.00	\$22,903.00	\$20,855.80
OWRF	\$6,326.00	\$6,800.00	\$6,284.24
Bid Total	\$27,319.00	\$29,703.00	\$27,140.04
Metals (Fence Remove/Replace)	Liberty Fence	Adam's Fence	Biddle & Brown Fence Company
AWRF	\$3,500.00		\$5,446.00
OWRF	\$1,500.00		\$4,730.00
Bid Total	\$5,000.00	NON RESPONSIVE	\$10,176.00
Painting & Coatings	AO Painting	Revolution Industrial	Riley Industrial
AWRF	\$17,245.00	\$21,140.29	\$21,837.00
OWRF	\$12,245.00	\$9,051.24	\$12,458.00
Bid Total	\$29,490.00	\$30,191.53	\$34,295.00
Vertical Turbine Pump Install (Self Perform)	PCL Construction, Inc.		
Pipe & Fittings, Valves, Pipe Supports & Appurtenances Supply	Ferguson Waterworks	Fortiline Waterworks	Core and Main
AWRF	\$1,045,085.27	\$1,069,659.57	\$1,105,390.38
OWRF	\$379,722.88	\$395,187.79	\$397,293.08
Bid Total	\$1,424,808.15	\$1,464,847.36	\$1,502,683.46
Buried & Exposed Mechanical Install (Self Perform)	PCL Construction, Inc.		
Electrical and I&C (Detailed, Open-book pricing - Qualification Base Selected)	Ludvik Electric		
AWRF	\$1,334,470.00		
OWRF	\$275,190.00		
Bid Total	\$1,609,660.00		

Designates Selected Subcontractor / Supplier



**Reclaimed Water Conveyance Improvements
GMP 2
Project No. WW2206.401**

**Selected
Supplier/Subcontractor Matrix**

PCL CONSTRUCTION, INC.

Reclaimed Water Conveyance Improvements - GMP 2 - WW2206.401

City of Chandler

<u>Quality Control</u>			
<u>Work Description</u>	<u>Sub / Supplier No.1</u>	<u>Sub / Supplier No.2</u>	<u>Sub / Supplier No.3</u>
Quality Control Sub AWRF QC OWRF QC <i>Total Price</i>	Ninyo and Moore	Ramm	SAECO
	\$21,744.00	\$17,892	\$21,311.00
	\$5,840.00	\$4,650	\$5,955.00
	\$27,584.00	\$22,542.00	\$27,266.00

Designates Selected Subcontractor /
Supplier



RICKER • ATKINSON • MCBEE • MORMAN
& ASSOCIATES, INC.

Geotechnical Engineering • Construction Materials Testing
2105 South Hardy Drive, Suite 13, Tempe, AZ 85282
Telephone (480) 921-8100 • Facsimile (480) 921-4081

PCL Construction
1711 West Greentree Drive, Suite 201
Tempe, Arizona 85284

August 18, 2023

Attn: Tony Spera / Email: (aspera@pcl.com)

Re: Reclaimed Water Conveyance Improvements
AWRF and OWRF
Chandler, Arizona

RAMM Proposal No. PT23307

Ricker, Atkinson, McBee, Morman & Associates, Inc. is pleased to submit this proposal to conduct Materials Testing Services for the above-referenced projects. Attached are Exhibits B and C from the Quality Control Bid Package complete with our bid information. Please let us know if you require any additional information.

Fee Breakout:

AWRF Site - \$17,892.00
OWRF Site - \$4,650.00

Proposal Total - \$22,542.00

Fee includes reports for all inspections, test results, transportation, clerical and postage. We look forward to working with you on this project.

Respectfully submitted,
RICKER, ATKINSON, MCBEE, MORMAN & ASSOCIATES, INC.

David A. Thomas, P.E.
President

/dat

EXHIBIT B

SUBCONTRACTOR ACKNOWLEDGEMENT

The supplier shall demonstrate acceptance by initialing each of the following items:

Acknowledgement

Bidder Initial

Bidder acknowledges and accepts the PCL contract standard
Terms and conditions attached to bid package



Bidder has reviewed and accepts division(s) 1, 2, 3 & 15 requirements
Of the Specifications



EXHIBIT C

BID PROPOSAL FORM

Please indicate your quote in the spaces provided below:

Base Bid Items:	Quantity	Unit \$	Total Price
AWRF Site:			
Compaction QC Technician	204 HR	<u>62-</u>	\$ <u>12,648-</u>
Concrete QC Technician	28 HR	<u>62-</u>	\$ <u>1,736-</u>
Asphalt QC Technician	4 HR	<u>62-</u>	\$ <u>248-</u>
Technician Trip Charges	61 EA	<u>40-</u>	\$ <u>2,440-</u>
Gradation	2 EA	<u>130-</u>	\$ <u>260-</u>
Concrete Cylinders (7 EA POURS)		<u>* 80ea</u>	\$ <u>560-</u>
Project Management, Clerical Reports, and all other cost associated with QC Testing requirements above			\$ <u>0</u>
AWRF TOTAL			\$ <u>17,892-</u>
OWRF Site:			
Compaction QC Technician	44 HR	<u>62-</u>	\$ <u>2,728-</u>
Concrete QC Technician	12 HR	<u>62-</u>	\$ <u>744-</u>
Asphalt QC Technician	4 HR	<u>62-</u>	\$ <u>248-</u>
Technician Trip Charges	16 EA	<u>35-</u>	\$ <u>560-</u>
Gradation	1 EA	<u>130-</u>	\$ <u>130-</u>
Concrete Cylinders (3 EA POURS)		<u>* 80ea</u>	\$ <u>240-</u>

* Price for set of 4 cylinders

Reclaimed Water Conveyance Improvements – City of Chandler
OWRF/AWRF Onsite Improvements – GMP 2
QUALITY CONTROL TESTING



Project Management, Clerical Reports, and all
other cost associated with QC Testing requirements
above

\$ 0

OWRF TOTAL

\$ 4,650-

TOTAL BID

\$ 22,942-

SIGNED BY:

(Subcontractor) Ricker Atkinson McBae Morman
RAMM

(Print Name) David A. Thomas

(Title) President

(Signature and Date) [Signature] 8-18-2023

PCL CONSTRUCTION, INC.

Reclaimed Water Conveyance Improvements - GMP 2 - WW2206.401

City of Chandler

<u>Survey</u>			
<u>Work Description</u>	<u>Sub / Supplier No.1</u>	<u>Sub / Supplier No.2</u>	<u>Sub / Supplier No.3</u>
Survey Sub AWRF OWRF <i>Total Price</i>			
	Conzor	Lemme	Hansen Engineering and Surveying
	\$28,560.00	\$14,000.00	
	\$14,960.00	\$9,200.00	
	\$43,520.00	\$23,200.00	DECLINED TO BID

Designates Selected Subcontractor /
Supplier

EXHIBIT B

SUBCONTRACTOR ACKNOWLEDGEMENT

The supplier shall demonstrate acceptance by initialing each of the following items:

Acknowledgement

Bidder Initial

Bidder acknowledges and accepts the PCL contract standard
Terms and conditions attached to bid package

TG

Bidder has reviewed and accepts division(s) 1, 2, 3 & 15 requirements
Of the Specifications

TG

EXHIBIT C

BID PROPOSAL FORM

Please indicate your quote in the spaces provided below:

Base Bid Items:

Total Price

AWRF Site:

Control Points & Benchmarks

\$ 1,600.00 1

Staking for new Buried Pipe Install

\$ 2,400.00 2

10' & 20' Offsets provided for each fitting & valve & grade change

Each with a hub and showing cut to invert elevation

Stakes at centerline of pipe every 50' & 10'/20' offsets

Each with a hub and showing cut to invert elevation

Staking with offsets for new structural concrete (corners)

\$ 800.00 3

Staking of all fills/cuts for Site grading with offsets

\$ 800.00 4

As-Builts of New Buried Piping & Electrical Ductbank

\$ 2,400.00 5

AWRF TOTAL

\$ 8,000.00 6

OWRF Site:

Control Points & Benchmarks

\$ 1,600.00 7

Staking for new Buried Pipe Install

\$ 800.00 8

10' & 20' Offsets provided for each fitting & valve & grade change

Each with a hub and showing cut to invert elevation

Stakes at centerline of pipe every 50' & 10'/20' offsets

Each with a hub and showing cut to invert elevation

Staking with offsets for new structural concrete (corners)

\$ 800.00 9

Staking of all fills/cuts for Site grading with offsets

\$ 1,600.00 10

As-Builts of New Buried Piping & Electrical Ductbank

\$ 2,400.00 11

OWRF TOTAL

\$ 7,200.00 12

Reclaimed Water Conveyance Improvements – City of Chandler
OWRF/AWRF Onsite Improvements – GMP 2
SURVEY



ESTIMATED RE-STAKING (40 HRS)

\$ 8,000.00 ¹

TOTAL BID (AWRF/OWRF/RE-STAKING)

\$ 23,200.00 ²

SIGNED BY:

(Subcontractor) Lemme Associates AZ ³

(Print Name) Timothy Gaudette ⁴

(Title) Chief of Parties ⁵

(Signature and Date)  08/03/2023 ⁶

PCL CONSTRUCTION, INC.

Reclaimed Water Conveyance Improvements - GMP 2 - WW2206.401

City of Chandler

<u>Landscape</u>			
<u>Work Description</u>	<u>Sub / Supplier No.1</u>	<u>Sub / Supplier No.2</u>	<u>Sub / Supplier No.3</u>
Landscape Sub	AAA Landscaping	Gothic Landscaping AZ	Brightview Lanscape
	AWRF		
	OWRF		
<i>Total Price</i>	\$212,300.00	DECLINED TO BID	DECLINED TO BID

Designates Selected Subcontractor / Supplier

EXHIBIT A

INSTRUCTIONS TO BIDDERS

Complete bid proposals will be received by PCL Construction, Inc., the Construction Manager at Risk (CMAR) for the referenced project, at no later than **August 18, 2023, at 2:00 PM MST (Arizona local time)**, for Landscaping Package complete. All bid proposals shall be submitted to **Smartbidnet.com**.

Reclaimed Water Conveyance Improvements – Agency Review Drawings Dated July 2023

Reclaimed Water Conveyance Improvements – Agency Review Specifications Dated July 2023

DIVISION 01 – GENERAL REQUIREMENTS (As it pertains to the Subcontractor's Scope)

DIVISION 02 – EARTHWORK (As it pertains to the Subcontractor's Scope)

Work Shall include the furnish and installation of all scope associated with landscaping including but not limited to:

AWRF Site:

1. DG Supply and Install & Replacement (See Drawing C-1.42 & Attachment A & B for clarification)
2. Rip Rap Install & Replacement (See Drawing C-1.42 & Attachment B for clarification)
3. Tree and Plant Replacement (See Attachment C for clarification)
4. Herbicide application (refer to specifications and Prime Construction Services Agreement)

OWRF Site:

1. DG Replacement (See Drawing C-3.42 & Attachment A for clarification)
2. Rip Rap Install & Replacement (See Drawing C-3.42 & Attachment A for clarification)
3. Tree and Plant Replacement (See Attachment B for clarification)
4. Herbicide application (refer to specifications and Prime Construction Services Agreement)

ADDITIONAL CLARIFICATIONS:

- Bidder shall include two (2) mobilizations/demobilizations for the AWRF Site and one (1) mobilization/demobilization for the OWRF Site.
- Bidder is to understand what kind and amount of vegetation that is to be removed so that the correct amount and type of replacement is priced according to Section 15 – Appendix 10 of the Prime Construction Services Agreement.
- Bidder shall include supply and install of DG material, trees, plants, herbicide application and drip line system necessary for completion.

Reclaimed Water Conveyance Improvements – City of Chandler
OWRF/AWRF Onsite Improvements – GMP 2
LANDSCAPING



-
- Bidder shall provide cleanup labor to ensure work area is free of debris at the end of each shift
 - Water Source will be provided within 500 FT of the work area. Bidder shall include any temporary piping, load stands, etc. for construction water.
1. PCL reserves the right to hold bid clarification meetings with the bidders after the bid date to ensure scope coverage and understanding of the project. After holding this clarification meeting, PCL reserves the right to reject bids that are incomplete and/or non-responsive.
 2. All bids must be submitted on the enclosed Bid Proposal Form (Exhibit C) with no exceptions taken to the scope. Through submission of a proposal, the Subcontractor will be bound by the terms and conditions as indicated therein.
 3. All pricing shall remain valid for (120) one hundred twenty calendar days.
 4. All bidders must fill out, completely, the enclosed Subcontractor Acknowledgement Form (Exhibit B) and include all required attachments with the Bid Proposal Form.
 5. Bidder shall provide a list of, if any, specification deviations and/or exceptions with their bid.
 6. Bid bond, builders risk insurance, performance and payment bonds, as well as Arizona gross receipt taxes are to be excluded from the Subcontractor's cost. Subcontractor's general liability insurance should be included in the base bid proposal.
 7. PCL reserves the right to waive any and all informalities or irregularities in any bid proposal received. Furthermore, PCL, along with City's approval, reserves the right to reject any and all bids.
 8. The Bidder is responsible to review the following:
 - a. Prime Construction Services Agreement (Section 15, Appendix 10)
 - b. Sample Subcontract
 - c. All contract documents listed in this Instruction to Bidders
 9. Questions and/or requests for additional information should be directed to: Zachary Piersall at zpiersall@pcl.com. All comments and/or questions must contain the City's project number in the subject line WW2206.401. Written responses will be distributed as an addendum to all bidders. Only communication between bidder and PCL Construction, Inc. addressed in a written addendum will be considered during contract negotiations. **Deadline for questions is August 8, 2023.**

EXHIBIT B

SUBCONTRACTOR ACKNOWLEDGEMENT

The supplier shall demonstrate acceptance by initialing each of the following items:

Acknowledgement

Bidder Initial

Bidder acknowledges and accepts the PCL contract standard
Terms and conditions attached to bid package

RF

Bidder has reviewed and accepts division 1 & 2
requirements Of the Specifications

RF

Subcontractor is responsible for all cleanup of own debris and work area(s)
During and prior to the end of each shift.

RF

Subcontractor is responsible to protect other trade installations
During installation of its scope of work to prevent any damage.

RF

Subcontractor acknowledges requirements per MAG requirements
*NOTE: If any conflict between the MAG specification requirements
As supplemented by the City of Chandler and provided specifications
For this project, the provisions of the provided specifications for this
Project shall govern*

RF

Provide EMR Safety Rating

0.60

EXHIBIT C

BID PROPOSAL FORM

Please indicate your quote in the spaces provided below:

Bid Items:

Total Price

AWRF Site:

Supply & Install DG

\$ 44,800.00

Supply & Install of Rip Rap Complete

\$ 35,000.00

Supply & Install of Trees and plants

\$ 29,025.00

Supply & install of drip line system

\$ 9,000.00

Supply and Application Herbicide Treatment

\$ 5,000.00

Mobilization

\$6,000

Submittals

\$ 0

\$4,500

90 Day Maint
Period

AWRF TOTAL

\$ 133,325.00

OWRF Site:

Supply & Install DG

\$ 25,200.00

Supply & Install of Rip Rap Complete

\$ 14,000.00

Supply & Install of Trees and plants

\$ 24,775.00

Supply & install of drip line system

\$ 6,000.00

Supply and Application Herbicide Treatment

\$ 2,000.00

Mobilization

\$4,000

Submittals

\$ 0

\$3,000

90 Day Maint
Period

OWRF TOTAL

\$ 78,975.00

TOTAL BASE BID

\$ 212,300.00

SEE ATTACHED
PROPOSAL BY
AAA LANDSCAPE DATED 8-24-23

Reclaimed Water Conveyance Improvements – City of Chandler
OWRF/AWRF Onsite Improvements – GMP 2
LANDSCAPING



SIGNED BY: UNDERWOOD BROS., INC. DBA/
(Subcontractor) AXX LANDSCAPE
(Print Name) REID IBER
(Title) DIRECTOR OF ESTIMATING
(Signature and Date)  8/24/23



August 24, 2023

PCL

We Beautify the World

Attn: Zacher

Re: Chandler AWRF & OWRF Conveyance Improvements Rip Rap, DG Landscape & Irrigation Repair Proposal

We hereby submit the Rip Rap, DG Landscape & Irrigation Repair Proposal for Chandler AWRF & OWRF Conveyance Improvements as per the PDF doc A, B, C and the Grading & Drainage Site Plan 1 provided. This proposal is to be included as an exhibit in any contract.

Our proposal includes the following items:

AWRF Area

Landscape and Irrigation

Quantity	Unit	Description	Unit Price	Total Price
2	each	New 60" Box Trees	\$ 9,200.00	\$ 18,400.00
25	each	New 24" Box Shrubs	\$ 425.00	\$ 10,625.00
5000	sqft	All New D 50=6" Rip Rap @ 12" Depth Includes 8oz fabric under all Rip Rap Areas	\$ 8.00	\$ 40,000.00
32000	sqft	New 3/4" Screened Gold DG @ 2" Depth	\$ 1.40	\$ 44,800.00
1	lsum	Irrigation System Repairs Allowance	\$ 9,000.00	\$ 9,000.00
1	lsum	Mobilization	\$ 6,000.00	\$ 6,000.00
1	lsum	90 Day Maintenance Period	\$ 4,500.00	\$ 4,500.00
Sub Total:				\$ 133,325.00

OWRF Area

Landscape and Irrigation

Quantity	Unit	Description	Unit Price	Total Price
2	each	New 60" Box Trees	\$ 9,200.00	\$ 18,400.00
15	each	New 24" Box Shrubs	\$ 425.00	\$ 6,375.00
2000	sqft	All New D 50=6" Rip Rap @ 12" Depth Includes 8oz fabric under all Rip Rap Areas	\$ 8.00	\$ 16,000.00
18000	sqft	New 3/4" Screened Gold DG @ 2" Depth	\$ 1.40	\$ 25,200.00
1	lsum	Irrigation System Repairs Allowance	\$ 6,000.00	\$ 6,000.00
1	lsum	Mobilization	\$ 4,000.00	\$ 4,000.00
1	lsum	90 Day Maintenance Period	\$ 3,000.00	\$ 3,000.00
Sub Total:				\$ 78,975.00

Bid Breakdown

	Total Price
AWRF Area	\$ 133,325.00
OWRF Area	\$ 78,975.00

Total Lsum: \$ 212,300.00

CLARIFICATIONS:

- This Proposal MUST be made an exhibit in any contract awarded to AAA LANDSCAPE.
- This proposal is based upon completing the Project in **50** working days.
- This proposal is a lump sum bid. Unit costs and quantities are provided for reference only.
- All grades are to be received within +/- 1/10th of subgrade.
- This bid is based upon using a 50 Ton Crane with access within 25' (twenty-five feet).
- Bid is based upon Developer/General Contractor providing electrical power and water to the site.
If water and power to the 100 amp electric pedestal and controller are not installed prior to tree and shrub planting hand watering will be done at an extra cost to the owner/general. Guarantee for plants that are over watered from hand watering will be void and replaced on a time and materials basis.
- AAA Landscape is not responsible for damage due to poor soil conditions, rodents, vandalism, and/or "ACTS OF NATURE" to include frost damage.

Phoenix Office
3747 E. Southern Ave.
Phoenix, AZ 85040
P 602.437.2690
Tucson Office
4742 N. Romero Rd.
Tucson, AZ 85705
P 520.696.3223

aaalandscape.com

- AAA Landscape will **only** guarantee plants for the specified period as long as they are maintained per known
- "professional practices".
- Areas are to be turned over for maintenance as they are completed – whether phased or parcels. Each turn over will have its own maintenance period per contractual terms.
- AAA Landscape must be present for the substantial completion walk thru with the client and the landscape architect.
- Two mobilizations are included in this proposal – any additional mobilizations will be \$ 2,000.00 ea.
- Layout and Elevations to be provided by others.
- Two layers of pre-emergent will be provided for inert ground cover areas.
- All materials pricing is based on availability at the time of installation. Pricing is subject to change.

Extras and additional work will be per the following rates:

Labor:	\$55.00 per hour
Project Manager	\$105.00 per hour
Foreman:	\$95.00 per hour
Irrigation/Leadperson:	\$85.00 per hour
Equipment w/operator:	3500/Bobcat: \$125.00 per hour
	570 Grade Tractor: \$145.00 per hour
	590 Backhoe: \$165.00 per hour
	1800 Gal Water Truck: \$260.00 per hour
	The Above Rates include Operator and Equipment Costs.
	All Pickup and Delivery costs will be an extra cost.
Material, Fuel and rentals:	Cost + 25%

AAA Landscape Warranty:

AAA LANDSCAPE will replace – upon notice by Owner – any material installed which is defective due to poor quality material or workmanship. This Warranty takes effect upon **substantial completion** of areas when accepted and continues for the period listed below. This Warranty does not cover damage caused by others, or damage or loss beyond the control of AAA LANDSCAPE.

Shrubs – ninety (90) days from date of planting

Trees – one (1) year from date of planting

Irrigation – one (1) year

Current EMOD Rate: 0.60

EXCLUSIONS:

- Cut/Patch/Boring under asphalt or concrete (unless specified).
- Removal of any debris or concrete left by other trades.
- Protection of existing plants during construction by others.
- Electrical power to controller and associated fees.
- Cost of water meter and associated fees.
- Permits/bonds and sales tax are not included.
- Repair of existing landscape and irrigation in surrounding areas.
- Overtime or Accelerated schedule
- Traffic Control
- Backfilling Curbs, Walls or Parking Islands
- Any Vac Truck Work or Xray Locating is by others
- Clearing/Grubbing/Weed Eradication.
- Sand bedding of laterals / mainline.
- Mold and Water Intrusion.
- Import/Export soil/rock
- Excavation in hard-pan/caliche/bed rock.
- Berming/Cutting of retention's.
- Any Inerts from Civil Plans.
- Fencing, walls or any hardscape.
- Not responsible for existing unknown utilities not mark by blue stake.

If you have any questions, please feel free to call.

Sincerely,

Reid Iber
Director of Estimating

Note: This proposal expires in 30 calendar days.

Acceptance of this proposal- The above prices, specifications, and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified.

“Pursuant to Arizona law we are required to inform you of your right to file a written complaint with the Registrar of Contractors for an alleged violation of Arizona Revised Statutes section 32-1154, subsection

We Beautify the World

A. Any complains must be made within the applicable time period as set forth in section 32-1155, subsection A. The ROC can be contacted at (602) 542-1525 or online at <http://www.azroc.gov>. We request that if any portion of our work is unsatisfactory that you notify us prior to filing a complaint so we can attempt to resolve any concerns."

Date Of Acceptance: _____

Authorized Signature: _____

PCL CONSTRUCTION, INC.

Reclaimed Water Conveyance Improvements - GMP 2 - WW2206.401

City of Chandler

<u>Asphalt/Flatwork/Curb & Gutter</u>			
<u>Work Description</u>	<u>Sub / Supplier No.1</u>	<u>Sub / Supplier No.2</u>	<u>Sub / Supplier No.3</u>
Asphalt/Flatwork/Curb Sub	Gonzalez Asphalt	Cactus Asphalt	ABC Asphalt
	AWRF	\$154,575.00	\$124,092.00
	OWRF	\$7,240.00	\$40,783.00
Total Price	\$161,815.00	\$164,875.00	DECLINED TO BID

Designates Selected Subcontractor /
Supplier

EXHIBIT A

INSTRUCTIONS TO BIDDERS

Complete bid proposals will be received by PCL Construction, Inc., the Construction Manager at Risk (CMAR) for the referenced project, at no later than **August 18, 2023, at 2:00 PM MST (Arizona local time)**, for Asphalt Paving, Flatwork, Curb and Gutter Package complete. All bid proposals shall be submitted to **Smartbidnet.com**.

Reclaimed Water Conveyance Improvements – Agency Review Drawings Dated July 2023

Reclaimed Water Conveyance Improvements – Agency Review Specifications Dated July 2023

DIVISION 01 – GENERAL REQUIREMENTS (As it pertains to the Subcontractor's Scope)

DIVISION 02 – EARTHWORK (As it pertains to the Subcontractor's Scope)

DIVISION 03 – CONCRETE (As it pertains to the Subcontractor's Scope)

Work Shall include the furnish and installation of all scope associated with asphalt paving/curb & gutter and flatwork including but not limited to:

AWRF Site:

1. Asphalt Trench repair (See Drawing C-1.22, C-1.23, C-1.42 & Attachment A & B for clarification)
2. Curb and Gutter Repair (See Drawing C-1.22, C-1.23, C-1.42 & Attachment A & B for clarification)
3. Sidewalk Repair (See Drawing C-1.25 & Attachment B for clarification)

OWRF Site:

1. Asphalt Trench Repair (See Drawing C-3.22, C-3.42 & Attachment C for clarification)

ADDITIONAL CLARIFICATIONS:

- Bidder shall include two (2) mobilizations/demobilizations for the AWRF Site and one (1) mobilization/demobilization for the OWRF Site.
- Bidder shall include supply and install of ABC for subgrade of asphalt paving (including thickened edge where required).
- Bidder shall include install of pavement
- Bidder shall provide cleanup labor to ensure work area is free of debris at the end of each shift
- Water Source will be provided within 500 FT of the work area. Bidder shall include any temporary piping, load stands, etc. for construction water.

Reclaimed Water Conveyance Improvements – City of Chandler
OWRF/AWRF Onsite Improvements – GMP 2
ASPHALT PAVING, FLATWORK,
CURB & GUTTER BID PACKAGE



1. PCL reserves the right to hold bid clarification meetings with the bidders after the bid date to ensure scope coverage and understanding of the project. After holding this clarification meeting, PCL reserves the right to reject bids that are incomplete and/or non-responsive.
2. All bids must be submitted on the enclosed Bid Proposal Form (Exhibit C) with no exceptions taken to the scope. Through submission of a proposal, the Subcontractor will be bound by the terms and conditions as indicated therein.
3. All pricing shall remain valid for (120) one hundred twenty calendar days.
4. All bidders must fill out, completely, the enclosed Subcontractor Acknowledgement Form (Exhibit B) and include all required attachments with the Bid Proposal Form.
5. Bidder shall provide a list of, if any, specification deviations and/or exceptions with their bid.
6. Bid bond, builders risk insurance, performance and payment bonds, as well as Arizona gross receipt taxes are to be excluded from the Subcontractor's cost. Subcontractor's general liability insurance should be included in the base bid proposal.
7. PCL reserves the right to waive any and all informalities or irregularities in any bid proposal received. Furthermore, PCL, along with City's approval, reserves the right to reject any and all bids.
8. The Bidder is responsible to review the following:
 - a. Prime Construction Services Agreement
 - b. Sample Subcontract
 - c. All contract documents listed in this Instruction to Bidders
9. Questions and/or requests for additional information should be directed to: Zachary Piersall at zpiersall@pcl.com. All comments and/or questions must contain the City's project number in the subject line WW2206.401. Written responses will be distributed as an addendum to all bidders. Only communication between bidder and PCL Construction, Inc. addressed in a written addendum will be considered during contract negotiations. **Deadline for questions is August 8, 2023.**

EXHIBIT B

SUBCONTRACTOR ACKNOWLEDGEMENT

The supplier shall demonstrate acceptance by initialing each of the following items:

Acknowledgement

Bidder Initial

Bidder acknowledges and accepts the PCL contract standard
Terms and conditions attached to bid package

PE

Bidder has reviewed and accepts division 1, 2, & 3
requirements Of the Specifications

PE

Subcontractor is responsible for all cleanup of own debris and work area(s)
During and prior to the end of each shift.

PE

Subcontractor is responsible to protect other trade installations
During installation of its scope of work to prevent any damage.

PE

Subcontractor acknowledges requirements per MAG requirements
*NOTE: If any conflict between the MAG specification requirements
As supplemented by the City of Chandler and provided specifications
For this project, the provisions of the provided specifications for this
Project shall govern*

PE

Provide EMR Safety Rating

PE

EXHIBIT C

BID PROPOSAL FORM

Please indicate your quote in the spaces provided below:

Bid Items:

Total Price

AWRF Site:

Preparation of Subbase (Supply & Install Base Course)	\$ <u>38,150.00</u>
Asphalt & Paving Complete	\$ <u>98,100.00</u>
Curb & Gutter Complete	\$ <u>16,875.00</u>
Concrete Sidewalk	\$ <u>1,400</u>
Submittals	\$ <u>50.00</u>

AWRF TOTAL

~~\$ 153,175.00~~ **\$154,575.00**

OWRF Site:

Preparation of Subbase (Supply & Install Base Course)	\$ <u>1,323.00</u>
Asphalt & Paving Complete	\$ <u>3,402.00</u>
Curb & Gutter Complete	\$ <u>2,465.00</u>
Submittals	\$ <u>50.00</u>

OWRF TOTAL

\$ 7,240.00

TOTAL BASE BID

~~\$ 160,415.00~~ **\$161,815.00**

Reclaimed Water Conveyance Improvements – City of Chandler
OWRF/AWRF Onsite Improvements – GMP 2
ASPHALT PAVING, FLATWORK,
CURB & GUTTER BID PACKAGE



SIGNED BY:

(Subcontractor) Gonzalez Asphalt

(Print Name) Priscilla Estrada

(Title) Estimator

(Signature and Date) *Priscilla Estrada* 8/21/2023

Reclaimed Water Conveyance Improvements – City of Chandler
OWRF/AWRF Onsite Improvements – GMP 2
ASPHALT PAVING, FLATWORK,
CURB & GUTTER BID PACKAGE



Gonzalez Asphalt Inc.

3001 W Lincoln, Phoenix, AZ 85009

Tel 623-594-2245 Fax 623-243-6429

Estimating@gonzalezasphalt.com (Robert)

Priscilla@gonzalezasphalt.com (Priscilla)



Project Name:	RWCI - City of Chandler	Proposal #	2023-459
Project Location:	905 E. Queen Creek Rd	Date:	8/25/2023
	Chandler, AZ 85286		

Line Item #	Description of work	UNIT	Quantity	Unit Price	Total Price
AWRF Site					
1	Preparation of Subbase	SF	10,900	3.50	38,150.00
2	Asphalt & Paving (up to 4" thick)	SF	10,900	9.00	98,100.00
3	Concrete Curb & Gutter	LF	375	45.00	16,875.00
4	Concrete Side walk	SF	100	14.00	1,400.00
5	Submittals	LS	1	50.00	50.00
OWRF					
1	Preparation of Subbase	SF	378	3.50	1,323.00
2	Asphalt & Paving (up to 4" thick)	SF	378	9.00	3,402.00
3	Concrete Curb & Gutter	MIN	1	2,000.00	2,000.00
4	Short Load Fee	LS	1	465.00	465.00
5	Submittals	LS	1	50.00	50.00
Note:	Proposal valid for 30 days			Total	161,815.00

Engineer:	Per plans	Plan Date:	
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Exclusions: Bonds, permits, taxes, testing, engineering, striping and signage, Prime coat, Seal coat, Traffic control, traffic plan, barricades, concrete work, Underground Work, underground removals & relocations, Site Clearing, Site Grading
Site Haul Off of Spoils

To accept this proposal, sign and date

X: _____

PCL CONSTRUCTION, INC.

Reclaimed Water Conveyance Improvements - GMP 2 - WW2206.401

City of Chandler

<u>Concrete Supply</u>			
<u>Work Description</u>	<u>Sub / Supplier No.1</u>	<u>Sub / Supplier No.2</u>	<u>Sub / Supplier No.3</u>
Concrete Supply AWRF OWRF <i>Total Price</i>			
	Cemex	Cal Portland	
	\$24,676.00	\$26,092.00	
	\$7,423.00	\$7,752.00	
	\$32,099.00	\$33,844.00	

Designates Selected Subcontractor / Supplier

GENERAL INFORMATION

Date	10/4/2023 8:58 AM		
Account:	PCL CIVIL CONSTRUCTORS INC	Account Manager:	Angela L Renneman
Contact:	Tony Spera	E-mail:	angelal.renneman@cemex.com
E-mail:	ASpera@pcl.com	Phone Number:	+16024162718
Phone:	480-582-2188	Customer Service:	602-416-2652
Project:	AWRF SITE	Estimated Concrete:	166 YD3
Project Address:	905 East Queen Creek Road Chandler Arizona 85286		

MATERIAL PRICING

The prices stated herein, unless otherwise agreed to by the parties in writing, are subject to the CEMEX Con Mat South,LLC standard terms and conditions, which shall control and take precedence over any 'terms and conditions' to the contrary in any purchase order or other document. **This quotation is offered for written acceptance by 9/22/2023, after which it is subject to confirmation by the seller.** Quotation does not guarantee commitment or ability to supply.

Description	UoM	Price Per Unit	Notes
4500 HVFA .45 W/C	YD3	\$179.00	
4500 HVFA .45 W/C FLOW	YD3	\$182.00	
MAG SEC728 0.5sk(PHCLSM 0.5)	YD3	\$136.00	

CLAUSES

Category	Item	Value	UoM	Comments
Pricing Escalation	THESE PRICES WILL EXPIRE ON 10/01/2024	-	USD/Cu Yd	-
Surcharges and Fees	Environmental compliance fee	\$25.00	USD/Load	
	Variable Fuel surcharge	\$29.00	USD/Load	At present, subject to change
	Short Load Fee	Per Schedule		Applies to loads 6 yards or less
	4 < 6 cu/ yds	\$200.00	USD/Load	
	2 < 4 cu/ yds	\$225.00	USD/Load	
	1 < 2 cu/ yds	\$275.00	USD/Load	
	Discharge Time	\$2.00	USD/min	Charge will apply to the time taken over and above 4 minutes per cubic yard for discharge time or a maximum of 45 minutes per load
	Bucket Washout fee (Chute rinse recovery system)	\$25.00	USD/Load	This service must be requested at the time of placing an order
	Color Washout fee	\$25.00	USD/Load	Applies to all loads with colored concrete
	Order Cancellation fee	\$8.00	USD/Cu Yd	Minimum of 275.00 USD. Applies to all orders cancelled after 12:00 pm the business day prior. Orders for Monday must be cancelled by 12:00 pm Friday to avoid fees
	Concrete Disposal	Up to 300	USD/Load	Full load of returned concrete \$300 ; Partial load of returned concrete \$125.00
	Saturday premium charge - Ready Mix	\$15.00	USD/Cu Yd	
	Plant Opening and Off Hours	Upon Request		Off hours, Saturday and Sunday opening fees will be quoted upon request.
	Multi-stop	\$85.00	USD/Load	
	Out-of-Area Fee	Upon Request	USD/Load	
	Trial Batch / QC Testing	Upon Request		Charge will apply when trial batch or quality control testing is required
Additional Products and Services	Accelerator - Winter Set - 1 - Add	\$4.00	USD/Cu Yd	
	Accelerator - Winter Set - 2 - Add	\$7.00	USD/Cu Yd	
	Accelerator - Winter Set - 3 - Add	\$10.00	USD/Cu Yd	
	Accelerator - Winter Set - 4 - Add	\$14.00	USD/Cu Yd	
	Retarder - Summer Set - 1	\$3.00	USD/Cu Yd	
	Retarder - Summer Set - 2	\$4.00	USD/Cu Yd	
	Retarder - Summer Set - 3	\$5.00	USD/Cu Yd	
	Retarder - Summer Set - 4	\$6.00	USD/Cu Yd	
	Chilled water (where available)	\$2.00	USD/Cu Yd	
	Hot water (where available)	\$2.00	USD/Cu Yd	
	Nitrocrete	\$5.00	USD/Gallon	

Pricing Conditions

All Sales are subject to CEMEX Standard terms and conditions which shall control and take precedence over any terms and conditions to the contrary in any purchase order or other document.

Customer is responsible for Applicable Sales Tax. Such taxes will appear on invoice unless Sales Tax exemption certificate is on file at CEMEX prior to shipping

If plans or specifications were not available for review at the time of this quote, all specification mixes will require further pricing review.

Prices quoted are subject to availability of materials and subject to change prior to commitment

There will be a fuel surcharge on all delivered loads. The charge will be on a sliding scales adjusted monthly based on fuel price according to WEST COAST PADD 5 (Diesel)

Payment terms

Payment Terms are standard as follows: 1% 15th Net 20 (15th of the month following delivery)

Delayed portion of payment will attract a Finance charge of the lessor of 1.5% per month, 18% per annum or maximum permitted under applicable laws

CEMEX Con Mat South,LLC
Quoted By:
Angela L Renneman

PCL CIVIL CONSTRUCTORS INC
Accepted By:
Tony Spera

VARIABLE FUEL SURCHARGE
Rate Table (per Load)

Avg price per gallon			Fuel \$/Load
Less than	\$	2.00	\$ -
\$	2.01	\$ 2.05	\$ 0.33
\$	2.06	\$ 2.10	\$ 1.95
\$	2.11	\$ 2.15	\$ 3.58
\$	2.16	\$ 2.20	\$ 5.20
\$	2.21	\$ 2.25	\$ 6.83
\$	2.26	\$ 2.30	\$ 8.45
\$	2.31	\$ 2.35	\$ 10.08
\$	2.36	\$ 2.40	\$ 11.70
\$	2.41	\$ 2.45	\$ 13.33
\$	2.46	\$ 2.50	\$ 14.95
\$	2.51	\$ 2.55	\$ 16.58
\$	2.56	\$ 2.60	\$ 18.20
\$	2.61	\$ 2.65	\$ 19.83
\$	2.66	\$ 2.70	\$ 21.45
\$	2.71	\$ 2.75	\$ 23.08
\$	2.76	\$ 2.80	\$ 24.70
\$	2.81	\$ 2.85	\$ 26.33
\$	2.86	\$ 2.90	\$ 27.95
\$	2.91	\$ 2.95	\$ 29.58
\$	2.96	\$ 3.00	\$ 31.20
\$	3.01	\$ 3.05	\$ 32.83
\$	3.06	\$ 3.10	\$ 34.45
\$	3.11	\$ 3.15	\$ 36.08
\$	3.16	\$ 3.20	\$ 37.70
\$	3.21	\$ 3.25	\$ 39.33
\$	3.26	\$ 3.30	\$ 40.95
\$	3.31	\$ 3.35	\$ 42.58
\$	3.36	\$ 3.40	\$ 44.20
\$	3.41	\$ 3.45	\$ 45.83
\$	3.46	\$ 3.50	\$ 47.45
\$	3.51	\$ 3.55	\$ 49.08
\$	3.56	\$ 3.60	\$ 50.70
\$	3.61	\$ 3.65	\$ 52.33
\$	3.66	\$ 3.70	\$ 53.95
\$	3.71	\$ 3.75	\$ 55.58
\$	3.76	\$ 3.80	\$ 57.20
\$	3.81	\$ 3.85	\$ 58.83
\$	3.86	\$ 3.90	\$ 60.45
\$	3.91	\$ 3.95	\$ 62.08
\$	3.96	\$ 4.00	\$ 63.70

Avg price per gallon			Fuel \$/Load
\$	4.01	\$ 4.05	\$ 65.33
\$	4.06	\$ 4.10	\$ 66.95
\$	4.11	\$ 4.15	\$ 68.58
\$	4.16	\$ 4.20	\$ 70.20
\$	4.21	\$ 4.25	\$ 71.83
\$	4.26	\$ 4.30	\$ 73.45
\$	4.31	\$ 4.35	\$ 75.08
\$	4.36	\$ 4.40	\$ 76.70
\$	4.41	\$ 4.45	\$ 78.33
\$	4.46	\$ 4.50	\$ 79.95
\$	4.51	\$ 4.55	\$ 81.58
\$	4.56	\$ 4.60	\$ 83.20
\$	4.61	\$ 4.65	\$ 84.83
\$	4.66	\$ 4.70	\$ 86.45
\$	4.71	\$ 4.75	\$ 88.08
\$	4.76	\$ 4.80	\$ 89.70
\$	4.81	\$ 4.85	\$ 91.33
\$	4.86	\$ 4.90	\$ 92.95
\$	4.91	\$ 4.95	\$ 94.58
\$	4.96	\$ 5.00	\$ 96.20
\$	5.01	\$ 5.05	\$ 97.83
\$	5.06	\$ 5.10	\$ 99.45
\$	5.11	\$ 5.15	\$ 101.08
\$	5.16	\$ 5.20	\$ 102.70
\$	5.21	\$ 5.25	\$ 104.33
\$	5.26	\$ 5.30	\$ 105.95
\$	5.31	\$ 5.35	\$ 107.58
\$	5.36	\$ 5.40	\$ 109.20
\$	5.41	\$ 5.45	\$ 110.83
\$	5.46	\$ 5.50	\$ 112.45
\$	5.51	\$ 5.55	\$ 114.08
\$	5.56	\$ 5.60	\$ 115.70
\$	5.61	\$ 5.65	\$ 117.33
\$	5.66	\$ 5.70	\$ 118.95
\$	5.71	\$ 5.75	\$ 120.58
\$	5.76	\$ 5.80	\$ 122.20
\$	5.81	\$ 5.85	\$ 123.83
\$	5.86	\$ 5.90	\$ 125.45
\$	5.91	\$ 5.95	\$ 127.08
\$	5.96	\$ 6.00	\$ 128.70
\$	6.01	\$ 6.05	\$ 130.33

For more information, please refer to https://www.eia.gov/dnav/pet/pet_pri_gnd_dcus_r1z_w.htm

Standard Terms and Condition

1. These Standard Terms and Conditions of CEMEX Con Mat South, LLC and its affiliates ("Seller"), Buyer's Credit Application, and Seller's Quotation, if any, (collectively, "Agreement") govern any and all purchases made by Buyer from Seller and are incorporated herein by reference. This Agreement, and any other documents prepared by Seller for Buyer in connection with Buyer's purchase of materials contain the entire understanding between the parties concerning the subject matter hereof, and there are no other agreements or understandings except as set forth herein. Any different or additional terms or conditions contained in any writing or instrument of Buyer, whether by purchase order or otherwise, are hereby objected to by Seller and shall have no effect on, and not become part of, this Agreement.
2. Technical Assistance. In no event shall Seller bear any responsibility for claims arising from technical advice or assistance provided to Buyer. Advice by Seller is for Buyer's guidance only and Buyer agrees to rely solely on its own architects, engineers or other technical experts.
3. Prices and Price Increases. Prices for the materials are (i) subject to material availability at the time of delivery; (ii) shall remain firm until the date set forth on the Seller's Quotation, if any, or if no such date is given, for a period of thirty (30) days after the date the order was accepted by Seller, the price was quoted by Seller or such shorter period as set forth in the Seller's quote; thereafter prices are subject to change by Seller; and (iii) do not include Saturday, Sunday holiday, off-hour or overtime shipments, all of which are subject to additional charges. Prices are applicable only to the job quoted or orders accepted by Seller and are available only to the specific Buyer referred to therein, are for a standard mix design, if applicable, and are only for the quantities requested by Buyer at the time the prices were quoted. Seller reserves the right to (i) increase prices on any quote or accepted orders without notice to reflect any raw material cost increases or surcharges incurred by Seller and (ii) defer or cancel any quote or accepted orders in the event Seller becomes delayed or prevented from performing due to shortages or allocation of raw materials. In the event of a delay or cancellation resulting from shortages or allocations of raw materials, Seller shall not be liable to Buyer for any damages incurred by Buyer as a result of any such delay or cancellation.
4. Surcharges and Fees. Prices quoted may not include additional charges Buyer may be responsible for. Such additional charges include, but are not limited to, charges for additives, accelerators, winterizers/summerset, water (hot or chilled), ice and stand-by, waiting time and delivery charges due to loads in amounts less than a full truckload. Such prices shall be charged at the rate of Seller's then-current price list for additional charges, which is incorporated into these Terms and Conditions by reference as if fully set forth herein and which is available to Buyer upon request. Buyer acknowledges that surcharges and fees are to recoup Seller's costs and achieve a return on investment.
5. Tests. Seller reserves the right to levy an additional charge on Buyer for any nonstandard tests that Buyer may require to be performed on the materials sold to Buyer. Failure of Buyer to witness any tests shall be deemed a waiver by Buyer of its right to do so and of any right to require repetition of such tests, and Buyer shall be deemed to have accepted any such test results as sufficient to meet its specifications.
6. Payment and Interest. Buyer shall make all payments due hereunder in accordance with the terms of this Agreement and as stated on Seller's invoices or other notices of terms, without any right of setoff or retention and without regard to any agreement Buyer may have with other parties. If Buyer fails to pay in full the invoice amount when due, Buyer agrees to pay interest on the unpaid balance from the date when due until paid in full at the rate selected by Seller, not to exceed the lesser of 18% per annum or the highest lawful rate, specifically including post judgment. Buyer agrees to pay any and all costs and expenses incurred by Seller in collecting from Buyer any past due amounts, including but not limited to reasonable attorney fees, court costs and collection agency fees. Seller may suspend pending deliveries during any period when Buyer has overdue balances or evidence of a changed financial condition.
7. Liens. Buyer agrees to timely provide in writing to Seller information regarding bonding companies, general contractors or owners for the purpose of filing preliminary notices and claims on payment bonds or mechanic's and material supplier's liens.
8. Delivery. Seller's responsibility for delivery shall cease FOB shipping point or, if Seller agrees to deliver FOB delivery site, at the curbside or frontage of the address for delivery. Where delivery of products is to an unattended site, Seller will not be liable for any loss or damage to products, property or for unsigned delivery tickets. In absence of a specific delivery date on the Quotation, Seller will commence delivery of the materials on a date and at a rate mutually agreed upon by both Seller and Buyer.
9. Default. If Buyer is in default under this Agreement or any of its contracts or obligations with Seller, Seller may at its option and without notice: (i) declare the entire unpaid balance owed by Buyer due and payable; (ii) postpone further deliveries until such default is remedied; (iii) terminate any and all obligations under any contract; and (iv) refuse further performance without any liability to Buyer.
10. Limited Warranty and Liability Disclaimer. Seller warrants that the materials sold under this Agreement meet solely the description and specifications for the same set forth in the applicable Quotation, if any, and shall be free from defects in material and workmanship for a period of one (1) year from the date of delivery thereof. No other express warranties are made with respect to said materials. Acceptance by Buyer of the materials shall constitute confirmation by Buyer that the materials meet the description and specifications, if any, set forth in such applicable Quotation. The foregoing warranty is subject to standard manufacturing and color variations, efflorescence, tolerances and classifications or naturally occurring substances. Seller is not responsible for installation or defective conditions caused by installation. Buyer's exclusive remedy for breach of this warranty shall be to require Seller, at Seller's option, to refund the purchase price for the materials failing to comply, to repair or to provide Buyer with conforming replacements for any nonconforming materials. Seller shall not be responsible for any removal or installation costs. THE FOREGOING WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WRITTEN OR ORAL WARRANTIES OR CONTRACTUAL AGREEMENTS, WHETHER EXPRESS OR IMPLIED BY LAW OR OTHERWISE, INCLUDING THE IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY OR HABITABILITY. Buyer agrees that in specific consideration for receiving this warranty, it will indemnify and hold harmless Seller from any and all damages in connection with any statutory, contractual or warranty breach, negligence, strict liability, or other tortious conduct by Seller. This Agreement may not be modified or amended except by a writing signed by both parties.
11. Delays. If Seller is unable to complete delivery of any part of an order, Buyer shall accept such part of the order as Seller is able to deliver and Buyer shall pay for the part delivered pro rata at the same rate as the whole of the order agreed to be sold and on the same terms of payment. In the event Seller shall be delayed in or prevented from the performance of any act required under this Agreement, or it shall become commercially unreasonable to perform by reason of governmental allocations, priorities, restrictions or regulations now or hereafter in effect, storm, flood, fire, earthquake or other Acts of God, war, terrorism, riot, insurrection or other civil disturbance, strikes, lockouts, shortages of materials, labor, raw materials, fuel, power or production facilities, breakdown of equipment, transportation shortages, changes in market conditions or other contingencies beyond Seller's reasonable control whether of a similar or dissimilar nature to the foregoing, Seller shall not be liable to Buyer for any damages incurred by Buyer as a result of any such delay or failure.
12. Claims. Buyer agrees that all claims against Seller are waived unless presented to Seller in writing within one week from the date of delivery of the materials. Seller shall have thirty days from receipt to inspect and correct a defect if such claim is allowed. Buyer further agrees that in the event that Buyer disagrees with Seller's decision about whether to allow the claim that the Buyer's remedy is to formally adjudicate the claim, but the Buyer further agrees that Seller's invoices for all materials supplied shall be paid in the interim. No claim shall be allowed after the materials purchased hereunder are incorporated, modified or processed by Buyer in any manner. SELLER'S LIABILITY ON ANY CLAIM FOR LOSS OR DAMAGE SHALL NOT EXCEED THE PRICE OF THE MATERIALS ACTUALLY RECEIVED FROM BUYER BY SELLER WITH REGARD TO WHICH SUCH CLAIM FOR LOSS OR DAMAGE IS MADE.
13. Waiver. Seller may, at its option, permit Buyer to remedy any default under this Agreement without waiving the default so remedied or any other default by Buyer. Buyer waives notice of default of this Agreement and waives presentment, demand, protest, and notice of dishonor as to any instrument issued or delivered to Seller.
14. Venue. This Agreement will be governed by the applicable state and federal laws without giving effect to conflict of laws principles. The Buyer agrees that any legal actions and proceedings brought for the breach or the enforcement of this Agreement will lie in the state and county in this state of delivery. Buyer consents and submits to the jurisdiction and venue of any state, county or federal court located within that county. As a material inducement to Seller to enter into this Agreement, Buyer waives the right to trial by jury in any proceeding arising out of or related to this Agreement.
15. Notice. Any notice sent to Seller shall be in writing and sent by Certified Mail, postage prepaid, to the 10100 Katy Freeway, Suite 300, Houston, TX 77043, Attn: CEMEX Customer Care.
16. Severability. If any term, provision, covenant or condition of this Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remainder of the provisions shall remain in full force and effect and shall in no way be affected, impaired or invalidated. The parties agree that each term and provision of this Agreement shall be construed according to its fair meaning and not strictly for or against any Party.
17. Offset and/or Setoff. Seller may exercise the right of set-off under this Agreement as to any sums owed by Buyer and/or its affiliates under any other contract or agreement with Seller and/or its affiliates.
18. Remedies Cumulative. The duties and obligations imposed by this Agreement and the rights and remedies available under this Agreement are to be in addition to, and not a limitation of rights and remedies at law or in equity.
19. Miscellaneous. Time is of the essence. Buyer consents to Seller sending information to Buyer regarding Seller's products and prices at any time by fax to any fax number provided by Buyer, other electronic means or otherwise. A facsimile copy or electronic transmission will be treated as an original. Buyer shall not assign the Agreement or any interest herein without the prior written consent of Seller, and any attempted assignment, whether by operation of law or otherwise, shall be void without such prior written consent.
20. Authorization for Credit Review. Buyer consents to Seller's use of a non-business consumer credit report on the Buyer in order to further evaluate the credit worthiness of the Buyer in connection with the extension of business credit as contemplated hereby. Buyer authorizes Seller to utilize a consumer credit report from time to time in connection with the extension or continuation of business credit. Buyer hereby knowingly consents to the use of such credit report consistent with the Federal Fair Credit Reporting Act as contained in 15 USC @ 1681 et seq.
21. Representations. Buyer represents to Seller that it is solvent and that any financial information provided reflects the present financial condition of the Buyer. If Buyer is not a corporation or limited liability entity, Buyer acknowledges that Seller is relying on the credit worthiness and financial ability of the owner(s) of Buyer. Each owner shall be joint and severally liable for all indebtedness of Buyer to Seller under the Agreement. Buyer warrants that all information supplied to Seller is accurate and complete. Each representation and the information contained in a Credit Application, if any, is material and given to induce Seller to provide credit. Buyer will notify Seller by certified mail, within forty-eight (48) hours after any material change in Buyer's financial or ownership status.



Innovative Solutions to Build a Better Future

Cemex is evolving. We have updated our brand as part of our evolution towards becoming a more agile, innovative, and sustainable company. We are committed to helping our customers push the boundaries of sustainable construction through innovative solutions, with the clear goal of building a better future. **Scan the QR code to watch our rebrand announcement video and learn more.**



Vertua® is a family of sustainable products that enables building a better future. Vertua® promotes sustainable construction solutions through measureable environmental attributes. Learn more about Vertua®, including Vertua® concrete and Vertua® cement lower-carbon options:

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Cemex Go is a first-of-its-kind fully digital customer integration platform allowing you to have more control over your business than ever before. Place, manage, and track your orders in real-time. Plus, you can view invoices and make payments all within the digital platform. Try Cemex Go today:

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Strong, sustainable, and durable, Portland Limestone Cement allows you to enjoy similar benefits to Ordinary Portland Cement (OPC) while lowering your carbon footprint. It can be used for the same applications as OPC, including concrete, precast, block, pavers projects, and many others.

Learn more:

cemexusa.com/PLC



PCL CONSTRUCTION, INC.

Reclaimed Water Conveyance Improvements - GMP 2 - WW2206.401

City of Chandler

<u>Rebar Supply & Install</u>			
<u>Work Description</u>	<u>Sub / Supplier No.1</u>	<u>Sub / Supplier No.2</u>	<u>Sub / Supplier No.3</u>
Rebar Supply & Install	Harris Rebar	CMC	Camblin Steel
	AWRF		
	OWRF		
<i>Total Price</i>	\$27,319.00	\$29,703.00	\$27,140.04

Designates Selected Subcontractor /
Supplier



Reclaimed Water Conveyance

August 18, 2023

Rev 0

PROPOSAL

PREPARED BY:

Chad Jones

Chad.Jones@camblinsteel.com

Camblin Steel Services, Inc.
1945 W Broadway Rd

Phoenix, AZ 85041

480.809.5191

ROC License # 338462



Camblin Steel Service, Inc. Since 1954
Reinforcing Service

548 Gibson Dr., Suite 150 – Roseville Ca. 95678 – 916-644-1300 – Fax 916-784-3070

Structural Reinforcing Bid Proposal

We are pleased to submit a bid for the **Reclaimed Water Conveyance** project located in **Chandler, AZ**. Please see scope for inclusions & qualifications.

Scope

Proposal is based on the following Drawings and Dates:

Structural drawings by WILSON ENGINEERS
S-1 thru S-121 (10 Sheets) - Dt: 07/20/2023

Labor and material escalation is accounted for with anticipated start date for the concrete reinforcing scope being **10/1/23** with a duration of **2 months**, and is based on a (40) hour work week, M – F.

See “Additional Notes (Project Specific)” for additional inclusions/exclusions/qualifications

Contractor to provide the following at no cost to Camblin Steel:

- All lines, grades, templates, levels, and elevations
- Lane closures as required for reinforcing deliveries
- Equipment for offloading & hoisting materials as needed
- Power within 100 feet of stressing location
- Stressing platforms that are 3'-0" wide minimum at all stressing edges of slab
- Parking within walking distance of job site

Exclusions

- | | |
|---|--|
| • Traffic control, permits, and lane closures | • Masonry reinforcing U.N.O. |
| • BIM / 3D Modeling | • Layout of masonry dowels |
| • Site work (Except what is specifically noted) | • Form savers for patio slabs dowels |
| • Furnishing/installing/greasing smooth dowels | • Patching of waterproofing |
| • Pan filled stairs & landings | • MEP trim for penetrations not shown on structural & architectural drawings |
| • Clean-up of tie wire clippings | • Allowances |
| • Rubatex Plastic sheathing | • Cost of bond |
| • Cost of inspection, & testing of material | • Test panels / Mock-ups / Pick & Lift Steel |
| • Cost of pour watchman | • Composite clean-up crew participation |
| • Equipment for offloading/moving material | • Work above waterproofing on elevated slabs |
| • 180-degree safety hooks | • TERO Requirements and/or hiring preferences |
| • Liquidated Damages | • Cost for 3 rd Party billing |
| • OCIP/CCIP Credits | • Supply and Maintenance of Safety Caps |
| • Prevailing Wages | • Grinding or removal of staples on the underside of exposed decks. |
| • Dumpster for Jobsite clean-up | |

Camblin Steel Service, Inc. Since 1954

Reinforcing Service

548 Gibson Dr., Suite 150 –Roseville Ca. 95678 – 916-644-1300 – Fax 916-784-3070

Additional Notes (Project Specific)

Reinforcement:

- All bars conform to Grade ASTM A615 60.

Inclusions:

Electrical Building:

- Slab on grade

Site works:

- Reclaimed water pump station slab
- Pipe support
- Pipe support footing
- Transformer pad
- Inlet flow control slab
- Switch gear support pad

Exclusions:

1. Location details are missing for pipe support pad shown in sheet M-7.01 & M-7.02. Hence we excluded it.
2. All masonry reinforcement is excluded.

Payment & Contractual Terms:

- 1) Billings are due at the end of the month and Payment is due 30 days from billing date
- 2) Camblin Steel Service reserves the right to stop work if partial or full payment has not been received within 60 days from billing through no fault of this sub-contractor
- 3) Camblin Steel Service will not accept any Flow-Down of contractual obligations between Owner & Contractor
- 4) It is understood by both parties that this Proposal/Contract is based wholly on the above listed bid documents, inclusions, exclusions, and notes
- 5) Proposal/Contract – Once this document is signed by both parties it is understood that this becomes a binding Contract by both parties based on its terms and conditions.
- 6) Retention to be paid, no later than 7 days after “Contractor is paid, or 6 months after Camblin Steel Service has completed their onsite work, whichever comes first
- 7) Time is of the essence. Subcontractor shall perform its Work according to a Mutually Agreed to schedule, any adjustments must be agreed to in writing by both parties.
- 8) Warranty. If a warranty is required, it will be for 1 year and limited to “material defects”
- 9) Insurance. Subcontractor shall keep in effect the following coverages in the following policy limits – CGL = \$2,000,000.00, Vehicle Liability = \$1,000,000.00, WC = \$1,000,000.00, Umbrella Liability = \$2,000,000.00
- 10) Indemnity. To the extent allowed by law, subcontractor shall indemnify and hold contractor harmless from and against any claims, losses, damages or expenses arising from any negligence or omissions of subcontractor, its subs and or employees.

Camblin Steel Service, Inc. Since 1954

Reinforcing Service

548 Gibson Dr., Suite 150 –Roseville Ca. 95678 – 916-644-1300 – Fax 916-784-3070

Lump Sum

Our total cost for this project is **\$27,141.00** Price is good for thirty (30) days from the date above. See below for alternates. Price is subject to change once 100% FOR CONSTRUCTION drawings are received.

Price noted above includes the following:

Concrete Deformed Reinforcing Steel Detailed, Furnished & Installed per ACI & CRSI Standards

Note 5% Retention max F&I – 0% on FOB Proposals

Alternates/Breakouts

Electrical Building	\$	4,943.51
Reclaimed Water Pump Station	\$	10,168.60
Tranformer Pad	\$	2,988.96
Inlet Flow Control	\$	6,284.24
Switch Gear Support Pad	\$	2,755.69
Total	\$	27,141.00

Please contact me directly with questions regarding our proposal.

Sincerely,

Chad Jones

480.809.5191

Acceptance by: _____

Signature: _____

Date: _____

Company: _____

THIS PROPSAL IS SUBJECT TO REVISION OR WITHDRAWAL IF NOT ACCEPTED IN WRITING OR BY FACSMILE TRANSMISSION WITHIN THIRTY (30) DAYS. THIS PROPOSAL IS CONDITIONED UPON OUR APPROVAL OF FINAL QUANTITIES, CONTRACT DOCUMENTS, INSURANCE AND BONDING REQUIREMENTS, AND CONSTRUCTION SCHEDULES. CAMBLIN STEEL SERVICE, INC. SHALL BE ENTITLED TO RECEOVER ITS COLLECTION COSTS AND ATTORNEY'S FEES IF PAYMENT IS NOT MADE AS REQUIRED UNDER THE BUSINESS & PROFESSIONS CODE. CHANGE ORDER NUMBER/WRITTEN AUTHORIZATION IS REQUIRED PRIOR TO ANY EXTRA WORK BEING PERFORMED.

Camblin Steel Service, Inc. Since 1954

Reinforcing Service

548 Gibson Dr., Suite 150 –Roseville Ca. 95678 – 916-644-1300 – Fax 916-784-3070

Tony Spera

From: Chad Jones <Chad.Jones@camblinsteel.com>
Sent: Friday, August 18, 2023 1:23 PM
To: Tony Spera
Subject: RE: Reclaimed Water Conveyance

See below in **RED**

Chad Jones | Estimator
Camblin Steel Service, Inc. | 1945 W. Broadway Rd., Phoenix, AZ 85041
Cell: 480.809.5191 | Chad.Jones@camblinsteel.com | www.camblinsteel.com [camblinsteel.com]



From: Tony Spera <ASpera@pcl.com>
Sent: Friday, August 18, 2023 11:27 AM
To: Chad Jones <Chad.Jones@camblinsteel.com>
Cc: Andrew DeVries <Andrew.DeVries@camblinsteel.com>
Subject: RE: Reclaimed Water Conveyance

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Chad,

Thank you.

Questions;

- Are you holding pricing for 120 days per the attached bid package? **Included**
- Electrical Building SOG
 - Do you have the reinforcement for the 4'x4' 8" thick SOG that butts up to it as well? **Included**
- Pipe Support
 - Please confirm you have all as shown on the drawings and as I listed in the bid package (i.e. 4 each for 42" pipe and 4 each for 16" pipe) **Included**
- Switch Gear SOG
 - Please confirm you have TWO (2) of these SOGs as noted in the bid package sketch **Included**
- Exclusions
 - The pipe support pads shown on M-7.01 & M-7.02 are just standard details and they are not needed for this project.

Also, once you have confirmed the above; Please also complete the attached bid package and send it back to me.

Thanks,

Tony Spera
Estimator

PCL CONSTRUCTION, INC.

Reclaimed Water Conveyance Improvements - GMP 2 - WW2206.401

City of Chandler

<u>Fence Remove & Replace</u>			
<u>Work Description</u>	<u>Sub / Supplier No.1</u>	<u>Sub / Supplier No.2</u>	<u>Sub / Supplier No.3</u>
Fencing Sub	Liberty Fence	Adam's Fence	Biddle & Brown Fence Company
	\$3,500.00		\$5,446.00
	\$1,500.00		\$4,730.00
<i>Total Price</i>	\$5,000.00	NON RESPONSIVE	\$10,176.00

Designates Selected Subcontractor /
Supplier



www.libertyfenceaz.com

Phone: 520-882-8779

2601 E. Ginter Road

Tucson, AZ 85705

ROC # 326365

August 10, 2023

To: PCL Construction

Re: Tony Spera

Liberty Fence & Supply Proposes to Furnish the Following Bid Items Complete and In Place in Accordance with Plans and Specifications.

INCLUSIONS:

AWRF – Remove 40LF of Chain Link and posts. Supply and install new 40LF fence and posts. Submittals if necessary. Total Price: \$ 3,500.00

OWRF – Remove 16LF of chain link and posts with barbwire. Supply and install 16LF of chain link with barb wire. Submittals if necessary. Total Price \$1,500.00

TOTAL AWRF/OWRF -\$5,000.00

***Due To the Recent Rapid Increases of Steel Materials This Proposal Is Only Valid For 30 Days. ***

EXCLUSIONS:

- | | | | |
|---|----------------------|---------------------------|---------------|
| • Grading | • Staking/Surveying | • Clearing of Fence Lines | • Grounding |
| • Permits | • Traffic Control | • Locks/Panic Hardware | • Saw Cutting |
| • Core Drilling | • Concrete Mow Curbs | • Bond Premium | • Engineering |
| • Location of Private Underground Utilities | | | |

Respectfully Submitted,

Liberty Fence & Supply

Michael hill

Project Manager

Tucson Branch

Mhill@libertyfenceaz.com

Phone: 928-940-0735

PCL CONSTRUCTION, INC.

Reclaimed Water Conveyance Improvements - GMP 2 - WW2206.401

City of Chandler

<u>Painting and Coatings</u>			
<u>Work Description</u>	<u>Sub / Supplier No.1</u>	<u>Sub / Supplier No.2</u>	<u>Sub / Supplier No.3</u>
Painting Sub	AO Painting	Revolution Industrial	Riley Industrial
	AWRF		
	OWRF		
	\$17,245.00	\$21,140.29	\$21,837.00
	\$12,245.00	\$9,051.24	\$12,458.00
<i>Total Price</i>	\$29,490.00	\$30,191.53	\$34,295.00

Designates Selected Subcontractor /
Supplier

EXHIBIT A

INSTRUCTIONS TO BIDDERS

Complete bid proposals will be received by PCL Construction, Inc., the Construction Manager at Risk (CMAR) for the referenced project, at no later than **August 18, 2023, at 2:00 PM MST (Arizona local time)**, for furnish and install of painting and coating complete. Work shall include but not be limited to the furnish and installation of coatings for metal coatings, exposed pipe and equipment coatings (both exterior and interior), electrical conduit and equipment (both exterior and interior) coating touch-ups, caulking and sealants. All bid proposals shall be submitted to **Smartbidnet.com**. All scopes shall be in conformance to all drawings and specifications, specifically:

Reclaimed Water Conveyance Improvements – Agency Review Drawings Dated July 2023

Reclaimed Water Conveyance Improvements – Agency Review Specifications Dated July 2023

DIVISION 1 – GENERAL REQUIREMENTS (As it pertains to the Subcontractor's work)

DIVISION 9 – PAINTING (As it pertains to the Subcontractor's work)

Additional Clarifications:

- All coatings, coating preparation, inspection and testing specified to be performed in the field as stated and listed in Specification Section 09900 – 3.4 FINISHING MECHANICAL AND ELECTRICAL EQUIPMENT.
 - Bidder shall include three (1) mobilizations/demobilizations for the AWRF Site and one (1) mobilization/demobilization for the OWRF Site.
 - Bidder shall provide cleanup labor to ensure work area(s) are free of debris at the end of each shift.
 - Scope includes compliance with PCL's safety requirements.
1. PCL reserves the right to hold bid clarification meetings with the bidders after the bid date to ensure scope coverage and understanding of the project. After holding this clarification meeting, PCL reserves the right to reject bids that do not cover the entire scope addressed in this bid package.
 2. All bids must be submitted on the enclosed Bid Proposal Form (Exhibit C) with no exceptions taken to the scope. Through submission of a proposal, the Subcontractor will be bound by the terms and conditions as indicated therein.
 3. All pricing shall remain valid for (120) one hundred twenty calendar days.
 4. All bidders must fill out, completely, the enclosed Subcontractor Acknowledgement Form (Exhibit B) and include all required attachments with the Bid Proposal Form.

-
5. Bidder shall provide a list of, if any, specification deviations and/or exceptions with their bid.
 6. Bid bond, builders risk insurance, performance and payment bonds, as well as Arizona gross receipts taxes are to be excluded from the Subcontractor's cost. Subcontractor's general liability insurance should be included in the base bid proposal.
 7. PCL reserves the right to waive any and all informalities or irregularities in any bid proposal received. Furthermore, PCL, along with City's approval, reserves the right to reject any and all bids.
 8. The Bidder is responsible to review the following:
 - a. Prime Construction Services Agreement
 - b. Sample Subcontract
 - c. All contract documents listed in this Instruction to Bidders
 9. Questions and/or requests for additional information should be directed to: Tony Spera at aspera@pcl.com. All comments and/or questions must contain the City's project number in the subject line WW2206.401. Written responses will be distributed as an addendum to all bidders. Only communication between bidder and PCL Construction, Inc. addressed in a written addendum will be considered during contract negotiations. **Deadline for questions is August 8, 2023.**

EXHIBIT B

SUBCONTRACTOR ACKNOWLEDGEMENT

The supplier shall demonstrate acceptance by initialing each of the following items:

Acknowledgement

Bidder Initial

Bidder acknowledges and accepts the PCL contract standard
Terms and conditions attached to bid package

AO

Bidder has reviewed and accepts division(s) 1 & 9 requirements
Of the Specifications

AO

Subcontractor is responsible for all cleanup of own debris and work area(s)
During and prior to the end of each shift.

AO

Subcontractor is responsible to protect other trade installations and existing
Facilities during installation of its scope of work to prevent any damage
Including overspray

AO

Provide EMR Safety Rating

AO

EXHIBIT C

BID PROPOSAL FORM

Please indicate your quote in the spaces provided below:

Base Bid Items:

Total Price

AWRF Complete

\$ 17,245.00

Includes Submittals

OWRF Complete

\$ 12,245.00

Includes Submittals

TOTAL BID

\$ 29,490.00

SIGNED BY:

(Subcontractor) A-O Painting, Inc.

(Print Name) A-O Painting, Inc.

(Title) General Manager

(Signature and Date) Alex Ortega August 18 2023

PCL CONSTRUCTION, INC.

Reclaimed Water Conveyance Improvements - GMP 2 - WW2206.401

City of Chandler

<u>Pipe & Fittings, Valves, Pipe Supports & Appurtenances Supply</u>			
<u>Work Description</u>	<u>Sub / Supplier No.1</u>	<u>Sub / Supplier No.2</u>	<u>Sub / Supplier No.3</u>
Pipe Supply	Ferguson Waterworks	Fortiline Waterworks	Core and Main
	AWRF		
	\$1,045,085.27	\$1,069,659.57	\$1,105,390.38
	OWRF		
	\$379,722.88	\$395,187.79	\$397,293.08
Total Price	\$1,424,808.15	\$1,464,847.36	\$1,502,683.46

Designates Selected Subcontractor /
Supplier

EXHIBIT A

INSTRUCTIONS TO BIDDERS

Complete bid proposals will be received by PCL Construction, Inc., the Construction Manager at Risk (CMAR) for the referenced project, at no later than **August 18, 2023, at 2:00 PM MST (Arizona local time)**, for supply of the Pipe, Valves, Supports and Miscellaneous Accessories complete package. **Questions from bidders, no bid responses, and bid proposals shall be submitted to Smartbidnet.com.** All scopes shall be in conformance to all drawings and specifications, specifically:

SECTION 01010 – SUMMARY OF WORK (As it pertains to the Supplier's scope)
SECTION 01300 – SUBMITTALS (As it pertains to the Supplier's scope)
SECTION 01640 – MATERIALS AND EQUIPMENT (As it pertains to the Supplier's scope)
SECTION 01650 – STARTING OF SYSTEMS (As it pertains to the Supplier's scope)
SECTION 01660 – FIELD TESTS OF EQUIPMENT (As it pertains to the Supplier's scope)
SECTION 01730 – OPERATION AND MAINTENANCE DATA (As it pertains to the Supplier's scope)
SECTION 01750 – SPARE PARTS AND MAINTENANCE MATERIALS
SECTION 01821 – INSTRUCTION OF OPERATIONS AND MAINTENANCE PERSONNEL
SECTION 02315 – EARTHWORK, EXCAVATION, AND BACKFILL
SECTION 09900 – PAINTING (As it pertains to the Supplier's scope)
SECTION 11295 – HYDRAULIC VALVES
SECTION 11310 – VERTICAL TURBINE PUMPS (and all related Sections within)
SECTION 11715 – CHEMICAL METERING PUMPS AND APPURTENANCES
SECTION 13447 – ELECTRIC MOTOR ACTUATORS
SECTION 15010 – BASIC MECHANICAL REQUIREMENTS
SECTION 15030 – CLEANING MECHANICAL SYSTEMS
SECTION 15050 – PIPING SYSTEMS
SECTION 15051 – BURIED PIPING INSTALLATION
SECTION 15052 – EXPOSED PIPING INSTALLATION
SECTION 15061 – DUCTILE IRON PIPE
SECTION 15062 – STEEL PIPE
SECTION 15119 – SPECIALTY VALVES
SECTION 15120 – PIPING SPECIALTIES AND ACCESSORIES
SECTION 15140 – SUPPORTS AND ANCHORS
SECTION 15260 – PIPING INSULATION
SECTION 16225 – ELECTRIC MOTORS 250 HP OR LESS (As it pertains to the Supplier's scope)
SECTION 17000 – INSTRUMENTATION (and all related sections within)

Additional Clarifications:

1. PCL reserves the right to hold bid clarification meetings with the bidders after the bid date to ensure scope coverage and understanding of the project. After holding this clarification meeting, PCL reserves the right to reject bids that do not cover the entire scope of Supply addressed in this bid package.

Reclaimed Water Conveyance Improvements – City of Chandler
OWRF/AWRF Onsite Improvements – GMP 2
PIPE, VALVES & MISC BID PACKAGE



2. All bids must be submitted on the enclosed Bid Proposal Form (Exhibit C) with no exceptions taken to the scope of supply. Through submission of a proposal, the Supplier will be bound by the terms and conditions as indicated therein.
3. All pricing shall remain valid for (120) one hundred twenty calendar days.
4. All bidders must fill out, completely, the enclosed Supplier Acknowledgement Form (Exhibit B) and include all required attachments with the Bid Proposal Form.
5. ~~All required stamped calculations including seismic calculations are to be included in the bid (if applicable).~~
6. Bidder shall provide a list of, if any, specification deviations and/or exceptions with their bid.
7. PCL will offload materials and install all materials. All other items in the specifications including but not limited to startup, testing 3rd party testing, factory testing, field testing functional testing, field inspection, witnessing, and/or training shall be included in the bidder's price (i.e., valve start-up services, training, etc.).
8. Bid bond, builders risk insurance, performance, and payment bonds, as well as Arizona gross receipts taxes are to be excluded from the Supplier's cost. Supplier's general liability insurance should be included in the base bid proposal.
9. PCL reserves the right to waive any and all informalities or irregularities in any bid proposal received. Furthermore, PCL, along with City's approval, reserves the right to reject any and all bids.
10. The Bidder is responsible to review the following:
 - a. Prime Construction Services Agreement
 - b. Sample Purchase Order Terms and Conditions
 - c. All contract documents listed in this Instruction to Bidders
11. Bidder shall reference the Pipe & Miscellaneous Take off provided for Bid purposes (**Attachment A**). Furthermore, it is the bidder's responsibility to price the scope in the document per the project specifications and any conflicts or requests for scope clarification are to be submitted in written communication to PCL Construction, Inc.
12. Questions and/or requests for additional information should be directed to: Andrew Greene at agreene@pcl.com . All comments and/or questions must contain the City's project number in the subject line WW2206.401. Written responses will be distributed as an addendum to all bidders. Only communication between bidder and PCL Construction, Inc. addressed in a written addendum will be considered during contract negotiations. **Deadline for questions is August 8, 2023.**

EXHIBIT B

SUPPLIER ACKNOWLEDGEMENT

The supplier shall demonstrate acceptance by initialing each of the following items:

Acknowledgement

Bidder Initial

Bidder acknowledges and accepts the PCL contract standard
Terms and conditions attached to bid package

JG

Bidder has reviewed and accepts division(s) 1,2,9,11,13,15,17 requirements
Of the Specifications

JG

Bidder, if Pricing the Pipe Supports, has included all anchors, nuts and
Washers for the pipe support package as listed in Attachment A.

JG

Bidder will begin submittals upon receipt of a letter of intent (LOI)
From PCL Construction, Inc., prior to receiving a purchase order.

JG

LEAD TIMES:

GATE VALVES:

SUBMITTAL (WEEKS): 1-2 WEEKS POST LOI

DELIVERY AFTER APPROVED SUBMITTAL (WEEKS): APPRX 3-4 WEEKS ARO

CLA-VALVE FLOW CONTROL/PRESSURE SUSTAINING VALVE:

SUBMITTAL (WEEKS): 2-3 WEEKS POST LOI

DELIVERY AFTER APPROVED SUBMITTAL (WEEKS): APPRX 6-8 WEEKS ARO

AIR RELIEF VALVE AND COMBINATION AIR/VACUUM VALVES:

SUBMITTAL (WEEKS): 1-2 WEEKS POST LOI

DELIVERY AFTER APPROVED SUBMITTAL (WEEKS): APPRX 6-8 WEEKS ARO

DUCTILE IRON PIPE & FITTINGS (3"-42"):

SUBMITTAL (WEEKS): 1-2 WEEKS POST LOI 2-20 WEEKS ARO DEPENDING ON RELEASE
DELIVERY AFTER APPROVED SUBMITTAL (WEEKS): QTY'S

STEEL (FAB) PIPE PACKAGE:

SUBMITTAL (WEEKS): 3-4 WEEKS POST LOI
DELIVERY AFTER APPROVED SUBMITTAL (WEEKS): APPRX 10-12 WEEKS ARO

PIPE SUPPORTS:

SUBMITTAL (WEEKS): 1-2 WEEKS POST LOI
DELIVERY AFTER APPROVED SUBMITTAL (WEEKS): APPRX 5-6 WEEKS ARO

EXHIBIT C

BID PROPOSAL FORM

Please indicate your quote in the spaces provided below:

Base Bid Items:

Total Price

AWRF Exposed Mechanical Inclusive of Fabricated Steel Package, Submittals, Start-Up & Training, Spare Parts	\$ see below total	\$257,008.90 AG-PCL
AWRF Buried Mechanical Inclusive of Submittals	\$ see below total	\$788,076.37 AG-PCL
OWRF Exposed Mechanical Inclusive of Submittals, Start-Up & Training, Spare Parts	\$ see below total	\$306,295.06 AG-PCL
OWRF Buried Mechanical Inclusive of Submittals	\$ see below total	\$73,427.82 AG-PCL

TOTAL BID

\$ ~~1,494,308.42~~ \$1,424,808.15 AG-PCL

SIGNED BY:

(Supplier) Ferguson Waterworks

(Print Name) Jamie Germann

(Title) Outside Sales

(Signature and Date) *Jamie Germann* 08/18/23

BID CLOSING SUMMARY											
Remaining Open Items ---->>> 4					DC	1,932,684	1,424,808	1,424,808	0	Fee (% T.C.) 0.000	
Project: Pipe Mask - Jan 2022					GE	0	0	1	(1)	Fee (% Lab) #DIV/0!	
					U	Fee	0	0	1	(1)	<- Fee to Adjust
					D	Total	1,932,684	1,424,808	1,424,810	(2)	
Item #	Description	Qty		Uom	Cut/Add	DC	GE	Fee	Fee Adjust	Unit Price	Total Price
AEX	AWRF Exposed	1.0		LS	0	257,009	0	0		257,008.900	257,008.90
AYP	AWRF Yard Pipe	1.0		LS	0	788,076	0	0		788,076.366	788,076.37
OEX	OWRF Exposed	1.0		LS	0	306,295	0	0		306,295.060	306,295.06
OYP	OWRF Yard Pipe	1.0		LS	0	73,428	0	0		73,427.821	73,427.82
Total Bid					1	1,424,808	1	1	0	1,424,808.15	
Total General Expense					0	0					0.00
Fee Component											
	Fee			%		0					
	FEE Manual Adjust			%		0					
	Fee Adjust	0.		LS		0					
	FEE Cut/Add	1.		LS	0	0					
Total Fee						0					0.00

PCL Construction, Ltd.
Proprietary and Confidential

Project: **RW Conveyance Improvements**
Chandler, AZ

Supplier: _____
Contact: _____
Phone: _____

Pipe Scope Sheet

Pipe Materials Takeoff

Row #	Description	Q-ty	Unit	Group	UNIT Price, USD	Total Price, USD	Comments
	BNG						
	1/2" All-Thread Rod HDG	48.	LF				
	1/2" Nut HDG	132.	EA				
	1/2" Washer HDG	132.	EA				
	3" B+N Set STL150# A307 GrB	16.	EA				
	3" Neoprene Gasket 150#	16.	EA				
	4" B+N Set STL150# A307 GrB	12.	EA				
	4" Neoprene Gasket 150#	12.	EA				
	12" B+N Set STL150# A307 GrB	2.	EA				
	12" Neoprene Gasket 150#	2.	EA				
	16" B+N Set STL150# A307 GrB	19.	EA				
	16" Flange Insulation Kit 150#	4.	EA				
	16" Neoprene Gasket 150#	20.	EA				
	20" B+N Set STL150# A307 GrB	37.	EA				
	20" B+N Set 316SS 150#	1.	EA				
	20" Neoprene Gasket 150#	40.	EA				
	24" B+N Set STL150# A307 GrB	5.	EA				
	24" B+N Set 316SS 150#	1.	EA				
	24" Neoprene Gasket 150#	7.	EA				
	42" B+N Set STL150# A307 GrB	8.	EA				
	42" Neoprene Gasket 150#	9.	EA				
	CPG						
	16" Flex Coupling	2.	EA				
	20" Flex Coupling	4.	EA				
	42" Flex Coupling	1.	EA				
	DIP						
	3" DI FLG C110 Blind Flange CM/ Prime	1.	EA				
	3" DI FLG C110 90 Bend CM/ Prime	2.	EA				
	3" MEGALUG	3.	EA				
	3" DI MJ Accy Set Less Gland (MJ Gasket, Std.T-Bolt)	3.	EA				
	3"x1'0" FXP Spool CL53 CM/Prime	2.	EA				
	3"x5'0" FXP Spool CL53 CM/Prime	3.	EA				
	3"x5'6" FXP Spool CL53 CM/Prime	2.	EA				
	4"x0'6" FXP Spool CL53 CM/Prime	3.	EA				
	4"x1'0" FXP Spool CL53 CM/Prime	3.	EA				
	6" MEGALUG	14.	EA				
	6" DI MJ Accy Set Less Gland	14.	EA				
	6" DI MJ C153 Plug CM/ Tar	1.	EA				
	6"x1'0" DI MJ C153 Long Sleeve CM/ Tar	2.	EA				
	6" DI MJ C153 Tee CM/ Tar	1.	EA				
	6" DI Pipe TR-Flex PC350 CM/Tar	54.	LF				
	6"x3" DI MJ C153 TEE CM/Tar	3.	EA				
	16" DI FLG C110 Blind Flange CM/ Prime	2.	EA				
	16"x1'0" FXP Spool CL53 CM/Prime	2.	EA				
	16"x1'6" FXP Spool CL53 CM/Prime	2.	EA				
	16"x1'6" FXP Spool CL53 CM/Prime	2.	EA				
	16"x2'0" FXP Spool CL53 CM/Prime	2.	EA				
	16"x2" DI FLG C110 Tapped Blind Flange CM/ Prime	2.	EA				
	16"x3'6" FXP Spool CL53 CM/Prime	2.	EA				
	20" DI FLG C110 90 Bend CM/ Prime	4.	EA				
	20" DI FLG C110 Tee CM/ Prime	4.	EA				
	20" MEGALUG	1.	EA				
	20" DI MJ Accy Set Less Gland	1.	EA				
	20"x1'0" FXP Spool CL53 CM/Prime	8.	EA				
	20"x12" DI FLG C110 Concentric Reducer CM/ Prime	2.	EA				
	20"x2'0" FXP Spool CL53 CM/Prime	1.	EA				
	20"x3'0" FXP Spool CL53 CM/Prime	4.	EA				
	20"x3'6" FXP Spool CL53 CM/Prime	1.	EA				
	20"x5'0" FXP Spool CL53 CM/Prime	2.	EA				
	20"x5'0" FXP Spool CL53 CM/Prime	1.	EA				
	20"x5'6" FXP Spool CL53 CM/Prime	1.	EA				
	20"x6'0" FXP Spool CL53 CM/Prime	2.	EA				
	20"x7'0" FXP Spool CL53 CM/Prime	1.	EA				
	20"x8'6" FXP Spool CL53 CM/Prime	1.	EA				
	24" FCA EBAA 2100 Megaflange for DIP/PVC C900	2.	EA				
	24" DI FLG C110 90 Bend CM/ Prime	2.	EA				
	24" MEGALUG	20.	EA				
	24" DI MJ C153 45 Bend CM/ Tar	2.	EA				
	24" DI MJ C153 90 Bend CM/ Tar	2.	EA				
	24" DI MJ Accy Set Less Gland	20.	EA				

24"x1'0" DI MJ C153 Long Sleeve CM/ Tar	4.	EA
24" DI Pipe TR-Flex PC250 CM/Tar	236.	LF
24"x20" DI FLG C110 Concentric Reducer CM/ Prime w/ 4" FL	2.	EA
24"x20" DI MJ C153 Reducer CM/ Tar	1.	EA
24"x2" DI MJ C153 Tapped Cap CM/ Tar	2.	EA
24"x2" DI FLG C110 Tapped Blind Flange CM/ Prime	2.	EA
24"x5'0" FXP Spool CL53 CM/Prime	1.	EA
30" MEGALUG	21.	EA
30" DI MJ C153 45 Bend CM/ Tar	4.	EA
30" DI MJ C153 90 Bend CM/ Tar	1.	EA
30" DI MJ Accy Set Less Gland	21.	EA
30"x1'0" DI MJ C153 Long Sleeve CM/ Tar	4.	EA
30" DI MJ C153 Tee CM/ Tar	1.	EA
30" DI Pipe TR-Flex PC250 CM/Tar	990.	LF
30"x2" DI MJ C153 Tapped Cap CM/ Tar	2.	EA
42" FCA EBAA 2100 Megaflange for DIP/PVC C900	1.	EA
42" DI MJ C153 Tee CM/ Tar	1.	EA
42" MEGALUG	23.	EA
42" DI MJ C153 45 Bend CM/ Tar	2.	EA
42" DI MJ C153 90 Bend CM/ Tar	2.	EA
42" DI MJ Accy Set Less Gland	23.	EA
42"x1'0" DI MJ C153 Long Sleeve CM/ Tar	2.	EA
42" DI Pipe TR-Flex PC250 CM/Tar	532.	LF
42"x2" DI MJ C153 Tapped Cap CM/ Tar	2.	EA
42"x30" DI MJ C153 Reducer CM/ Tar	3.	EA
STL		
42" STL Fab Pipe CML/Prime	52.	LF
42" STL 90	1.	EA
42" Tapped Blind Flange STL 150#	2.	EA
MISC		
1/2" FNPT Pressure Gauge	6.	EA
Pressure Switch (Manuf. Static-O-Ring)	3.	EA
Stainless Steel, Liquid Filled PressGauge	4.	EA
1/2" Dielectric Union	4.	EA
2" FNPT Aluminum Quick Disconnect	12.	EA
Detectable Tape 6"x 1000'	1,556.	LF
4"-8" Poly Encasement for Buried Pipe	38.	LF
16" Harness Rod/Dog Ear KIT (2-rod) HDG	2.	EA
20" Harness Rod/Dog Ear KIT (2-rod) HDG	4.	EA
20" Poly Encasement for Buried Pipe	10.	LF
24" Poly Encasement for Buried Pipe	167.	LF
24" Temporary Pipe Plug	2.	EA
30" Poly Encasement for Buried Pipe	872.	LF
30" Temporary Pipe Plug (Bell)	1.	EA
30" Temporary Pipe Plug (Spigot)	1.	EA
42" Harness Rod/Dog Ear KIT (4-rod) HDG	1.	EA
42" Poly Encasement for Buried Pipe	469.	LF
42" Temporary Pipe Plug	1.	EA
Adhesive Tape 2x100'	1,556.	LF
Diaphragm Seal - 304 Ametek-US Gauge, TypSG,Ashcroft Typ	7.	EA
ROMAC FTS425 30"x3" Tapping Sleeve	1.	EA
AWG THWN #14 Insulated Copper Tracing Wire	1,556.	LF
3"-6" Mech Seal (IL315 x 10ea) Set	3.	EA
6"x1'0" STL HDG Wall Sleeve W/O SR	3.	EA
1/2" HDG Unistrut Clamp	16.	EA
1-3/8"x1-5/8" 316SS Uni Strut	44.	LF
1-5/8" 304SS Uni Strut Base	4.	EA
1" 304SS Unistrut Clamp	4.	EA
1-3/8"x1-5/8" HDG Uni Strut	16.	LF
16" Pipe Strap Gasket (To Isolate Steel Header from SS Pipe	4.	EA
16" 7GAx4" SS Strap	4.	EA
20" HDG Adjust Pipe Supp (CL 3')	12.	EA
42" Pipe Strap Gasket (To Isolate Steel Header from SS Pipe	5.	EA
42" 7GAx4" SS Strap	5.	EA
7 GA S.S. Gusset Plate	18.	EA
1/2" Type L Copper Pipe	110.	LF
1/2" CU SOD 90 Bend	26.	EA
1/2" Quick Connect for Calibration Port	4.	EA
1/2"x3" SS304 Nipple THD	7.	EA
3/4" Dia SS Anchor Bolt w/ 6" Hook	18.	EA
1" Type L Copper Pipe	20.	LF
1" CU SOD 90 Bend	4.	EA
1" THD 304SS 90 Bend	3.	EA
1" THD 304SS Cross	3.	EA
1" THD 316SS Tee	1.	EA
1" THD 304SS Union	4.	EA
1"x 1/2" 304SS THRD Bushing Reducer	7.	EA
1"x3" THD 304SS Nipple	20.	EA
1"x6" THD 304SS Nipple	3.	EA
2"x1" Dielectric Bushing	4.	EA
2"x4" Galv S80 Nipple THD	24.	EA

[illegible]

Recap Definition Workbook :- Mode UP						Create Bid Recaps											
Err	Mat / STS / Sub Code	Recap		Subtrade		Line Flag	Sorted in Estimate Sequence		Quantity	UoM	Labor Total	Equipment Total	STS Total	Material Total	Subtrade Total	Estimate Totals	
		Recap Number	Recap Group	Quote Number	Quote Group		Description	Unit Cost								Total Cost	
	Bl: AEX					#	AWRF Exposed		1.00	LS							
						&	42" Header		52.00	LF							
						C	*16" Blind Flanges and BNG are included										
	42TRPC150	DI	42TRPC150			*	42" DI Pipe TR-Flex PC250 CM/Tar		10.00	LF							
	42FCAEBAA210	DI	42FCAEBAA2100			*	42" FCA EBAA 2100 Megaflange for DIP/PVC C900		1.00	EA							
	42STL90	STL	42STL90			*	42" STL 90		1.00	EA							
	42STLFABCMCLP	FAB	42STLFABCMCLP			*	42" STL Fab Pipe CML/Prime		52.00	LF							
						C	*Be sure to include outlets for Instrume										
	42FC	CPG	42FC			*	42" Flex Coupling		1.00	EA							
	42HRDEKITG	MISC	42HRDEKITG			*	42" Harness Rod/Dog Ear KIT (4-rod) HDG		1.00	EA							
	42BNB150A307	BNG	BNB150A307GRB			*	42" B+N Set STL150# A307 GrB		5.00	EA							
	42NG150	BNG	42NG150			*	42" Neoprene Gasket 150#		5.00	EA							
						C	Pipe Support Per Section 1 of S-5										
	42SS7GASTRAP	PS	42SS7GASTRAP			*	42" 7GAx4" SS Strap		5.00	EA							
	42PIPESTRAP	PS	42PIPESTRAP			*	42" Pipe Strap Gasket (To Isolate Steel Header from		5.00	EA							
	7GAGUSSET	PS	7GAGUSSET			*	7 GA S.S. Gusset Plate		10.00	EA							
	0.75SSJBOLT	SM	0.75SSJBOLT			*	3/4" Dia SS Anchor Bolt w/ 6" Hook		10.00	EA							
	0.5NH	BNG	0.5NH			*	1/2" Nut HDG		20.00	EA							
	0.5WH	BNG	0.5WH			*	1/2" Washer HDG		20.00	EA							
						C	Pressure Transmitter										
						C	Per detail 203/M-7.02										
	01.0CU0L	SM	01.0CU0L			*	1" Type L Copper Pipe		20.00	LF							
	01.0CU90	SM	01.0CU90			*	1" CU SOD 90 Bend		4.00	EA							
	00MSCINSTR	IO	00MSCINSTR			*	Small Instr Items (install only)		2.00	EA							
	0.5DU	MISC	0.5DU			*	1/2" Dielectric Union		4.00	EA							
	01.0ES4TRUTS	PS	01.0ES4TRUTS			*	1-3/8"x1-5/8" 316SS Uni Strut		44.00	LF							
	01.0S4TRUTS6B	PS	01.0S4TRUTS6B			*	1-5/8" 304SS Uni Strut Base		4.00	EA							
	01.0S4TRUTSC	PS	01.0S4TRUTSC			*	1" 304SS Unistrut Clamp		4.00	EA							
						C	4" COMBO A/Vac 106/7.01										
	04X0.6FF	DI	04X0.6FF			*	4"X0'6" FXF Spool CL53 CM/Prime		1.00	EA							
	04AVRV	V	04AVRV			*	4" Air & Vacuum Release Valve		1.00	EA							
	04X1.0FF	DI	04X1.0FF			*	4"X1'0" FXF Spool CL53 CM/Prime		1.00	EA							
	04FLGBFVCI	V	04FLGBFVCI			*	4" Butterfly Valve FLG CI Body HW		1.00	EA							
	0.5ARV	V	0.5ARV			*	1/2" Air Release Valve		1.00	EA							
	0.5CU0L	SM	0.5CU0L			*	1/2" Type L Copper Pipe		10.00	LF							
	0.5CU90	SM	0.5CU90			*	1/2" CU SOD 90 Bend		2.00	EA							
	04BNB150A307	BNG	BNB150A307GRB			*	4" B+N Set STL150# A307 GrB		4.00	EA							
	04NG150	BNG	04NG150			*	4" Neoprene Gasket 150#		4.00	EA							
						C	Insertion Type Flow Meter										
	00MSCINSTR	IO	00MSCINSTR			*	Small Instr Items (install only)		1.00	EA							
						C	*Be sure only thread-o-let is required f										
						& TOTAL	42" Header		52.00	LF		0		0		0	
						&	16" Discharge Header		24.00	LF							
						C	*Pump Can to 42" Header"										
	16X1.6FF	DI	16X1.6FF			*	16"X1'6" FXF Spool CL53 CM/Prime		2.00	EA							
						C	* to include 2" Threadolet for Pressure										
	16X1.0FP	DI	16X1.0FP			*	16"X1'0" FXP Spool CL53 CM/Prime		2.00	EA							
	16X1.6FP	DI	16X1.6FP			*	16"X1'6" FXP Spool CL53 CM/Prime		2.00	EA							
	16FC	CPG	16FC			*	16" Flex Coupling		2.00	EA							
	16HRDEKITG	MISC	16HRDEKITG			*	16" Harness Rod/Dog Ear KIT (2-rod) HDG		2.00	EA							
	16X3.6FF	DI	16X3.6FF			*	16"X3'6" FXF Spool CL53 CM/Prime		2.00	EA							
						C	* to have 3" Threadolet										
	16CICHKVALVE	V	16CICHKVALVE			*	16" CI APCO Valve 800T w/ Mounted Dashpot		2.00	EA							
						C	Valve Tag: CKS-RW-009, CKS-RW-010										
	16X2.0FF	DI	16X2.0FF			*	16"X2'0" FXF Spool CL53 CM/Prime		2.00	EA							
	16FLGBFVCI	V	16FLGBFVCI			*	16" Butterfly Valve FLG CI Body HW		2.00	EA							
						C	Valve Tag: BFV-RW-009, BFV-RW-010										
	16BNB150A307	BNG	BNB150A307GRB			*	16" B+N Set STL150# A307 GrB		16.00	EA							
	16NG150	BNG	16NG150			*	16" Neoprene Gasket 150#		16.00	EA							
	16INSFLKIT150	BNG	16INSFLKIT150			*	16" Flange Insulation Kit 150#		4.00	EA							
	16BLDFLG	DI	16BLDFLG			*	16" DI FLG C110 Blind Flange CM/ Prime		2.00	EA							
						C	Pipe Support Per Section 1 of S-5										
	16SS7GASTRAP	PS	16SS7GASTRAP			*	16" 7GAx4" SS Strap		4.00	EA							
	16PIPESTRAP	PS	16PIPESTRAP			*	16" Pipe Strap Gasket (To Isolate Steel Header from		4.00	EA							
	7GAGUSSET	PS	7GAGUSSET			*	7 GA S.S. Gusset Plate		8.00	EA							

	0.7SSJBOLT	SM	0.7SSJBOLT		*	3/4" Dia SS Anchor Bolt w/ 6" Hook	8.00	EA				
	0.5NH	BNG	0.5NH		*	1/2" Nut HDG	16.00	EA				
	0.5WH	BNG	0.5WH		*	1/2" Washer HDG	16.00	EA				
					C	Pressure Indicator						
					C	Per Detail 206/M-7.02						
	01X02DBUSH	SM	01X02DBUSH		*	2"x1" Dielectric Bushing	2.00	EA				
	01.0X03SS	SM	01.0X03SS		*	1"x3" THD 304SS Nipple	10.00	EA				
	01.0SS0.25TBV	V	01.0SS0.25TBV		*	1" THD 304SS Quarter Turn Ball Valve	4.00	EA				
	01.0SSCROSSST	SM	01.0SSCROSSST		*	1" THD 304SS Cross	2.00	EA				
	01.0X06SS	SM	01.0X06SS		*	1"x6" THD 304SS Nipple	2.00	EA				
	01.0SS90T	SM	01.0SS90T		*	1" THD 304SS 90 Bend	2.00	EA				
	01.0X0.5316SSE	SM	0X0.5316SSBUSHT		*	1"X 1/2" 304SS THRD Bushing Reducer	4.00	EA				
	01.0SSUNT	SM	01.0SSUNT		*	1" THD 304SS Union	2.00	EA				
	0.5X03SS	SM	0.5X03SS		*	1/2"x3" SS304 Nipple THD	4.00	EA				
	DIAPHRAGMSP	MISC	DIAPHRAGMSPS		*	Diaphragm Seal - 304 Ametek-US Gauge, TypSG, Asi	4.00	EA				
	0.5SSPRESSGA	IO	0.5SSPRESSGA		*	Stainless Steel, Liquid Filled PressGauge	2.00	EA				
	0.5PSHSOR	IO	0.5PSHSOR		*	Pressure Switch (Manuf. Static-O-Ring)	2.00	EA				
	0.5QUICKDIS	SM	0.5QUICKDIS		*	1/2" Quick Connect for Calibration Port	2.00	EA				
					& TOTAL	16" Discharge Header	24.00	LF		0	0	0
					&	Drain	32.00	LF				
	03X5.0FP	DI	03X5.0FP		*	3"X5'0" FXP Spool CL53 CM/Prime	3.00	EA				
	06X1.0WSNR	WS	06X1.0WSNR		*	6"X1'0" STL HDG Wall Sleeve W/O SR	3.00	EA				
	03MSEAL	MSEAL	03MSEAL		*	3"-6" Mech Seal (IL315 x 10ea) Set	3.00	EA				
	03BLDFLG	DI	03BLDFLG		*	3" DI FLG C110 Blind Flange CM/ Prime	1.00	EA				
	03X5.5FF	DI	03X5.5FF		*	3"X5'6" FXF Spool CL53 CM/Prime	2.00	EA				
	03.0GSP80	SM	03.0GSP80		*	3" Galv Sch80 Pipe	20.00	LF				
	03GSP8090T	SM	03GSP8090T		*	3" Galv 90 Ell THD	4.00	EA				
	03GSPCFLG	SM	03GSPCFLG		*	3" GSP Companion Flange	4.00	EA				
	03AVRV	V	03AVRV		*	3" Air & Vacuum Release Valve	2.00	EA				
	03FLGBFVCI	V	03FLGBFVCI		*	3" Butterfly Valve FLG CI Body HW	2.00	EA				
	0.5ARV	V	0.5ARV		*	1/2" Air Release Valve	2.00	EA				
	0.5CU0L	SM	0.5CU0L		*	1/2" Type L Copper Pipe	40.00	LF				
	0.5CU90	SM	0.5CU90		*	1/2" CU SOD 90 Bend	10.00	EA				
	01.0STRUTHN	PS	01.0STRUTHN		*	1-3/8"x1-5/8" HDG Uni Strut	8.00	LF				
	0.5GSTRUTHC	PS	0.5GSTRUTHC		*	1/2" HDG Unistrut Clamp	8.00	EA				
	03BNB150A307	BNG	03BNB150A307GRB		*	3" B+N Set STL150# A307 GRB	10.00	EA				
	03NG150	BNG	03NG150		*	3" Neoprene Gasket 150#	10.00	EA				
					C	ARV on Pump Can						
	03ARV	V	03ARV		*	3" Air Release Valve	2.00	EA				
	0.5CU0L	SM	0.5CU0L		*	1/2" Type L Copper Pipe	40.00	LF				
	0.5CU90	SM	0.5CU90		*	1/2" CU SOD 90 Bend	10.00	EA				
	01.0STRUTHN	PS	01.0STRUTHN		*	1-3/8"x1-5/8" HDG Uni Strut	8.00	LF				
	0.5GSTRUTHC	PS	0.5GSTRUTHC		*	1/2" HDG Unistrut Clamp	8.00	EA				
					& TOTAL	Drain	32.00	LF		0	0	0
					# TOTAL	AWRF Exposed	1.00	LS		0	0	0
	BI: AYP				#	AWRF Yard Pipe	1.00	LS				
					C	AWRF Total						
					C	- LF						
					C	- Purchase						
					C	Total 42"						
					C	- LF						
					C	- Purchase						
					C	Total 30"						
					C	- LF						
					C	- Purchase						
					&	C-1.22	257.00	LF				
	42TRPC150	DI	42TRPC150		C	*FROM HEADER TO C-1.23*						
					*	42" DI Pipe TR-Flex PC250 CM/Tar	270.00	LF				
					C	Actual: 257 LF						
					C	Purchase: 270 LF						
	42MJ90	DI	42MJ90		*	42" DI MJ C153 90 Bend CM/ Tar	1.00	EA				
	42MJ45	DI	42MJ45		*	42" DI MJ C153 45 Bend CM/ Tar	2.00	EA				
	42MEGA	DI	42MEGA		*	42" MEGALUG	6.00	EA				
	42MJACCY	DI	42MJACCY		*	42" DI MJ Accy Set Less Gland	6.00	EA				
	42POLY	MISC	42POLY		*	42" Poly Encasement for Buried Pipe	257.00	LF				
	06X1000DETTA	MISC	6X1000DETTAPE		*	Detectable Tape 6"X 100'	257.00	LF				
	WIRETRACER	MISC	WIRETRACER		*	AWG THWN #14 Insulated Copper Tracing Wire	257.00	LF				
	ADHTAPE2X100	MISC	ADHTAPE2X100		*	Adhesive Tape 2x100'	257.00	LF				

						& TOTAL	C-1.22		257.00	LF		0	0	0
						&	C-1.23		404.00	LF				
						@	42" RW		206.00	LF				
						*	42" DI Pipe TR-Flex PC250 CM/Tar		252.00	LF				
						C	Actual: 206 LF							
						C	Purchase: 252 LF							
						*	42" DI MJ C153 90 Bend CM/ Tar	1.00	EA					
						*	42"X30" DI MJ C153 Reducer CM/ Tar	1.00	EA					
						*	42"X1'0" DI MJ C153 Long Sleeve CM/ Tar	1.00	EA					
						*	42" MEGALUG	8.00	EA					
						*	42" DI MJ Accy Set Less Gland	8.00	EA					
						*	42" Poly Encasement for Buried Pipe	206.00	LF					
						*	Detectable Tape 6"X 1000'	206.00	LF					
						*	AWG THWN #14 Insulated Copper Tracing Wire	206.00	LF					
						*	Adhesive Tape 2x100'	206.00	LF					
						@ TOTAL	42" RW		206.00	LF		0	0	0
						@	30" RW		198.00	LF				
						*	30" DI Pipe TR-Flex PC250 CM/Tar	216.00	LF					
						C	Actual: 198 LF							
						C	Purchase: 216 LF							
						*	30" DI MJ C153 Tee CM/ Tar	1.00	EA					
						*	42" DI MJ C153 Tee CM/ Tar	1.00	EA					
						*	42"X30" DI MJ C153 Reducer CM/ Tar	2.00	EA					
						*	30"X1'0" DI MJ C153 Long Sleeve CM/ Tar	2.00	EA					
						*	30" MEGALUG	11.00	EA					
						*	30" DI MJ Accy Set Less Gland	11.00	EA					
						*	42" MEGALUG	5.00	EA					
						*	42" DI MJ Accy Set Less Gland	5.00	EA					
						*	30" Poly Encasement for Buried Pipe	198.00	LF					
						*	42" Poly Encasement for Buried Pipe	5.00	LF					
						*	Detectable Tape 6"X 1000'	203.00	LF					
						*	AWG THWN #14 Insulated Copper Tracing Wire	203.00	LF					
						*	Adhesive Tape 2x100'	203.00	LF					
						@ TOTAL	30" RW		198.00	LF		0	0	0
						& TOTAL	C-1.23		404.00	LF		0	0	0
						&	C-1.24		337.00	LF				
						*	30" DI Pipe TR-Flex PC250 CM/Tar	360.00	LF					
						C	Actual: 337 LF							
						C	Purchase: 360 LF							
						*	30" DI MJ C153 90 Bend CM/ Tar	1.00	EA					
						*	30" MEGALUG	2.00	EA					
						*	30" DI MJ Accy Set Less Gland	2.00	EA					
						*	30" Poly Encasement for Buried Pipe	337.00	LF					
						*	Detectable Tape 6"X 1000'	337.00	LF					
						*	AWG THWN #14 Insulated Copper Tracing Wire	337.00	LF					
						*	Adhesive Tape 2x100'	337.00	LF					
						& TOTAL	C-1.24		337.00	LF		0	0	0
						&	C-1.25		389.00	LF				
						*	30" DI Pipe TR-Flex PC250 CM/Tar	414.00	LF					
						C	Actual: 389 LF							
						C	Purchase: 414 LF							
						*	30" DI MJ C153 45 Bend CM/ Tar	4.00	EA					
						*	30"X1'0" DI MJ C153 Long Sleeve CM/ Tar	1.00	EA					
						*	30" MEGALUG	2.00	EA					
						*	30" DI MJ Accy Set Less Gland	2.00	EA					
						*	30" Poly Encasement for Buried Pipe	337.00	LF					
						*	Detectable Tape 6"X 1000'	337.00	LF					
						*	AWG THWN #14 Insulated Copper Tracing Wire	337.00	LF					
						*	Adhesive Tape 2x100'	337.00	LF					
						C	- 3" Combo Air/Vac Valve							
						C	per detail 304/M-7.03							
						*	ROMAC FTS425 30"x3" Tapping Sleeve	1.00	EA					
						*	3" DI FLG C110 90 Bend CM/ Prime	2.00	EA					
						*	3"X1'0" FXF Spool CL53 CM/Prime	2.00	EA					
						*	3" Knife Gate Valve Wafer HW	1.00	EA					
						*	3" B+N Set STL150# A307 GrB	6.00	EA					
						*	3" Neoprene Gasket 150#	6.00	EA					
						& TOTAL	C-1.25		389.00	LF		0	0	
						&	6" Drain		38.00	LF				
						*	6" DI Pipe TR-Flex PC350 CM/Tar	54.00	LF					

						C	Actual: 38 LF (Includes 5' per existing)						
						C	Purchase: 54 LF						
06MJSJL	DI	06MJSJL				*	6"X1'0" DI MJ C153 Long Sleeve CM/ Tar	2.00	EA				
06MJT	DI	06MJT				*	6" DI MJ C153 Tee CM/ Tar	1.00	EA				
06X03MJT	DI	06X03MJT				*	6"x3" DI MJ C153 TEE CM/Tar	3.00	EA				
06MJPLUG	DI	06MJPLUG				*	6" DI MJ C153 Plug CM/ Tar	1.00	EA				
06MEGA	DI	06MEGA				*	6" MEGALUG	14.00	EA				
06MJACCY	DI	06MJACCY				*	6" DI MJ Accy Set Less Gland	14.00	EA				
03MEGA	DI	03MEGA				*	3" MEGALUG	3.00	EA				
03MJACCY	DI	03MJACCY				*	3" DI MJ Accy Set Less Gland (MJ Gasket, Std.T-Bol	3.00	EA				
08POLY	MISC	08POLY				*	4"-8" Poly Encasement for Buried Pipe	38.00	LF				
06X1000DETTA	MISC	6X1000DETTAPE				*	Detectable Tape 6"X 1000'	38.00	LF				
WIRETRACER	MISC	WIRETRACER				*	AWG THWN #14 Insulated Copper Tracing Wire	38.00	LF				
ADHTAPE2X100	MISC	ADHTAPE2X100				*	Adhesive Tape 2x100'	38.00	LF				
							& TOTAL 6" Drain	38.00	LF	0	0	0	
							# TOTAL AWRP Yard Pipe	1.00	LS	0	0		
BI: OEX						#	OWRP Exposed	1.00	LS				
						&	Intel Flow Control Structure	96.00	LF				
						@	24"	5.00	LF				
24FLG90	DI	24FLG90				*	24" DI FLG C110 90 Bend CM/ Prime	2.00	EA				
24X20FLGCR20	DI	4X20FLGCR2OUT				*	24"X20" DI FLG C110 Concentric Reducer CM/ Prim	2.00	EA				
24BNB150A307	BNG	BNB150A307GRB				*	24" B+N Set STL150# A307 GrB	2.00	EA				
24NG150	BNG	24NG150				*	24" Neoprene Gasket 150#	2.00	EA				
						C	4" COMBO A/Vac 106/7.01						
04X0.6FF	DI	04X0.6FF				*	4"X0'6" FXF Spool CL53 CM/Prime	2.00	EA				
04AVRV	V	04AVRV				*	4" Air & Vacuum Release Valve	2.00	EA				
04X1.0FF	DI	04X1.0FF				*	4"X1'0" FXF Spool CL53 CM/Prime	2.00	EA				
04FLGBFVCI	V	04FLGBFVCI				*	4" Butterfly Valve FLG CI Body HW	2.00	EA				
0.5ARV	V	0.5ARV				*	1/2" Air Release Valve	2.00	EA				
0.5CU0L	SM	0.5CU0L				*	1/2" Type L Copper Pipe	20.00	LF				
0.5CU90	SM	0.5CU90				*	1/2" CU SOD 90 Bend	4.00	EA				
04BNB150A307	BNG	BNB150A307GRB				*	4" B+N Set STL150# A307 GrB	8.00	EA				
04NG150	BNG	04NG150				*	4" Neoprene Gasket 150#	8.00	EA				
						@	TOTAL 24"	5.00	LF	0	0	0	
						@	20"	88.00	LF				
20X1.0FP	DI	20X1.0FP				*	20"X1'0" FXP Spool CL53 CM/Prime	8.00	EA				
20X2.0FF	DI	20X2.0FF				*	20"X2'0" FXF Spool CL53 CM/Prime	1.00	EA				
20X3.0FF	DI	20X3.0FF				*	20"X3'0" FXF Spool CL53 CM/Prime	4.00	EA				
20X3.6FF	DI	20X3.6FF				*	20"X3'6" FXF Spool CL53 CM/Prime	1.00	EA				
20X5.0FF	DI	20X5.0FF				*	20"X5'0" FXF Spool CL53 CM/Prime	2.00	EA				
20X5.6FF	DI	20X5.6FF				*	20"X5'6" FXF Spool CL53 CM/Prime	1.00	EA				
20X6.0FF	DI	20X6.0FF				*	20"X6'0" FXF Spool CL53 CM/Prime	2.00	EA				
20X7.0FF	DI	20X7.0FF				*	20"X7'0" FXF Spool CL53 CM/Prime	1.00	EA				
20X8.6FF	DI	20X8.6FF				*	20"X8'6" FXF Spool CL53 CM/Prime	1.00	EA				
20FLG90	DI	20FLG90				*	20" DI FLG C110 90 Bend CM/ Prime	4.00	EA				
20FLGT	DI	20FLGT				*	20" DI FLG C110 Tee CM/ Prime	4.00	EA				
20X12FLGCR	DI	20X12FLGCR				*	20"X12" DI FLG C110 Concentric Reducer CM/ Prim	2.00	EA				
20FC	CPG	20FC				*	20" Flex Coupling	4.00	EA				
20HRDEKITG	MISC	20HRDEKITG				*	20" Harness Rod/Dog Ear KIT (2-rod) HDG	4.00	EA				
20FLGPVCI	V	20FLGPVCI				*	20" Plug Valve FLG CI Body HW	1.00	EA				
20FLGGV	V	20FLGGV				*	20" Gate Valve FLG	6.00	EA				
20PSADJHDG3	PS	20PSADJHDG3				*	20" HDG Adjust Pipe Supp (CL 3')	12.00	EA				
0.5ATH	BNG	0.5ATH				*	1/2" All-Thread Rod HDG	48.00	LF				
0.5NH	BNG	0.5NH				*	1/2" Nut HDG	96.00	EA				
0.5WH	BNG	0.5WH				*	1/2" Washer HDG	96.00	EA				
20FM	IO	20FM				*	20" Mag Flow Meter (install only)	1.00	EA				
20BNB150A307	BNG	BNB150A307GRB				*	20" B+N Set STL150# A307 GrB	37.00	EA				
20NG150	BNG	20NG150				*	20" Neoprene Gasket 150#	39.00	EA				
						C	Pressure Gauge and Switch Assembly						
						C	Key Note xx						
						C	Per Detail 206/M-7.02						
01X02DBUSH	SM	01X02DBUSH				*	2"x1" Dielectric Bushing	1.00	EA				
01.0X03SS	SM	01.0X03SS				*	1"x3" THD 304SS Nipple	5.00	EA				
01.0SS0.25TBV	V	01.0SS0.25TBV				*	1" THD 304SS Quarter Turn Ball Valve	2.00	EA				
01.0SSCROSST	SM	01.0SSCROSST				*	1" THD 304SS Cross	1.00	EA				
01.0X06SS	SM	01.0X06SS				*	1"x6" THD 304SS Nipple	1.00	EA				
01.0SS90T	SM	01.0SS90T				*	1" THD 304SS 90 Bend	1.00	EA				
01.0X0.5316SSB	SM	0X0.5316SSBUSHT				*	1"X 1/2" 304SS THRD Bushing Reducer	2.00	EA				
01.0SSUNT	SM	01.0SSUNT				*	1" THD 304SS Union	1.00	EA				

0.5X03SS	SM	0.5X03SS			*	1/2"x3" SS304 Nipple THD	2.00	EA				
DIAPHRAGMSP	MISC	DIAPHRAGMSPS			*	Diaphragm Seal - 304 Ametek-US Gauge, TypSG, Asi	2.00	EA				
0.5SSPRESSGA	IO	0.5SSPRESSGA			*	Stainless Steel, Liquid Filled PressGauge	1.00	EA				
0.5PSHSOR	IO	0.5PSHSOR			*	Pressure Switch (Manuf. Static-O-Ring)	1.00	EA				
0.5QUICKDIS	SM	0.5QUICKDIS			*	1/2" Quick Connect for Calibration Port	1.00	EA				
					C	Pressure Gauge Assembly						
					C	Key Note xx						
					C	Per Detail 206/M-7.02						
01X02DBUSH	SM	01X02DBUSH			*	2"x1" Dielectric Bushing	1.00	EA				
01.0X03SS	SM	01.0X03SS			*	1"x3" THD 304SS Nipple	5.00	EA				
01.0SS0.25TBV	V	01.0SS0.25TBV			*	1" THD 304SS Quarter Turn Ball Valve	2.00	EA				
01.0SSTEET	SM	01.0SSTEET			*	1" THD 316SS Tee	1.00	EA				
01.0X0.5316SSB	SM	0X0.5316SSBUSHT			*	1"X 1/2" 304SS THRD Bushing Reducer	1.00	EA				
0.5X03SS	SM	0.5X03SS			*	1/2"x3" SS304 Nipple THD	1.00	EA				
01.0SSUNT	SM	01.0SSUNT			*	1" THD 304SS Union	1.00	EA				
0.5QUICKDIS	SM	0.5QUICKDIS			*	1/2" Quick Connect for Calibration Port	1.00	EA				
DIAPHRAGMSP	MISC	DIAPHRAGMSPS			*	Diaphragm Seal - 304 Ametek-US Gauge, TypSG, Asi	1.00	EA				
0.5SSPRESSGA	IO	0.5SSPRESSGA			*	Stainless Steel, Liquid Filled PressGauge	1.00	EA				
					@ TOTAL	20"	88.00	LF		0	0	0
					@	12"	3.00	LF				
12CLAVALFLOW	V	LAVALFLOWPRESS			*	12" CI CLA-VAL Model 131-BW BCNPSY KCX with	1.00	EA				
12BNB150A307	BNG	12BNB150A307GRB			*	12" B+N Set STL150# A307 GrB	2.00	EA				
12NG150	BNG	12NG150			*	12" Neoprene Gasket 150#	2.00	EA				
					@ TOTAL	12"	3.00	LF		0	0	0
					& TOTAL	Intel Flow Control Structure	96.00	LF		0	0	0
					# TOTAL	OWRF Exposed	1.00	LS		0	0	0

BI: OYP					#	OWRF Yard Pipe	1.00	LS				
					&	24" Influent	107.00	LF				
20X5.0FP	DI	20X5.0FP			*	20"X50" FXP Spool CL53 CM/Prime	1.00	EA				
24MJSL	DI	24MJSL			*	24"X10" DI MJ C153 Long Sleeve CM/ Tar	1.00	EA				
24X20MJR	DI	24X20MJR			*	24"X20" DI MJ C153 Reducer CM/ Tar	1.00	EA				
24TRPC250	DI	24TRPC250			*	24" DI Pipe TR-Flex PC250 CM/Tar	126.00	LF				
					C	Actual: 102 LF						
					C	Purchase: 126 LF						
24MJ45	DI	24MJ45			*	24" DI MJ C153 45 Bend CM/ Tar	2.00	EA				
24MJ90	DI	24MJ90			*	24" DI MJ C153 90 Bend CM/ Tar	1.00	EA				
24MEGA	DI	24MEGA			*	24" MEGALUG	8.00	EA				
24MJACCY	DI	24MJACCY			*	24" DI MJ Accy Set Less Gland	8.00	EA				
20MEGA	DI	20MEGA			*	20" MEGALUG	1.00	EA				
20MJACCY	DI	20MJACCY			*	20" DI MJ Accy Set Less Gland	1.00	EA				
20BNS6150	BNG	20BNS6150			*	20" B+N Set 316SS 150#	1.00	EA				
20NG150	BNG	20NG150			*	20" Neoprene Gasket 150#	1.00	EA				
24POLY	MISC	24POLY			*	24" Poly Encasement for Buried Pipe	102.00	LF				
20POLY	MISC	20POLY			*	20" Poly Encasement for Buried Pipe	10.00	LF				
06X1000DETTA	MISC	6X1000DETTAPE			*	Detectable Tape 6"X 1000'	112.00	LF				
WIRETRACER	MISC	WIRETRACER			*	AWG THWN #14 Insulated Copper Tracing Wire	112.00	LF				
ADHTAPE2X100	MISC	ADHTAPE2X100			*	Adhesive Tape 2x100'	112.00	LF				
					C	Riser						
24TRPC250	DI	24TRPC250			*	24" DI Pipe TR-Flex PC250 CM/Tar	10.00	LF				
24FCAEBBA.2100	DI	24FCAEBBA.2100			*	24" FCA EBAA 2100 Megaflange for DIP/PVC C900	1.00	EA				
					& TOTAL	24" Influent	107.00	LF		0	0	0
					&	24" Effluent	60.00	LF				
24X5.0FP	DI	24X5.0FP			*	24"X50" FXP Spool CL53 CM/Prime	1.00	EA				
24MJSL	DI	24MJSL			*	24"X10" DI MJ C153 Long Sleeve CM/ Tar	1.00	EA				
24TRPC250	DI	24TRPC250			*	24" DI Pipe TR-Flex PC250 CM/Tar	90.00	LF				
					C	Actual: 60 LF						
					C	Purchase: 90 LF						
24MJ90	DI	24MJ90			*	24" DI MJ C153 90 Bend CM/ Tar	1.00	EA				
24MEGA	DI	24MEGA			*	24" MEGALUG	4.00	EA				
24MJACCY	DI	24MJACCY			*	24" DI MJ Accy Set Less Gland	4.00	EA				
24BNS6150	BNG	24BNS6150			*	24" B+N Set 316SS 150#	1.00	EA				
24NG150	BNG	24NG150			*	24" Neoprene Gasket 150#	1.00	EA				
24POLY	MISC	24POLY			*	24" Poly Encasement for Buried Pipe	65.00	LF				
06X1000DETTA	MISC	6X1000DETTAPE			*	Detectable Tape 6"X 1000'	65.00	LF				
WIRETRACER	MISC	WIRETRACER			*	AWG THWN #14 Insulated Copper Tracing Wire	65.00	LF				
ADHTAPE2X100	MISC	ADHTAPE2X100			*	Adhesive Tape 2x100'	65.00	LF				
					C	Riser						
24TRPC250	DI	24TRPC250			*	24" DI Pipe TR-Flex PC250 CM/Tar	10.00	LF				
24FCAEBBA.2100	DI	24FCAEBBA.2100			*	24" FCA EBAA 2100 Megaflange for DIP/PVC C900	1.00	EA				

						& TOTAL 24" Effluent	60.00	LF	0	0	0
						# TOTAL OWRF Yard Pipe	1.00	LS	0	0	0
BI: MISC						# PCL'S Misc Testing/Pipe Plugs/etc.	1.00	LS			
						& Temporary Pipe Plugs	5.00	EA			
24TPP	MISC	24TPP				* 24" Temporary Pipe Plug	2.00	EA			
30TPPB	MISC	30TPPB				* 30" Temporary Pipe Plug (Bell)	1.00	EA			
30TPPS	MISC	30TPPS				* 30" Temporary Pipe Plug (Spigot)	1.00	EA			
42TPP	MISC	42TPP				* 42" Temporary Pipe Plug	1.00	EA			
						& TOTAL Temporary Pipe Plugs	5.00	EA	0	0	0
						& Testing Material	7.00	EA			
						@ Exposed	6.00	EA			
						@2 OWRF	2.00	EA			
24X2TBLDFLG	DI	24X2TBLDFLG				* 24"X2" DI FLG C110 Tapped Blind Flange CM/ Prime	2.00	EA			
02X0.33GSP80N	SM	2X0.33GSP80NIP				* 2"x4" Galv S80 Nipple THD	4.00	EA			
02.0BVCST	V	02.0BVCST				* 2" Ball Valve STL THD	2.00	EA			
02.0ALQD	MISC	02.0ALQD				* 2" FNPT Aluminum Quick Disconnect	2.00	EA			
0.50PG	INST	0.50PG				* 1/2" FNPT Pressure Gauge	1.00	EA			
24BNB150A307	BNG	BNB150A307GRB				* 24" B+N Set STL150# A307 GrB	3.00	EA			
24NG150	BNG	24NG150				* 24" Neoprene Gasket 150#	4.00	EA			
						@2 TOTAL OWRF	2.00	EA	0	0	0
						@2 AWRP	4.00	EA			
						@3 42"	2.00	EA			
42TPBLFLGST	STL	42TPBLFLGST				* 42" Tapped Blind Flange STL 150#	2.00	EA			
02X0.33GSP80N	SM	2X0.33GSP80NIP				* 2"x4" Galv S80 Nipple THD	4.00	EA			
02.0BVCST	V	02.0BVCST				* 2" Ball Valve STL THD	2.00	EA			
02.0ALQD	MISC	02.0ALQD				* 2" FNPT Aluminum Quick Disconnect	2.00	EA			
0.50PG	INST	0.50PG				* 1/2" FNPT Pressure Gauge	1.00	EA			
42BNB150A307	BNG	BNB150A307GRB				* 42" B+N Set STL150# A307 GrB	3.00	EA			
42NG150	BNG	42NG150				* 42" Neoprene Gasket 150#	4.00	EA			
						@3 TOTAL 42"	2.00	EA	0	0	0
						@3 16"	2.00	EA			
16X2TBLDFLG	DI	16X2TBLDFLG				* 16"X2" DI FLG C110 Tapped Blind Flange CM/ Prime	2.00	EA			
02X0.33GSP80N	SM	2X0.33GSP80NIP				* 2"x4" Galv S80 Nipple THD	4.00	EA			
02.0BVCST	V	02.0BVCST				* 2" Ball Valve STL THD	2.00	EA			
02.0ALQD	MISC	02.0ALQD				* 2" FNPT Aluminum Quick Disconnect	2.00	EA			
0.50PG	INST	0.50PG				* 1/2" FNPT Pressure Gauge	1.00	EA			
16BNB150A307	BNG	BNB150A307GRB				* 16" B+N Set STL150# A307 GrB	3.00	EA			
16NG150	BNG	16NG150				* 16" Neoprene Gasket 150#	4.00	EA			
						@3 TOTAL 16"	2.00	EA	0	0	0
						@2 TOTAL AWRP	4.00	EA	0	0	0
						@ TOTAL Exposed	6.00	EA	0	0	0
						@ Underground	1.00	EA			
						@2 OWRP	2.00	EA			
						@3 24"	2.00	EA			
24X2MJTCAP	DI	24X2MJTCAP				* 24"X2" DI MJ C153 Tapped Cap CM/ Tar	2.00	EA			
02X0.33GSP80N	SM	2X0.33GSP80NIP				* 2"x4" Galv S80 Nipple THD	4.00	EA			
02.0BVCST	V	02.0BVCST				* 2" Ball Valve STL THD	2.00	EA			
02.0ALQD	MISC	02.0ALQD				* 2" FNPT Aluminum Quick Disconnect	2.00	EA			
0.50PG	INST	0.50PG				* 1/2" FNPT Pressure Gauge	1.00	EA			
24MEGA	DI	24MEGA				* 24" MEGALUG	8.00	EA			
24MJACCY	DI	24MJACCY				* 24" DI MJ Accy Set Less Gland	8.00	EA			
24MJSL	DI	24MJSL				* 24"X10" DI MJ C153 Long Sleeve CM/ Tar	2.00	EA			
						@3 TOTAL 24"	2.00	EA	0	0	0
						@2 TOTAL OWRP	2.00	EA	0	0	0
						@2 AWRP	1.00	EA			
						@3 30"	2.00	EA			
30X2MJTCAP	DI	30X2MJTCAP				* 30"X2" DI MJ C153 Tapped Cap CM/ Tar	2.00	EA			
02X0.33GSP80N	SM	2X0.33GSP80NIP				* 2"x4" Galv S80 Nipple THD	4.00	EA			
02.0BVCST	V	02.0BVCST				* 2" Ball Valve STL THD	2.00	EA			
02.0ALQD	MISC	02.0ALQD				* 2" FNPT Aluminum Quick Disconnect	2.00	EA			
0.50PG	INST	0.50PG				* 1/2" FNPT Pressure Gauge	1.00	EA			
30MEGA	DI	30MEGA				* 30" MEGALUG	6.00	EA			
30MJACCY	DI	30MJACCY				* 30" DI MJ Accy Set Less Gland	6.00	EA			
30MJSL	DI	30MJSL				* 30"X10" DI MJ C153 Long Sleeve CM/ Tar	1.00	EA			
						@3 TOTAL 30"	2.00	EA	0	0	0
						@3 42"	2.00	EA			
42X2MJTCAP	DI	42X2MJTCAP				* 42"X2" DI MJ C153 Tapped Cap CM/ Tar	2.00	EA			
02X0.33GSP80N	SM	2X0.33GSP80NIP				* 2"x4" Galv S80 Nipple THD	4.00	EA			
02.0BVCST	V	02.0BVCST				* 2" Ball Valve STL THD	2.00	EA			

TERMS AND CONDITIONS OF PURCHASE ORDER

(Revised 04/03/2019)

The following terms and conditions ("Terms and Conditions") are incorporated into and made a part of the Purchase Order between Contractor and Supplier (each a "Party" and collectively the "Parties"). All capitalized terms not otherwise defined herein shall have the meaning defined in the Purchase Order. By accepting the Purchase Order, Supplier agrees to all Terms and Conditions. No additional, inconsistent, or different terms or conditions proposed by Supplier shall be made a part of this Purchase Order unless accepted by Contractor in writing by execution of a written change order. The Purchase Order constitutes the entire agreement between the Parties and supersedes all prior negotiations, offers, proposals, representations or agreements, oral or written.

1. Documents. Contractor has entered into or will enter into a general construction contract with the Owner (the "Prime Contract") to furnish certain materials, labor, and services necessary for the construction of the Project in accordance with the "Prime Contract Documents," which include the Prime Contract and may include drawings, project manuals, specifications, addenda, modifications, revisions, conditions (general, technical, supplementary, and special), and all other documents listed in or referenced by the Prime Contract. The Prime Contract Documents are incorporated herein by reference and made an integral part of this Purchase Order. To the extent the Prime Contract, or the law, requires the inclusion of any provision, clause or other requirement in the Purchase Order or in the Prime Contract that relates to the Goods, those provisions, clauses and requirements are incorporated by reference in and made a part of the Purchase Order as though fully set forth in the Purchase Order. To the extent related to this Purchase Order, the Goods, and/or Supplier's obligations under this Purchase Order, (a) Supplier binds itself to Contractor and is obligated to Contractor in the same manner and to the same extent that Contractor is bound and obligated to Owner under the Prime Contract, and Contractor may exercise and enforce all rights against Supplier that Owner may exercise and enforce against Contractor and (b) Supplier shall do all things and be bound by all decisions, directives, interpretations, and rulings of Owner, Architect, Engineer, or others authorized to act on behalf of Owner to the same extent that Contractor is bound.

2. Supplier's Duties. In addition to all other duties hereunder, Supplier, shall, at no additional cost: (a) furnish sufficient labor, materials and equipment to provide the Goods in strict compliance with this Purchase Order; (b) perform any ancillary services required as part of Supplier's provision of goods, which may include but are not limited to preparing and providing shop drawings, vendor designs, and product data (including MSDS sheets), and providing samples in accordance with the requirements of the Purchase Order and/or the Prime Contract Documents, and, where applicable, provide all instruments of service in a form and format acceptable to Contractor and with the appropriate stamp and signature of a properly registered professional ("Services"); (c) deliver all Goods, free of all claims or liens from third parties, to the location and on the date noted on the Purchase Order during normal business hours, unless otherwise directed by Contractor; (d) comply with building codes, whether or not referenced in the Prime Contract Documents; (e) conform to Contractor's hours of work as no premium time will be paid without Contractor's prior written authorization; (f) cooperate with Owner, Contractor and any other contractor, subcontractor or supplier for the Project; (g) permit Contractor and Owner to inspect and test the Goods at Supplier's place of business at any time prior to shipment, provided, however, that no such inspection shall waive Contractor's or Owner's right to reject nonconforming Goods at any time; (h) obtain and pay for all permits, licenses and inspections made necessary by supply of the Goods; and (i) comply with all laws, ordinances, orders, rules and regulations relating to Supplier, its supply of the Goods and/or Services, or this Purchase Order (collectively, "Laws"), including without but not limited to the following clauses which are incorporated into this purchase order by Reference: 41 CFR §60-1.4(a); 41 CFR §60-300.5(a); 41 CFR §60-741.5(a) and 29 CFR Part 471, Appendix A to Subpart A. Contractor/vendor must abide by non-segregation regulations at 41 CFR §60-1.8 and any applicable affirmative action obligations as required by 41 CFR §60-1.40(a)(2). **This contractor and subcontractor shall abide by the requirements of 41 CFR 60-1.4(a), 60-300.5(a) and 60-741.5(a). These regulations prohibit discrimination against qualified individuals based on their status as protected veterans or individuals with disabilities and prohibit discrimination against all individuals based on their race, color, religion, sex, sexual orientation, gender identity or national origin. Moreover, these regulations require that covered prime contractors and subcontractors take affirmative action to employ and advance in employment individuals without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability or veteran status.**

3. Price. Unless otherwise stated in the Purchase Order, the Price is the entire and complete cost to Contractor associated with the sale, delivery and acceptance of any and all Goods, including without limitation, Services, packing, set-up, applicable sales taxes or other taxes, tariffs, duties, insurance, permits, fees, and delivery to a location specified by Contractor. The Price shall not increase or escalate for any reason, including but not limited to if tax rebates or credits are eliminated. If the Price is based on agreed rate(s) per unit, any variation of quantity, increases or decreases, shall be based on the unit price and Supplier agrees to be bound by Owner's measurement of said units.

4. Payment. Contractor shall pay Supplier for conforming and acceptable Goods based on Supplier's invoice(s), per the terms of the Purchase Order, after all Goods are satisfactorily delivered and accepted by Contractor and the Owner, if applicable. Unless otherwise specified in the Purchase Order, payment from Owner shall be a condition precedent to any obligation of Contractor or Contractor's sureties to make such payment to Supplier. Payment shall be made within ten (10) days after Contractor's receipt of payment from Owner for the Goods and performance provided by Supplier. Before any payment hereunder shall become due, Contractor, at its option, may require Supplier to furnish satisfactory evidence of the payment of all accounts for labor and materials pertaining to Supplier's performance hereunder, and shall, if required by Contractor, furnish a full and complete waiver and release of liens and potential claims. Prior to final payment, Supplier shall (a) provide to Contractor copies of all warranties, applicable manuals, and any and all other close-out documents required for the Goods, (b) complete performance of any Services, and (c) obtain Contractor's final acceptance of the Goods. No payment by Contractor will constitute a waiver or acceptance of defective, deficient, late, or nonconforming Services or Goods.

5. Delivery and Acceptance of Goods. Supplier shall determine and fully comply with Owner's submittal, inspection and acceptance procedures. In the absence of such procedures, Supplier shall provide Contractor at least twenty-four (24) hours' notice prior to the delivery of any Goods. Risk of loss or damage shall remain with Supplier until the Goods are physically delivered to and accepted by Contractor at the specified location unless otherwise agreed to in writing and signed by Contractor. Acceptance shall not be deemed to occur until (a) the Goods are (i) picked up by the Contractor, or (ii) appropriately delivered to Contractor's satisfaction, and (b) Contractor and Owner have inspected and accepted the Goods as conforming with the Purchase Order. Approval or acceptance by Owner (or Contractor) shall not relieve Supplier of liability for any nonconforming or defective Goods or performance and shall not impair Contractor's or Owner's right to later reject nonconforming Goods or performance, or to avail themselves of any other remedy to which Contractor or Owner may be entitled.

6. Title and Stored Goods. Title to the Goods shall pass to Contractor upon the earliest of (a) payment by Contractor to Supplier for the Goods, or (b) delivery of the Goods. To the extent approved in advance by Contractor, Supplier's invoices may include Goods suitably stored at the Project site or some other location. Supplier shall notify the Contractor in writing of the proposed storage location of the Goods, which location shall be subject to Contractor's approval. Upon Contractor's payment for the Goods, Supplier agrees to issue Contractor a bill of sale for the Goods. In consideration of payment by Contractor to Supplier for the Goods, Supplier grants a security interest in favor of Contractor in and to such Goods solely as a precaution against the holding by a court of applicable jurisdiction that Contractor is not the owner of the Goods. Supplier agrees to execute and deliver to Contractor from time to time such documents and to take such other steps as are reasonably requested by Contractor to perfect such security interest, including UCC-1 Financing Statements. If Contractor has paid for Goods stored off-site or if required by Contractor, Supplier agrees to cause the Goods to be stored in segregated areas from Supplier's own personal property and designate by a tag or other appropriate written notice affixed thereto that such Goods belong to Contractor.

7. Change Order. Contractor at any time may by written change order make any change in the Purchase Order, including without limitation, add or deduct quantities ordered, make changes in any applicable specifications or drawings, or change the time of delivery. Supplier shall promptly comply with any ordered change in the Purchase Order notwithstanding any dispute over price or other adjustments, pending resolution of the dispute in accordance with the Purchase Order. Changes directed by the Owner shall be determined in accordance with the provisions of the Prime Contract.

8. Representations and Warranties. Supplier represents and warrants to Contractor that: (a) Supplier's Services and Goods and Contractor's use thereof shall not constitute an infringement of any patent rights or copyright; (b) Supplier has received a sufficiently detailed description of the Goods and has clarified with Contractor any ambiguity or uncertainty with respect to the Goods prior to executing the Purchase Order; (c) all Goods and Services shall conform strictly to the requirements set forth in the Purchase Order; (d) all Goods are of good merchantable quality and condition, free from all defects, and reasonably fit for their intended purposes; and (e) the Goods will be

complete in all respects necessary to make the Goods fully functional when installed. All warranties implied by law or required by the Prime Contract Documents are incorporated herein and shall apply to the Goods and Supplier's performance hereunder for the period set forth in the Prime Contract Documents, or if any law imposes a warranty or guaranty for a longer period of time, for such longer period. Supplier assigns to Contractor any applicable vendor or manufacturer warranties or remedies.

9. No Third-Party Beneficiary. Except as otherwise specifically set forth herein or as expressly required by the Prime Contract, this Purchase Order is solely for the benefit of the Parties and shall not confer any rights, remedies, or benefits upon anyone other than the Parties and their successors and assigns. In no event shall Contractor incur any third-party liability or responsibility by virtue of this Purchase Order.

10. Independent Contractor, Safety and Taxes. Supplier is an independent contractor for all purposes. Supplier shall maintain complete control of and responsibility for its employees and lower-tier subcontractor and suppliers. Supplier is solely responsible for the health and safety of its employees and lower-tier subcontractors and suppliers. If Supplier's performance of this Purchase Order potentially involves hazardous or toxic substances, Supplier shall strictly comply with all safety and training measures required by Contractor, Prime Contract and Law. Supplier shall timely pay, or cause its sub-subcontractors or suppliers to pay, all taxes, tariffs, contributions, premiums, assessments, or fees imposed directly or indirectly on account of this Purchase Order, including those payable on its employees or on its operations under Worker's Compensation Laws, Employment Welfare Benefit Plans, gross business taxes, and sales and use taxes and any other taxes, contributions and / or premiums which may become payable by operation of law or contract, including contributions payable by the employees.

11. Indemnification. To the fullest extent permitted by law, Supplier shall defend, indemnify and hold harmless Contractor, Owner, and all persons indemnified by Contractor pursuant to the Prime Contract Documents, and all agents and employees or any of them from and against any and all claims, liabilities, liens, costs, damages, citations, penalties, fines, attorney's fees, losses, and expenses of whatever nature (each a "Claim" and collectively "Claims") arising out of or resulting from Supplier's provision of the Goods, or failure to provide such Goods, and any services related thereto, including loss of use of any property resulting therefrom, but only to the extent caused in whole or in part by breach of the Purchase Order or these Terms and Conditions or by negligent or otherwise wrongful acts or omissions of Supplier, Supplier's sub-suppliers, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable. Such obligation shall not be construed to negate, abridge, or otherwise reduce other rights or obligations or indemnity that would otherwise exist as to any party or person, and shall survive the completion of the Project and final payment to Supplier. Supplier's defense and indemnity obligations shall survive the termination of this Purchase Order for any reason. Supplier shall maintain such insurance as is necessary to fully cover Supplier's indemnity obligations hereunder. Supplier's obligations under this Paragraph shall be enforced regardless of whether or not a Claim is caused in part by a party indemnified hereunder.

12. No Damage for Delay. To the fullest extent permitted by law, Contractor shall not be liable to Supplier for damages resulting from the delay, disruption, resequencing or suspension of Supplier's performance caused by the act, neglect, or default of Owner, Contractor, Architect, or others, or by reason of fire or other casualty, or on account of riots or strikes, acts of war or other combined action of the workers or others, or on account of any act of God, or any other cause, or on account of any circumstances caused or contributed to by Supplier, except to the extent Contractor actually receives compensation from the Owner under the Prime Contract Documents with respect to Supplier's Work. Upon any such delay disruption, resequencing or suspension described herein, except as caused by Supplier, Supplier shall receive an extension of time only, and then only if (a) Supplier delivers a written claim for delay to Contractor within, the earlier of, seventy-two (72) hours from the beginning of the event causing the delay, disruption, resequencing or suspension or such period of time required by the Prime Contract, and (b) Owner has granted Contractor a similar extension.

13. Default; Remedies. If Supplier (a) fails to deliver the Goods within the time or by the date required by the Purchase Order; (b) delivers defective or nonconforming Goods; (c) causes delay or disruption in the work of Contractor or others on the Project, or causes injury to person or property at the Project or Specified Location; (d) fails to perform according to the terms of the Purchase Order, these Terms and Conditions; (e) files for bankruptcy, assigns assets for the benefit of creditors, becomes insolvent or is unable to pay its obligations as they mature; (f) fails to remove any claim or lien filed against the Goods or the Project by third parties; or (g) if Contractor has a reasonable basis to believe that the Goods will not be delivered in sufficient quality or quantity within the time or by the date required by the Purchase Order; then Contractor may deem Supplier to be in default, and at Contractor's sole option, and without limitation on other remedies available at law or in equity, take one or more of the following actions:

- (i) reject all or part of the Goods (whether or not the Goods have previously been accepted by the Contractor) in which case the Supplier shall immediately remove the Goods at the Supplier's expense, or Contractor may return the Goods to Supplier at Supplier's expense;
- (ii) require the Supplier to replace the Goods, or make good any defect in the Goods;
- (iii) withhold any payment and/or set off against any payment otherwise owed to Supplier under the Purchase Order or any other contract or purchase order in an amount that in Contractor's sole determination is a reasonable estimate of the costs and damages incurred as a result of Supplier's default;
- (iv) cure any default, including without limitation ordering substitute Goods from a third party, and charge the cost thereof to Supplier's account, together with a fee equal to 15% of the cost of the substitute Goods; and
- (v) terminate the Purchase Order on three days' written notice to Supplier.

Contractor may exercise the remedies described in sub-items (iii), (iv), & (v) above after providing seventy-two (72) hours prior written notice of default, and provided the default is not fully cured within such seventy-two (72) hours. In addition to and without limiting the remedies described above, Supplier shall be liable for all costs, expenses, damages and losses incurred by Contractor as a result of Supplier's default. Liquidated damages or other costs, assessed against Contractor resulting from Supplier's fault, are but one item of actual damages that may be incurred by Contractor as a result of Supplier's failure to perform this Purchase Order within the specified time, and which Contractor may assess against Supplier.

14. Claims. Supplier shall make no claim or initiate any legal proceeding or action against Contractor arising out of or relating to this Purchase Order, the Prime Contract Documents, the supply of the Goods, or otherwise relating to the Project except as specifically provided herein, and then only after all required notice and claim procedures have been strictly followed. Supplier shall give Contractor written notice of all claims for any additional compensation or damages within three (3) calendar days of the date on which Supplier knew or should have known of the beginning of the event for which such claim is to be made; otherwise, such claim shall be deemed waived. Supplier shall also submit a written description of the claim and supporting documentation within sixty (60) days of providing the claim notice. Such claim summary shall include a clear description of the claim and any proposed change in the Purchase Order price and/or time for performance. Notwithstanding the foregoing, the claim notice and written summary of the claim for any claim by Supplier for which the Owner is or may be responsible or which may affect or become part of a claim which Contractor may make under the Prime Contract (a "Pass-Through Claim") shall be made to Contractor no less than two (2) working days before the time Contractor must submit its claim under the Prime Contract. Supplier shall be bound to Contractor to the same extent that Contractor is bound to Owner by all determinations and decisions made by the Owner and/or in any proceeding authorized by the Prime Contract, including, but not limited to, any judicial or administrative court or tribunal, or any dispute review board or arbitration. In the event any award of additional compensation or damages on any claim, or reasonable settlement by Contractor of such claim, does not identify or allocate an amount to Supplier, then Supplier shall be entitled only to its proportionate share of any actual net recovery, if any, less overhead and profit to Contractor and less Contractor's expenses and attorneys' fees in handling the matter. Supplier shall not be entitled to slow down, suspend or cease any work or delivery of the Goods, notwithstanding the existence or threat of any dispute, including but not limited to change order disputes, payment disputes and/or the pendency of any mediation, arbitration or litigation.

15. Arbitration and Dispute Resolution. All claims by and between Contractor and Supplier arising out of or relating to this Purchase Order or otherwise relating to the Project shall be resolved by binding arbitration pursuant to the Construction Industry Arbitration Rules of the American Arbitration Association unless provided otherwise in the Prime Contract. The award rendered by the arbitrators shall be final and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction. Notice of the demand for arbitration shall be filed in writing with the other party and with the American Arbitration Association. The demand for arbitration shall be made within the time limits specified in the Prime Contract and this Purchase Order where applicable, and in all other cases within the time specified by applicable law. Supplier shall require any surety or insurer providing any coverage for a matter in dispute to be bound by any arbitration award against it involving a covered risk. Notwithstanding any provision of law or rule of arbitration to the contrary, any party to arbitration under this Paragraph may avail itself of reasonable discovery procedures, including, but not limited to depositions, interrogatories and requests for production of documents as provided for in the Federal Rules of Civil Procedure. Contractor, at its sole discretion, may join in the Owner or any other persons substantially involved in a common question of fact or law or whose presence is required if complete relief is to be accorded in the arbitration.

Further, Contractor, at its sole discretion, may consolidate the arbitration into any other arbitration, in which case Supplier and Contractor shall abide by the rules and procedure of the arbitration into which consolidated. Supplier agrees to require its sureties and insurers to be bound by any arbitration award against it. Notwithstanding the foregoing, if the Prime Contract Documents provide for other dispute resolution procedures for disputes arising between Contractor, the Owner and/or others, or if Contractor is a party to litigation or other proceedings with third persons relating to this Project, then Contractor may, at its discretion, join Supplier in any such litigation or proceeding which arises out of or relates to this Purchase Order and/or Supplier's supply of the Goods, and Supplier shall participate in such litigation or proceeding.

16. Assignment. Supplier shall not assign or sublet its obligations hereunder without prior written consent of Contractor. Any attempted assignment without prior written consent of Contractor shall be voidable at the discretion of Contractor. Any assignment of Supplier's right to payment hereunder shall be subject to all rights of Contractor, including without limitation, any right to withhold payment, offset any payment, or terminate the Purchase Order. Supplier consents to Contractor's assignment of this Purchase Order to any affiliate of Contractor or to any party as required by the Prime Contract.

17. Insurance. During all times Supplier, its agents, or its employees are present at the Project, Supplier shall maintain insurance required by the Prime Contract Documents, and shall include at a minimum comprehensive general liability insurance ("CGL") covering personal injury (including death) and damage to property in an amount not less than \$2 million per occurrence, \$5 million aggregate, automobile liability insurance in an amount not less than \$1,000,000 per occurrence, professional liability insurance in an amount not less than \$1 million (but only if Supplier expects to perform "Services" or if required by Contractor at Contractor's discretion), and pollution liability insurance in an amount not less than \$1 million (either under Supplier's CGL policy or a separate contractor pollution liability policy). Supplier's CGL policy must include contractual liability coverage including coverage for any and all indemnitees under this Purchase Order. Contractor and Owner shall be made additional insureds on the CGL, automobile, and pollution liability policies. Supplier shall provide satisfactory evidence of the foregoing insurance prior to performing any Services and shall provide written notice to Contractor prior to cancellation of any required insurance policies before the expiration date thereof. Failure to provide such evidence shall be material breach of the Purchase Order.

18. Termination for Convenience. Contractor shall have the right at any time prior to acceptance of all of the Goods to terminate the Purchase Order, in whole or in part, for convenience, without cause, by giving written notice to Supplier, which notice shall be effective upon delivery or as specified therein. Upon termination, Contractor shall pay Supplier, as its entire and sole compensation, its documented, reasonable, actual costs incurred prior to cancellation, along with any direct out-of-pocket expenses incurred for return shipment to Supplier of Goods previously delivered to Contractor, plus a reasonable markup for overhead and profit not to exceed fifteen percent (15%). Supplier shall not be entitled to recover profit on work not performed, shall not be entitled to recover any consequential damages (other than profit as specified in this paragraph) and shall not be entitled to recover any amounts prohibited by this Purchase Order. In the event any termination under Paragraph 13 above is later determined to be improper, such termination shall be deemed a termination for convenience (as defined in this Paragraph), and Supplier shall be limited to the recovery provided in this Paragraph.

19. Survival. The termination of the Purchase Order, or a portion thereof, for any reason (including termination for convenience) shall not relieve Supplier of its responsibilities for all Goods and performance provided, nor shall it relieve Supplier or its sureties or insurers of their obligations for and concerning any claim arising out of the same. Moreover, all of Supplier's (and its sureties' and insurers') obligations, responsibilities and duties that, by their nature are of continuing effect, shall survive any termination of the Purchase Order.

20. Consequential Damages Waiver. NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY, NEITHER CONTRACTOR NOR SUPPLIER SHALL BE LIABLE TO THE OTHER FOR ANY CONSEQUENTIAL LOSSES OR DAMAGES, WHETHER ARISING IN CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE, INCLUDING, BUT NOT LIMITED TO LOSSES OF FUTURE OPPORTUNITY, BUSINESS, BONDING CAPACITY, REPUTATION OR FINANCING. Notwithstanding the waiver of consequential losses or damages set forth in this Paragraph, Contractor shall be entitled to recover against Supplier (a) any liquidated damages that Owner may assess against Contractor which are attributable to Supplier, even though both parties recognize that such liquidated damages may include some damages that might otherwise be deemed to be consequential and (b) any losses, fines, penalties or damages, including consequential damages, that may be imposed upon Contractor by the Owner, Prime Contract, or as a result of a third party claim. The bar against recovery of consequential losses or damages in this Paragraph does not bar the recovery of Contractor's or Supplier's direct costs, indirect costs, extended or expanded overhead costs, or acceleration, lost productivity, or disruption costs incurred on the Project to the extent that they are otherwise recoverable under this Purchase Order.

21. Preservation and Audit of Records. In addition to any document retention and/or audit provisions in the Prime Contract Documents, Supplier agrees to preserve for Contractor's and/or Owner's review, inspection and copying, all invoices and records of the Goods, Supplier's performance hereunder and Supplier's bid preparation files, for a period of at least three (3) years after Owner's Final Acceptance of the Project or, if longer, such period required by Law. Contractor reserves the right to conduct an audit of Supplier's records pertaining to the Project at any time and for any reason, at Contractor's expense as reasonably necessary to assure Supplier's compliance with this Purchase Order, Prime Contract or Law. Supplier shall also reasonably cooperate with Contractor in the event of any accident or other event that may give rise to a claim against Contractor or Owner. To the extent possible, Supplier shall preserve all evidence, and shall not tamper with any evidence, related to the accident or event until Contractor has had an opportunity to investigate and to inspect the evidence.

22. Confidentiality. Supplier shall not disclose any confidential or proprietary information, documentation or records of Contractor or Owner ("Confidential Information") unless authorized by Contractor to do so. Supplier's employees, officers, agents, subcontractors and suppliers must also be bound to this obligation, and such confidentiality obligations shall survive termination of this Purchase Order for any reason. Supplier may not release any information to third parties or make any public statements about the Project or its relationship with the Contractor or Owner without Contractor's written consent. Such obligation shall not apply to information, documentation or record: (a) already in the public domain; (b) to the extent disclosure is required by applicable Law; or (c) to the extent such information, documentation or records are received by the Supplier on a non-confidential basis from a third party, provided that to the best of the Supplier's knowledge, such third party was not bound by a confidentiality agreement with the disclosing party or otherwise prohibited from disclosing the information to the Supplier.

23. Severability and Interpretation. The partial or complete invalidity of any one or more provisions of the Purchase Order shall not affect the validity and continuing force and effect of any other provision. No provision of the Purchase Order is to be construed against any party, regardless of which party drafted it. The Purchase Order shall be governed by the laws of the state identified in the Prime Contract or, if not identified in the Prime Contract, then the state in which the Project is located.

24. Notice. All written notices required or permitted hereunder shall be delivered to the address or transmitted to the email address and/or facsimile number set forth on the first page of the Purchase Order, or such other address or number as either party may designate by like notice. A Party shall be deemed to have received notice of a fact, request, order or demand upon receipt by such Party or three (3) days after written notice is sent by Contractor, whichever occurs earlier.

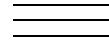
25. TIME IS OF THE ESSENCE OF THE PURCHASE ORDER AND THESE TERMS AND CONDITIONS.

26. Bonds. If payment and performance bonds are required as part of the Purchase Order, Supplier agrees to furnish to Contractor duly executed performance and payment bonds. Said bonds shall be issued by a surety acceptable to the Contractor and shall be maintained during the life of the Purchase Order plus any warranty period established by the Prime Contract. Unless otherwise specified, the payment and performance bonds shall be in the full amount of the Purchase Order and shall provide that the surety's obligations are co-extensive with those of the Supplier under the Purchase Order.

27. Federal Projects. If the Project is fully or partially funded by the United States Government, Supplier shall comply with any applicable federal regulations applicable to the Project, and those regulations are incorporated into and made a part of this Purchase Order. The Prime Contract Documents and this Purchase Order shall be interpreted together and in harmony with one another.

Project:

RW Conveyance Improvements
Chandler, AZ



Pipe Scope Sheet

Quoting Import Material

Pricing is valid for 120 days with complete scope award. If partial scope is awarded - prices are subject to change

Supplier: FERGUSON Waterworks
Contact: Jamie Germann
Phone: 480-619-3382
Email: jamie.germann@ferguson.com

Pipe Materials Takeoff

Row #	Description	Q-ty	Unit	Group	UNIT Price, USD	Total Price, USD	Comments
	BNG						
	1/2" All-Thread Rod HDG	48.	LF	NBG	\$ 2.30	\$ 110.40	sold in 12' lengths
	1/2" Nut HDG	132.	EA	NBG	\$ 0.19	\$ 24.75	
	1/2" Washer HDG	132.	EA	NBG	\$ 0.16	\$ 21.45	
	3" B+N Set STL150# A307 GrB	16.	EA	NBG	\$ 3.91	\$ 62.60	
	3" Neoprene Gasket 150#	16.	EA	NBG	\$ 1.70	\$ 27.20	
	4" B+N Set STL150# A307 GrB	12.	EA	NBG	\$ 7.91	\$ 94.95	
	4" Neoprene Gasket 150#	12.	EA	NBG	\$ 2.34	\$ 28.05	
	12" B+N Set STL150# A307 GrB	2.	EA	NBG	\$ 29.41	\$ 58.83	
	12" Neoprene Gasket 150#	2.	EA	NBG	\$ 7.81	\$ 15.63	
	16" B+N Set STL150# A307 GrB	19.	EA	NBG	\$ 57.95	\$ 1,101.05	
	16" Flange Insulation Kit 150#	4.	EA	NBG	\$ 258.44	\$ 1,033.75	
	16" Neoprene Gasket 150#	20.	EA	NBG	\$ 11.73	\$ 234.50	
	20" B+N Set STL150# A307 GrB	37.	EA	NBG	\$ 78.75	\$ 2,913.75	
	20" B+N Set 316SS 150#	1.	EA	NBG	\$ 309.25	\$ 309.25	
	20" Neoprene Gasket 150#	40.	EA	NBG	\$ 16.28	\$ 651.00	
	24" B+N Set STL150# A307 GrB	5.	EA	NBG	\$ 119.86	\$ 599.31	
	24" B+N Set 316SS 150#	1.	EA	NBG	\$ 424.36	\$ 424.36	
	24" Neoprene Gasket 150#	7.	EA	NBG	\$ 22.15	\$ 155.05	
	42" B+N Set STL150# A307 GrB	8.	EA	NBG	\$ 713.95	\$ 5,711.60	
	42" Neoprene Gasket 150#	9.	EA	NBG	\$ 72.64	\$ 653.74	
	30" Neoprene Gasket 150#	2.	EA	NBG	\$ 31.61	\$ 63.23	
	30" B+N Set STL150# A307 GrB	2.	EA	NBG	\$ 228.12	\$ 456.24	Quoting fully threaded bolts - assuming 6" long bolt with 5" fully threaded - details of flange will be required at time of release
	CPG						
	16" Flex Coupling	2.	EA	COUP	\$ 591.11	\$ 1,182.23	est lead time 5-7 working weeks ARO
	20" Flex Coupling	4.	EA	COUP	\$ 875.81	\$ 3,503.25	est lead time 5-7 working weeks ARO
	42" Flex Coupling	1.	EA	COUP	\$ 2,024.31	\$ 2,024.31	est lead time 5-7 working weeks ARO
	DIP						
	3" DI FLG C110 Blind Flange CM/ Prime	1.	EA	DI FTG	\$ 35.29	\$ 35.29	in stock, to be reconfirmed ARO
	3" DI FLG C110 90 Bend CM/ Prime	2.	EA	DI FTG	\$ 83.95	\$ 167.90	in stock, to be reconfirmed ARO
	3" MEGALUG	3.	EA	REST	\$ 39.55	\$ 118.66	in stock, to be reconfirmed ARO - quoting with less gland accessory pack
	3" DI MJ Accy Set Less Gland (MJ Gasket, Std.T-Bolt)	3.	EA	REST	\$ 17.00	\$ 51.00	in stock, to be reconfirmed ARO
	3"x10" FXP Spool CL53 CM/Prime	2.	EA	SPL	\$ 416.71	\$ 833.41	est lead time 6-7 weeks ARO
	3"x50" FXP Spool CL53 CM/Prime	3.	EA	SPL	\$ 965.41	\$ 2,896.24	est lead time 6-7 weeks ARO
	3"x56" FXP Spool CL53 CM/Prime	2.	EA	SPL	\$ 1,179.59	\$ 2,359.18	est lead time 6-7 weeks ARO
	4"x06" FXP Spool CL53 CM/Prime	3.	EA	SPL	\$ 279.18	\$ 837.53	est lead time 6-7 weeks ARO
	4"x10" FXP Spool CL53 CM/Prime	3.	EA	SPL	\$ 279.18	\$ 837.53	est lead time 6-7 weeks ARO
	6" MEGALUG	14.	EA	REST	\$ 53.19	\$ 744.70	in stock, to be reconfirmed ARO - quoting with less gland accessory pack
	6" DI MJ Accy Set Less Gland	14.	EA	REST	\$ 21.93	\$ 306.99	in stock, to be reconfirmed ARO
	6" DI MJ C153 Plug CM/ Tar	1.	EA	DI FTG	\$ 62.02	\$ 62.02	in stock, to be reconfirmed ARO
	6"x10" DI MJ C153 Long Sleeve CM/ Tar	2.	EA	DI FTG	\$ 104.79	\$ 209.59	in stock, to be reconfirmed ARO
	6" DI MJ C153 Tee CM/ Tar	1.	EA	DI FTG	\$ 165.75	\$ 165.75	in stock, to be reconfirmed ARO
	6" DI Pipe TR-Flex PC350 CM/Tar	60.	LF	PIPE	\$ 33.92	\$ 2,034.95	
	6"x3" DI MJ C153 TEE CM/Tar	3.	EA	DI FTG	\$ 127.25	\$ 381.75	in stock, to be reconfirmed ARO
	16" DI FLG C110 Blind Flange CM/ Prime	2.	EA	DI FTG	\$ 522.37	\$ 1,044.75	in stock, to be reconfirmed ARO
	16"x10" FXP Spool CL53 CM/Prime	2.	EA	SPL	\$ 902.26	\$ 1,804.52	est lead time 6-7 weeks ARO
	16"x16" FXP Spool CL53 CM/Prime	2.	EA	SPL	\$ 1,026.78	\$ 2,053.55	est lead time 6-7 weeks ARO
	16"x16" FXP Spool CL53 CM/Prime	2.	EA	SPL	\$ 1,655.79	\$ 3,311.58	est lead time 6-7 weeks ARO
	16"x20" FXP Spool CL53 CM/Prime	2.	EA	SPL	\$ 1,151.29	\$ 2,302.59	est lead time 6-7 weeks ARO
	16"x2" DI FLG C110 Tapped Blind Flange CM/ Prime	2.	EA	DI FTG	\$ 567.81	\$ 1,135.63	in stock, to be reconfirmed ARO
	16"x36" FXP Spool CL53 CM/Prime	2.	EA	SPL	\$ 2,153.86	\$ 4,307.72	est lead time 6-7 weeks ARO
	20" DI FLG C110 90 Bend CM/ Prime	4.	EA	DI FTG	\$ 1,874.01	\$ 7,496.03	in stock, to be reconfirmed ARO
	20" DI FLG C110 Tee CM/ Prime	4.	EA	DI FTG	\$ 2,769.04	\$ 11,076.15	in stock, to be reconfirmed ARO
	20" MEGALUG	1.	EA	REST	\$ 410.17	\$ 410.17	in stock, to be reconfirmed ARO - quoting with less gland accessory pack
	20" DI MJ Accy Set Less Gland	1.	EA	REST	\$ 62.49	\$ 62.49	in stock, to be reconfirmed ARO
	20"x10" FXP Spool CL53 CM/Prime	8.	EA	SPL	\$ 2,129.15	\$ 17,033.22	est lead time 6-7 weeks ARO
	20"x12" DI FLG C110 Concentric Reducer CM/ Prime	2.	EA	DI FTG	\$ 1,181.61	\$ 2,363.22	est lead time 14 weeks +/-
	20"x20" FXP Spool CL53 CM/Prime	1.	EA	SPL	\$ 2,456.26	\$ 2,456.26	est lead time 6-7 weeks ARO
	20"x30" FXP Spool CL53 CM/Prime	4.	EA	SPL	\$ 2,783.36	\$ 11,133.46	est lead time 6-7 weeks ARO
	20"x36" FXP Spool CL53 CM/Prime	1.	EA	SPL	\$ 2,946.92	\$ 2,946.92	est lead time 6-7 weeks ARO
	20"x50" FXP Spool CL53 CM/Prime	2.	EA	SPL	\$ 3,437.58	\$ 6,875.15	est lead time 6-7 weeks ARO
	20"x50" FXP Spool CL53 CM/Prime	1.	EA	SPL	\$ 2,550.64	\$ 2,550.64	est lead time 6-7 weeks ARO
	20"x56" FXP Spool CL53 CM/Prime	1.	EA	SPL	\$ 3,601.13	\$ 3,601.13	est lead time 6-7 weeks ARO
	20"x60" FXP Spool CL53 CM/Prime	2.	EA	SPL	\$ 3,764.68	\$ 7,529.36	est lead time 6-7 weeks ARO
	20"x70" FXP Spool CL53 CM/Prime	1.	EA	SPL	\$ 4,091.79	\$ 4,091.79	est lead time 6-7 weeks ARO
	20"x86" FXP Spool CL53 CM/Prime	1.	EA	SPL	\$ 4,582.45	\$ 4,582.45	est lead time 6-7 weeks ARO
	24" FCA EBAA 2100 Megaflange for DIP/PVC C900	2.	EA	REST	\$ 562.15	\$ 1,124.30	in stock, to be reconfirmed ARO
	24" DI FLG C110 90 Bend CM/ Prime	2.	EA	DI FTG	\$ 3,087.70	\$ 6,175.39	in stock, to be reconfirmed ARO - quoting with less gland accessory pack
	24" MEGALUG	20.	EA	REST	\$ 555.78	\$ 11,115.66	in stock, to be reconfirmed ARO
	24" DI MJ C153 45 Bend CM/ Tar	2.	EA	DI FTG	\$ 1,379.98	\$ 2,759.95	in stock, to be reconfirmed ARO
	24" DI MJ C153 90 Bend CM/ Tar	2.	EA	DI FTG	\$ 2,079.85	\$ 4,159.69	in stock, to be reconfirmed ARO
	24" DI MJ Accy Set Less Gland	20.	EA	REST	\$ 74.55	\$ 1,491.08	in stock, to be reconfirmed ARO
	24"x10" DI MJ C153 Long Sleeve CM/ Tar	4.	EA	DI FTG	\$ 1,100.13	\$ 4,400.52	in stock, to be reconfirmed ARO
	24" DI Pipe TR-Flex PC250 CM/Tar	240.	LF	PIPE	\$ 196.97	\$ 47,272.80	
	24"x20" DI FLG C110 Concentric Reducer CM/ Prime w/ 4" FLG Outlet	2.	EA	DI FTG	\$ 6,542.30	\$ 13,084.61	est lead time 17-19 weeks after NPD
	24"x20" DI MJ C153 Reducer CM/ Tar	1.	EA	DI FTG	\$ 1,229.20	\$ 1,229.20	in stock, to be reconfirmed ARO
	24"x2" DI MJ C153 Tapped Cap CM/ Tar	2.	EA	DI FTG	\$ 703.09	\$ 1,406.18	in stock, to be reconfirmed ARO
	24"x2" DI FLG C110 Tapped Blind Flange CM/ Prime	2.	EA	DI FTG	\$ 1,508.82	\$ 3,017.65	in stock, to be reconfirmed ARO
	24"x50" FXP Spool CL53 CM/Prime	1.	EA	SPL	\$ 3,165.81	\$ 3,165.81	est lead time 6-7 weeks ARO
	30" MEGALUG	21.	EA	REST	\$ 1,233.94	\$ 25,912.73	in stock, to be reconfirmed ARO - quoting with less gland accessory pack
	30" DI MJ C153 45 Bend CM/ Tar	4.	EA	DI FTG	\$ 2,803.25	\$ 11,213.02	in stock, to be reconfirmed ARO
	30" DI MJ C153 90 Bend CM/ Tar	1.	EA	DI FTG	\$ 3,336.31	\$ 3,336.31	in stock, to be reconfirmed ARO

30" DI MJ Acy Set Less Gland	21.	EA	REST	\$	145.28	\$	3,050.82		in stock, to be reconfirmed ARO
30"x10" DI MJ C153 Long Sleeve CM/ Tar	4.	EA	DI FTG	\$	2,273.94	\$	9,095.75		in stock, to be reconfirmed ARO
30" DI MJ C153 Tee CM/ Tar	1.	EA	DI FTG	\$	4,824.82	\$	4,824.82		in stock, to be reconfirmed ARO
30" DI Pipe TR-Flex PC250 CM/Tar	1,000.	LF	PIPE	\$	305.61	\$	305,610.00		
30"x2" DI MJ C153 Tapped Cap CM/ Tar	2.	EA	DI FTG	\$	1,559.62	\$	3,119.25		in stock, to be reconfirmed ARO
42" FCA EBAA 2100 Megaflange for DIP/PVC C900	1.	EA	REST	\$	4,115.98	\$	4,115.98		est lead time 2 weeks +/-
42" DI MJ C153 Tee CM/ Tar	1.	EA	DI FTG	\$	11,897.37	\$	11,897.37		in stock, to be reconfirmed ARO - quoting
42" MEGALUG	23.	EA	REST	\$	2,388.00	\$	54,924.00		with less gland accessory pack
42" DI MJ C153 45 Bend CM/ Tar	2.	EA	DI FTG	\$	6,294.62	\$	12,589.24		in stock, to be reconfirmed ARO
42" DI MJ C153 90 Bend CM/ Tar	2.	EA	DI FTG	\$	8,942.28	\$	17,884.56		in stock, to be reconfirmed ARO
42" DI MJ Acy Set Less Gland	23.	EA	REST	\$	599.72	\$	13,793.63		est lead time 2 weeks +/-
42"x10" DI MJ C153 Long Sleeve CM/ Tar	2.	EA	DI FTG	\$	4,268.24	\$	8,536.47		in stock, to be reconfirmed ARO
42" DI Pipe TR-Flex PC250 CM/Tar	540.	LF	PIPE	\$	598.24	\$	323,049.60		
42"x2" DI MJ C153 Tapped Cap CM/ Tar	2.	EA	DI FTG	\$	4,179.48	\$	8,358.97		in stock, to be reconfirmed ARO
42"x30" DI MJ C153 Reducer CM/ Tar	3.	EA	DI FTG	\$	4,009.99	\$	12,029.96		in stock, to be reconfirmed ARO
STL - Fabricated Package -see attached scope letter and drawings	1.	ea		\$	124,727.92	\$	124,727.92		Includes (1) 42" butt strap for weld location
42" STL Fab Pipe CML/Prime	52.	LF	STL	\$	-	\$	-		between the 2 pump cans
42" STL 90	1.	EA	STL	\$	-	\$	-		See above fab package pricing
42" Tapped Blind Flange STL 150#	2.	EA	STL	\$	-	\$	-		
MISC									
1/2" FNPT Pressure Gauge	6.	EA		\$	298.67	\$	1,792.00		
Pressure Switch (Manuf. Static-O-Ring)	3.	EA		\$	557.33	\$	1,672.00		
Stainless Steel, Liquid Filled PressGauge	4.	EA		\$	298.67	\$	1,194.67		
1/2" Dielectric Union	4.	EA		\$	37.00	\$	148.00		
2" FNPT Aluminum Quick Disconnect	12.	EA		\$	63.55	\$	762.60		
Detectable Tape 6"x 1000"	2.	EA		\$	70.12	\$	140.24		
4"-8" Poly Encasement for Buried Pipe	308.	LF		\$	0.60	\$	183.98		ROLLS COME IN 308' LENGTHS
16" Harness Rod/Dog Ear KIT (2-rod) HDG	2.	EA		\$	157.15	\$	314.29		est lead time 5-7 working weeks ARO.
20" Harness Rod/Dog Ear KIT (2-rod) HDG	4.	EA		\$	168.48	\$	673.92		est lead time 5-7 working weeks ARO
20" Poly Encasement for Buried Pipe	308.	LF		\$	1.23	\$	379.05		ROLLS COME IN 308' LENGTHS
24" Poly Encasement for Buried Pipe	308.	LF		\$	1.62	\$	499.78		ROLLS COME IN 154' LENGTHS
									QUOTED SPGT END, CONTRACTOR TO
24" Temporary Pipe Plug	2.	EA		\$	214.95	\$	214.95		CONFIRM, MTO, NON CANCELLABLE
30" Poly Encasement for Buried Pipe	900.	LF		\$	2.02	\$	1,815.60		OR RETURNABLE
30" Temporary Pipe Plug (Bell)	1.	EA		\$	299.95	\$	299.95		ROLLS COME IN 150' LENGTHS
30" Temporary Pipe Plug (Spigot)	1.	EA		\$	299.95	\$	299.95		MTO, NON CANCELLABLE OR
42" Harness Rod/Dog Ear KIT (4-rod) HDG	1.	EA		\$	277.39	\$	277.39		RETURNABLE
42" Poly Encasement for Buried Pipe	469.	LF		\$	2.44	\$	1,146.24		MTO, NON CANCELLABLE OR
									RETURNABLE
42" Temporary Pipe Plug	1.	EA		\$	429.95	\$	429.95		est lead time 5-7 working weeks ARO
Adhesive Tape 2x100'	16.	EA		\$	4.80	\$	76.80		QUOTED SPGT END, CONTRACTOR TO
Diaphragm Seal - 304 Ametek-US Gauge, TypSG, Ashcroft Type 101 or Equal)	7.	EA		\$	658.67	\$	4,610.67		CONFIRM, MTO, NON CANCELLABLE
ROMAC FTS425 30"x3" Tapping Sleeve	1.	EA		\$	1,638.69	\$	1,638.69		OR RETURNABLE
AWG THWN #14 Insulated Copper Tracing Wire	2,000.	LF		\$	0.18	\$	354.61		
3"-6" Mech Seal (IL315 x 10ea) Set	3.	EA		\$	151.07	\$	453.20		currently in stock. Contractor to confirm qty
6"x10" STL HDG Wall Sleeve W/O SR	3.	EA	PS	\$	140.00	\$	420.00		& core prior to order.
1/2" HDG Unistrut Clamp	16.	EA	PS	\$	1.88	\$	30.00		

CONTRACT FOR SALE OF POTABLE WATER SYSTEMS OR SUBSTITUTES

WITH DBE/MBE/WBE/SMALL BUSINESS REQUIREMENTS.

Seller not responsible for delays, lack of product or increase of pricing due to causes beyond our control, and/or based upon Local, State and Federal laws governing type of products that can be sold or put into commerce. This Quote is offered contingent upon the Buyer's acceptance of Seller's terms.

LEAD LAW WARNING: It is illegal to install products that are not "lead free" in accordance with US Federal or other applicable law in potable water systems anticipated for human consumption. Products with *NP in the description are NOT lead free and can only be installed in non-potable applications. Buyer is solely responsible for product selection.

COVID-19 ORDER: ANY REFERENCE TO OR INCORPORATION OF EXECUTIVE ORDER 14042 AND/OR THE EO-IMPLEMENTING FEDERAL CLAUSES (FAR 52.223-99 AND/OR DFARS 252.223-7999) IS EXPRESSLY REJECTED BY SELLER AND SHALL NOT APPLY AS SELLER IS A MATERIALS SUPPLIER AND THEREFORE EXEMPT UNDER THE EXECUTIVE ORDER.

Buyer shall accept delivery of products within 60 days of Seller receiving the products at Seller's warehouse. If Buyer causes or requests a delay in delivery of the products, Buyer may be subject to storage fees and additional costs caused by such delay. Seller reserves the right to requote the products and reschedule the delivery date, subject to manufacturer's lead times and price increases, if Buyer is unable to accept delivery within 60 days.

August 17th, 2023

QUOTE #9602

Project: Reclaimed Water Conveyance Improvements – Chandler, AZ.

Bid date: 8/18/23

We propose to furnish per our scope letter and specification sheet no. 5, the shop fabricated steel for the piping system as described in the attachments.

This scope, the terms and conditions herein, and all attachments shall become part of our contract should this proposal be accepted. Included in this proposal, is the preparation of one-line isometric shop drawings for each system. Our procedure is that drawings are prepared and submitted for approval. Once written approval has been received, fabrication will begin. All assemblies will be tagged and pieces marked. The Contractor/Buyer shall provide all necessary information required for layout and detailing such as starting point, size and location of tie-ins, existing pipe connections, direction of lay, valve dimensions, etc.

Excluded from this proposal (unless specifically stated otherwise, in the attachments) are all joint materials, expansion joints, equipment and appurtenances.

Fabrication is Quoted FOB Scammon, KS, with full freight allowed to jobsite, based on full truckload quantities. Partial shipment, if required by the contractor, will be at the contractor's expense. All trucks shall be off loaded within 2 hours. Any back charges Mid America Pipe Fabricating and Supply, LLC receives from the freight company will be passed on to the contractor plus a \$100.00 fee for processing.

Payment terms: Net thirty (30) days from date of shipment. No retainage will be withheld. Past due invoices will be subject to a monthly service of 1 1/2% per month on the outstanding balance. All sales are subject to approval of buyer's credit. Price quoted specifically excludes all federal, state and/or local taxes. Buyer is responsible for collecting and paying for all federal, state and/or local taxes. The buyer must also furnish Mid America Pipe a tax exemption form.

All stored material will be billed for and must be paid net 30 days or there will be a monthly storage fee of \$1.90 per square foot for unstacked pipe.

Seller reserves the right to stop deliveries on any overdue accounts.

After drawings are approved, Mid-America Pipe shall purchase all material required for fabrication.



ASME
Code Vessels
& Piping

Project: Reclaimed Water Conveyance Improvements – Chandler, AZ.

Bid date: 8/18/23

UPON ACCEPTANCE:

Piping will be released for fabrication as a whole unit.

Fabrication will be made according to approved drawings and dimensions. We do not take responsibility for incorrect dimensions or errors on approved drawings. We will not accept any type of back-charges, due to the fact that we do all of our own corrective work (should any be required). We must, however, be notified of faulty fabrication immediately upon receipt of material.

Should Mid-America authorize repairs made at jobsite, the back-charge will be limited to a maximum of 1 1/2 times the NET charge originally applied for the specific labor operation required.

Shipments of fabricated steel pipe will begin approximately 10 to 12 weeks after receipt of "approved" drawings (lead times may increase or decrease based on current work load and availability of material). **See note 13 on page 7 of this scope letter.**

Mid-America Pipe must be provided with complete information necessary for our shop to begin fabrication without delays. "Approved" drawings must be returned to Mid-America Pipe in a timely manner and in volume large enough to maintain an efficient flow of fabrication.

Mid-America Pipe assumes no liability for either incidental or consequential damages. Nor, do we accept any design responsibilities.

It is the sole responsibility of the purchaser to secure professional craftsmen for proper installation. Mid America Pipe is not responsible for installation or verification that the pipe is being installed correctly. This again, is the sole responsibility of the purchaser.

Any stulling of pipe shall be for shipping and handling purposes only. Under normal circumstances, Mid America Pipe would expect the contractor to take responsibility for bracing the pipe prior to backfilling.

Any controversy or claim arising out of or relating to this contract, or the breach thereof, shall be settled by arbitration in accordance with the Construction Industry Arbitration rules of the American Arbitration Association, and judgment upon the award rendered by Arbitrator(s) may be entered in any Court having jurisdiction thereof.

Buyer shall immediately inspect Seller's goods upon receipt. Buyer shall immediately upon arrival of material check and validate all fabrication in regard to dimensions and conformity with approved drawings.

Project: Reclaimed Water Conveyance Improvements – Chandler, AZ.

Bid date: 8/18/23

Seller shall not be liable for any delays or failure of delivery resulting from strikes, lockouts, interruptions, work stoppage, labor disputes, war, civil disturbances, floods, acts of God, carrier's or supplier's defaults, or regulations of any governmental authority beyond our control.

Mid America Pipe will not be held responsible for any liquidated damages.

EXCLUSIVE WARRANTY: Seller warrants that the goods manufactured by it and supplied hereunder shall be free from defects in material and workmanship for a period of twelve (12) months from the date of shipment. If within such period any goods shall be proved to Seller's satisfaction to be defective, such goods shall be repaired and replaced at Seller's option. Such repair and replacement shall be Seller's sole obligation and Buyer's exclusive remedy and it conditioned upon Seller receiving notice of any alleged defect with ten (10) days after its discovery and, at Seller's option, return of such goods to Seller, F.O.B. to Seller. This warranty does not apply to goods damaged by misuse, neglect, improper operation, accident or alteration, as determined by Seller. Goods supplied by Seller which are manufactured by third party are not warranted by Seller in any way, but Seller agrees to assign by Buyer any warranty rights in such goods that Seller may have from the original manufacturer. The warranty contained in this section is exclusive and in lieu of all other representations and warranties, expressed or implied, and Seller expressly disclaims and excludes any implied warranty of merchantability or implied warranty of fitness for a particular purpose. **SELLER SHALL IN NO EVENT BE LIABLE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES OF ANY NATURE, EVEN IF SELLER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.**

The coupling of choice shall be the responsibility of the contractor. Mid America Pipe will not be held responsible for any leaks on bolted split-sleeve type couplings.

Any special flange for equipment, valves or at pipe "by others" that is not brought to Mid America Pipes attention before the bid will be an add to the contract.

All fitting joints in the yard will be joined with buttstraps to accommodate movement.

If field butt-welds are required on this project see options below:

Option #1: All field butt-welds will be provided with one square end for field trim.

Option #2: All field butt-welds will be match cut and shop fit for an additional cost per joint.

The Contractor/Sub-Contractor/Customer shall check all fit-ups at our shop or wave all back charges for unseen fit-ups.

Project: Reclaimed Water Conveyance Improvements – Chandler, AZ.

Bid date: 8/18/23

We do not include the following items in our quotation:

Bolt, nut & gasket sets (we strongly recommend “ring” gaskets per AWWA C207)
Valves, meters, etc. Pipe supports, pipe straps, hangers, etc. (except as noted),
Items of equipment, Link seals, Anchor bolts, Insulation, Cathodic protection,
Expansion joints, Field coating material, Final machining of pump can mounting flanges, Small
diameter piping, Ductile iron piping / Ductile iron wall pipes, Material Supply Bond, Costs for
Outside Inspection

We also do not include any aliphatic coatings or any other interior or exterior above ground
finish coats on the OD of the pipe unless the contractor provides a 3rd party NACE inspector to
approve it before shipping to the jobsite. If finish coats are required, it will be at an additional
cost.

Sincerely,

Derrick McDown

Chief Estimator



**MID
AMERICA**
Pipe Fabricating & Supply, LLC



FERGUSON
Waterworks

Project: Reclaimed Water Conveyance Improvements – Chandler, AZ.

Bid date: 8/18/23

<u>Material Specification</u>	<u>Code</u>	<u>Description</u>	<u>Specification Reference</u>
Flange Type	AWWA	C207 Class D Ring	15062-4 (2.2,F.)
Pipe Spec.	AWWA	C200	15062-4 (2.2,B.)
Pipe Wall Thk.		42" = 0.625"; 16" = 0.375" & 4" = Std.	15062-3 (2.1,C.)
Coil /Plate Spec.	ASTM	A36	15062-4 (2.2,A.)
Flex Coupling	AWWA	C219 - Smith-Blair Style 411 (or equal)	15062-5 (2.2,J.)
Flgd Cplg Adapter		N/A	
Dismantling Joints		N/A	
Split Sleeve Cplg		N/A	
Grooved Cplg.		N/A	
Fittings	AWWA	C208	15062-5 (2.2,I.)
Coating	AWWA	Primer Only (no intermediate or finish coats)	15062-6 (2.2,K.1.)
O.D. Blast	SSPC	No. 10	
Lining	AWWA	C205 Cement Mortar (2X standard thickness)	15062-6 (2.2,K.2.)
I.D. Blast		N/A	
Pipe Stand	AWWA	N/A	
Field Joints	AWWA	Flanged & Lap Welded	
Straight Pipe Testing	AWWA	C200 Straight Pipe to be hydrostatically tested	15062-4 (2.2,B.)
Fitting Testing		Fittings to be liquid penetrant tested (PT)	
Calculations		Standard	
Charpy Testing		N/A	
Welding	ASME	Section IX	
Weld Height	AWWA	C200	
Material Origins		Import Acceptable	Per PCL Construction

Note: The above specs are Mid America Pipes interpretation of the engineers requirements for this project. Please review and advise us of any contradictions before bid time.

Project: Reclaimed Water Conveyance Improvements – Chandler, AZ.

Bid date: 8/18/23

We propose to furnish, all per our specification sheet no. 5, the carbon steel pipe and fittings, including coating & lining, for the above referenced project, as outlined below and per our highlighted drawings.

Reference: Per Mid America Pipe Highlighted Contract Drawings

The 42" carbon steel header from (1) 42" flanged connection at existing pipe between Pump No. 7 and Pump No. 9 then making (1) 42" 90° vertical bend and stopping with (1) 42" flanged connection at (ductile iron pipe "by others"). This header includes (3) 16" flanged outlets. One of the outlets will have a 16" blind flange for future use. We also include (1) 42" restrained flex coupling, (1) 4" flanged outlet for combination air and vacuum valve and (3) 1" half couplings.

The above piping may require (1) 42" field welded lap joint.

Note: We do not include any pipe supports or pipe straps.

Total Delivered Price for the above carbon steel piping = \$124,727.92

- **The above price specifically excludes all federal, state and/or local taxes. The buyer is responsible for collecting and paying for all federal, state and/or local taxes. The buyer must also furnish Mid America Pipe a tax exemption form.**

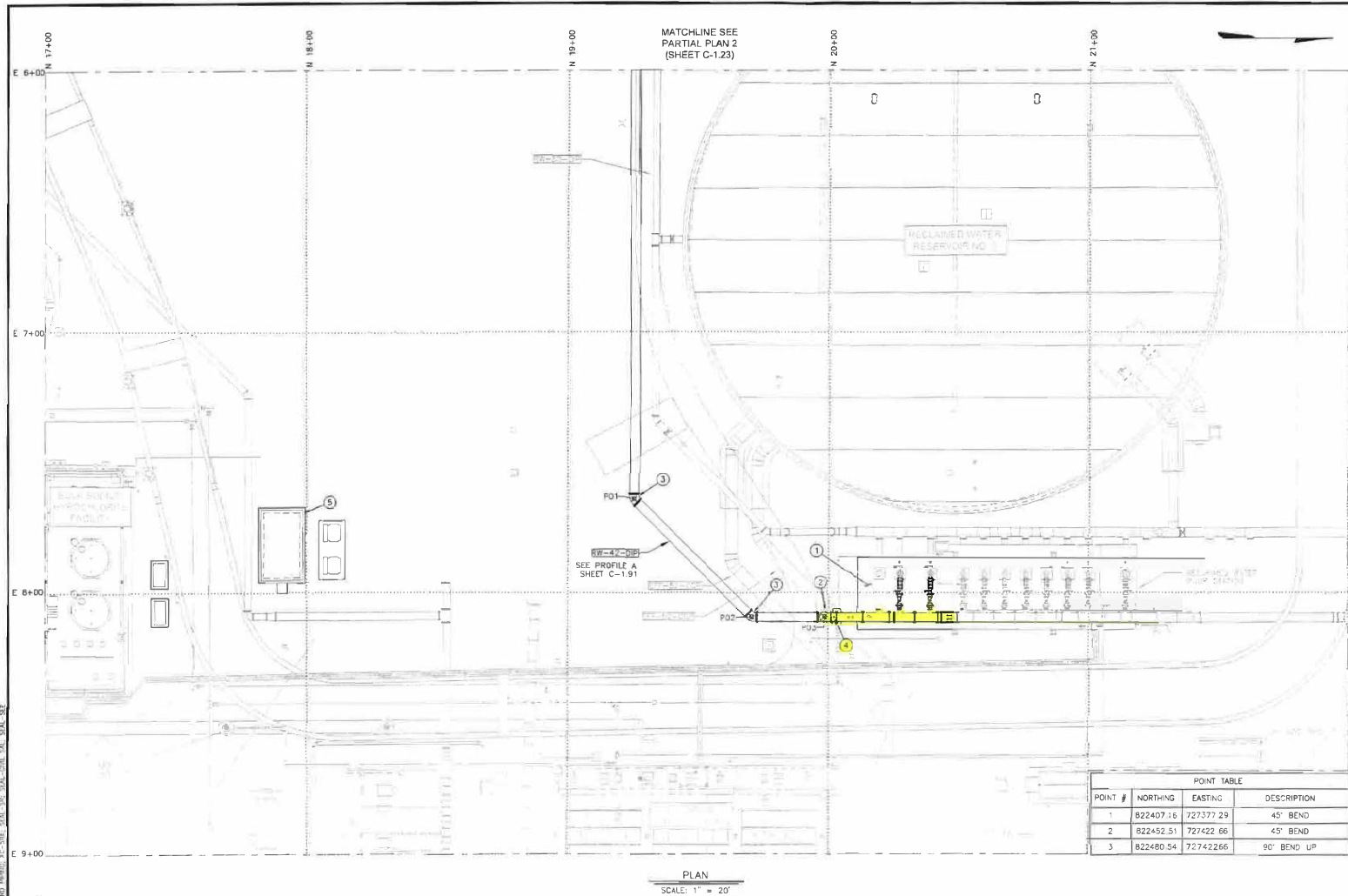
(see following page for additional notes)

Project: Reclaimed Water Conveyance Improvements – Chandler, AZ.

Bid date: 8/18/23

NOTES:

- 1. At the time of this quote we have received “0” addendum. Please inform us if more have been issued so that we may comply with them.**
- 2. Due to the instability and availability of the current steel market, the above pricing is good for today only. After today, this offer is subject to revision and/or confirmation by Seller.**
- 3. It is the contractors responsibility to let us know if this project is a stimulus project or if there is any type of state law that would require using domestic material.**
- 4. We do not provide nor are we responsible for any field technicians.**
- 5. No union label required or provided for this project.**
- 6. Any pipe between two fixed points must have 2 points of movement. This can be accomplished by a combination of flex couplings, buttstraps, bells or loose flanges. If there are not at least 2 points of movement, 2 flanges will be shipped loose for field welding for each instance.**
- 7. If this project requires pump cans, then it is the contractors responsibility for the final machining of the pump can mounting flanges in the field.**
- 8. Our standard joint lengths are from 40 to 50 ft long. If anything shorter than this is requested there may be an additional charge. The purchaser must inform MAP their length preference before bid time. If no preference is selected, MAP will choose the length according to what works best for fabrication and shipping.**
- 9. To better service our customers and for economic reasons we utilize our own standard outside pipe diameters. If we can’t utilize our standard sizes, other pipe sizes can be used for an additional cost (tooling, mill setups, etc.)**
- 10. We are not responsible for and do not guarantee that there will not be any osmotic blistering due to spraying epoxy over the top of cement mortar.**
- 11. NSF epoxy lining thickness tolerances will not be per AWWA C210. Lining thicknesses will be a minimum 10 mils per PA2 Level 3 and the maximum will be per NSF PA2 Level 3. Each epoxy may have a different maximum paint thickness due to NSF testing requirements.**
- 12. We do not provide primer for coating and lining holdbacks.**
- 13. Due to the current economic, social and environmental issues caused by COVID-19, delivery times are subject to change at any time. Mid America Pipe’s top priority is the protection and well-being of our employees and customers.**



POINT TABLE			
POINT #	NORTHING	EASTING	DESCRIPTION
1	822407.16	727377.29	45° BEND
2	822452.51	727422.66	45° BEND
3	822480.54	727422.66	90° BEND UP

PLAN
SCALE: 1" = 20'

NOTES:

1. ACTUAL NEW PIPE ALIGNMENTS AND DEPTH SHALL BE ADJUSTED IN THE FIELD TO AVOID CONFLICT WITH OTHER UTILITIES. ALL LOCATION ADJUSTMENTS SHALL BE APPROVED BY THE ENGINEER.
2. ALL PIPELINES SHALL MAINTAIN A MINIMUM 4'-0" OF COVER, UNLESS OTHERWISE NOTED.
3. ALL VALVES ON NPW AND POT LINES ARE TO BE INSTALLED WITHIN 3'-0" OF FITTINGS, UNLESS OTHERWISE NOTED.
4. INSTALL NPW VALVE BOXES AND COVERS PER COC STANDARD DETAILS C-405 AND C-317.
5. ELECTRICAL DUCT BANKS VARY IN DIMENSIONS AND DEPTH OF BURIAL. CONTRACTOR TO FIELD VERIFY.
6. ALL NEW MANHOLES SHALL BE 5'-0" IN DIAMETER AND INSTALLED PER WAG STANDARD DETAIL 420, UNLESS OTHERWISE NOTED. ALL NEW MANHOLES SHALL HAVE A COVER AND COLLAR PER COC STANDARD DETAIL C-400 AND C-401, RESPECTIVELY. ALL NEW SEWER MANHOLES SHALL HAVE PVC LINERS. SEE SPECIFICATION SECTION 09910.
7. INSTALL POTABLE WATER VALVE BOXES AND COVERS PER COC STANDARD DETAILS C-307 AND C-317.
8. CONTRACTOR SHALL FIELD VERIFY ALL CONNECTIONS TO EXISTING PIPES AND/OR FACILITIES PRIOR TO CONSTRUCTION.
9. ALL DISSIMILAR METALS SHALL HAVE DIELECTRIC ISOLATION FITTINGS PER DETAIL 204 SHEET M-7.02.
10. SHADE CANOPIES NOT SHOWN FOR CLARITY.
11. ALL POTABLE AND NON-POTABLE WATER LINES SHALL BE INSTALLED PER WAG STANDARD DETAIL 404 FOR SEPARATION AND/OR PROTECTION WHEN A NON-POTABLE WATER MAIN IS ADJACENT OR CROSSES A POTABLE WATER MAIN. THE NON-POTABLE WATER MAIN SHALL BE CONSIDERED A PRESSURE OR FORCE SANITARY SEWER, WHEN A NON-POTABLE WATER MAIN IS ADJACENT OR CROSSES A SANITARY SEWER. THE NON-POTABLE WATER MAIN SHALL BE CONSIDERED A POTABLE WATER MAIN PROCESS LINES SHALL BE CONSIDERED AS A PRESSURE OR FORCE SANITARY SEWER AT ALL TIMES.
12. NPW LINES AND POT LINES SHALL HAVE 4'-0" OF MINIMUM COVER. INSTALL FITTINGS AS NECESSARY TO MAINTAIN CLEARANCE AS REQUIRED.
13. THRUST BLOCKS SHALL BE INSTALLED FOR ALL PIPING UP TO 24". RESTRAINED FITTINGS ARE ACCEPTABLE IN AREAS WHERE THRUST BLOCKS CANNOT BE INSTALLED. CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FROM THE ENGINEER FOR SUBSTITUTING RESTRAINED JOINTS FOR THRUST BLOCKS. APPROVAL IS AT THE DISCRETION OF THE ENGINEER.
14. THE SITE CONTAINS SEVERAL EXISTING UTILITIES. SOME OF THE NEW PIPING IS PROPOSED IN VERY CLOSE PROXIMITY TO EXISTING PIPING. CONTRACTOR SHALL PROTECT EXISTING PIPING DURING INSTALLATION OF NEW STRUCTURES/PIPING.
15. THRUST RESTRAINTS (INCLUDING THRUST BLOCKS) ARE LOCATED ON ALL EXISTING BURIED PIPING. CONTRACTOR SHALL LOCATE AND PROTECT ALL EXISTING THRUST RESTRAINTS. CONTRACTOR SHALL INSTALL TEMPORARY THRUST RESTRAINTS ON EXISTING PIPING THAT MAY BE IN CONFLICT WITH NEW PIPING AND THEN REINSTALL THRUST RESTRAINTS.
16. NOT ALL VALVES ARE SHOWN ON YARD PIPING SHEETS. SEE SPECIFICATIONS AND OTHER SHEETS FOR VALVE INFORMATION.
17. IN AREAS OF NEW PAVEMENT ALL EXISTING VALVE BOXES SHALL BE ADJUSTED OR REMOVED AND REPLACED AS NECESSARY TO MEET COC STANDARD DETAILS C-307 AND C-317.



KEYED NOTES

- 1 RECLAIMED WATER PUMP STATION. SEE SHEET M-1.01 FOR DETAILS
- 2 VERTICAL 90° BEND
- 3 45° BEND
- 4 4" O.A. COMBINATION AIR/VACUUM VALVE. SEE DETAIL 106 SHEET M-7.01
- 5 PROPOSED ELECTRICAL BUILDING. SEE E-SHEETS FOR DETAILS

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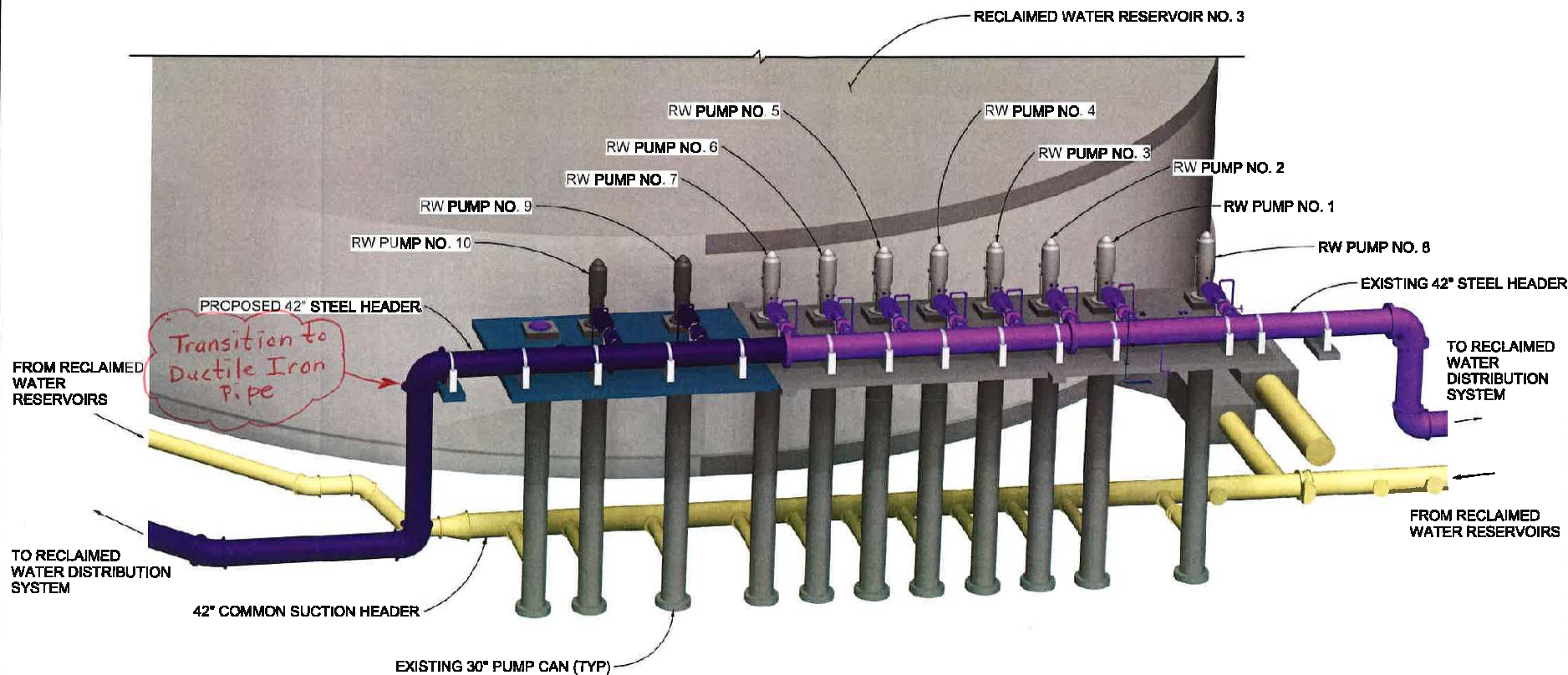
CITY OF CHANDLER
RECLAIMED WATER
CONVEYANCE IMPROVEMENTS
AMRF - PARTIAL YARD PIPING PLAN - 1
CITY PROJECT NO. WW2206.201
WILSON PROJECT NO. 22016

Design: SZ	Drawn: JMU	Checked: SR
Date: 07/20/23	Wilson Project No.: 22016	By:
Rev#	Date	Description

VERIFY SCALES
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0 1" = 1" SCALE
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY



Sheet No. C-1.22



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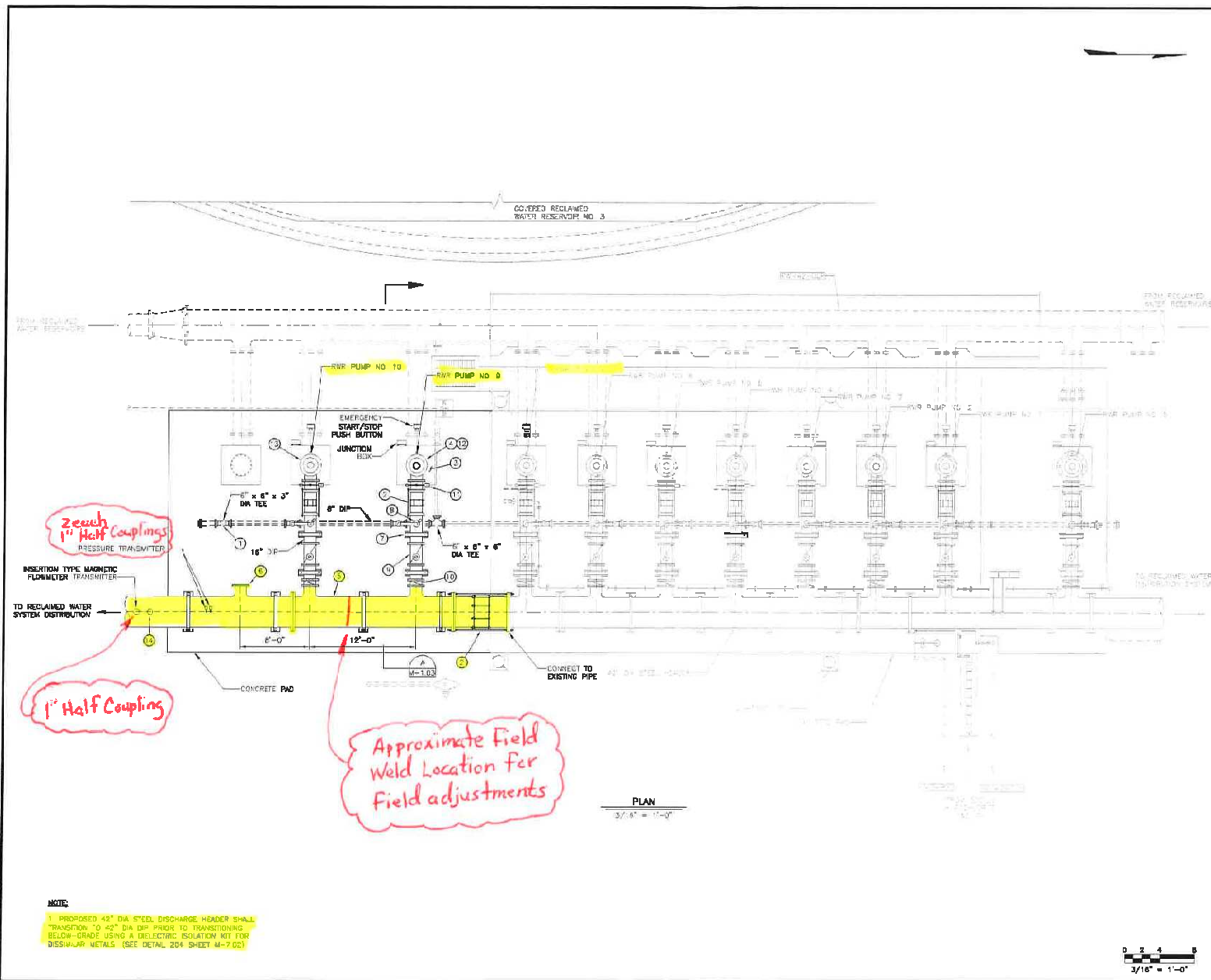
CITY OF CHANDLER
WILSON PROJECT NO. 22016
CONFORMANCE IMPROVEMENTS
AND/OR - RECLAIMED WATER PUMP STATION
REBUILDING
CITY PROJECT NO. WWT2016.001
WILSON PROJECT NO. 22016

Design: 82	Drawn: JML	Checked: BR	By:
Date: 04/2023	Wilson Project No. 22016	Description:	
Rev#	Date		

VERIFY SCALES
Make sure each sheet is
correctly dimensioned
0 1" = 10' - 0"



Sheet No. 00-1.01



KEYED NOTES

1. 3\"/>

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CITY OF CHANDLER
RECLAIMED WATER
CONFORMANCE IMPROVEMENTS
RECLAIMED WATER PUMP STATION PLAN

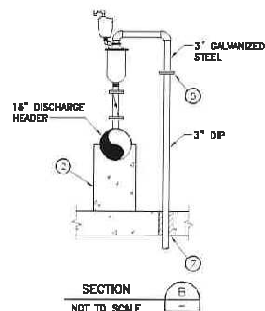
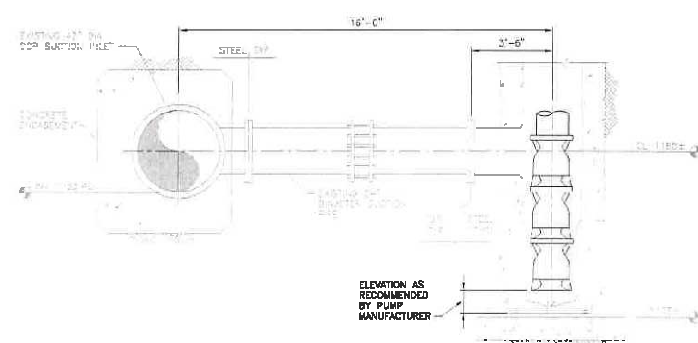
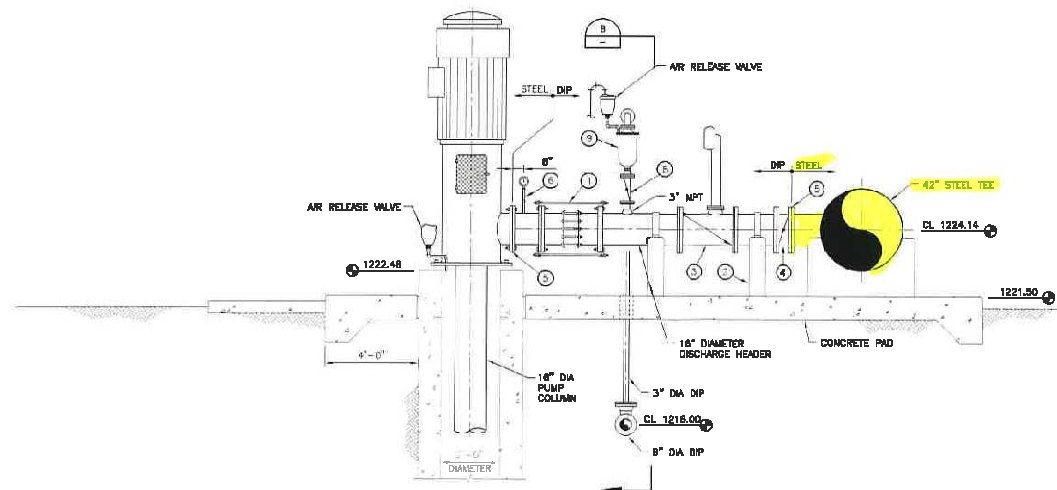
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Date: 07/21/23	Project No: 22016	By: [Signature]
Rev#	Date	Description

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Sheet No. M-1.02

AGENCY REVIEW



NOTE:
MINIMUM WELD IN RESERVOIR 1127.
SECTION
SCALE: 3/8"=1'-0"
M-1.03

3/8" = 1'-0"

KEYED NOTES

- RESTRAINED FLEXIBLE COUPLING, SEE DETAIL 201 SHEET M-7.02
- CONCRETE PIPE SUPPORT, SEE STRUCTURAL SHEETS FOR DETAIL
- SLANTING DISK CHECK VALVE WITH OIL CONTROL TOP MOUNTED DASHPOT PER SPECIFICATION 11283
- 16" DIAMETER BUTTERFLY VALVE
- DIELECTRIC ISOLATION KIT, DIELECTRIC ISOLATION FITTINGS SHALL BE USED ON ALL DISSIMILAR METAL CONNECTIONS, SEE DETAIL 204 SHEET M-7.02
- PRESSURE INDICATOR, SEE INSTRUMENTATION SHEETS FOR DETAILS (TYP)
- SLAS PENETRATION PER DETAIL 101 SHEET M-7.01
- 3" DIA BUTTERFLY VALVE
- 3" COMBINATION AIR AND VACUUM VALVE AS SPECIFIED WITH ISOLATION VALVE AND DRAIN PIPING TO MATCH EXISTING, SEE DETAIL 106 SHEET M-7.01

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CITY OF CHANDLER
RECLAIMED WATER
CONVEYANCE IMPROVEMENTS

RECLAIMED WATER PUMP STATION SECTIONS
CITY PROJECT NO. WWP2206.201
WILSON PROJECT NO. 22016

Design: 62	Drawn: JMJ	Checked: SR	Project No.: 22016	Revision	Date	Description

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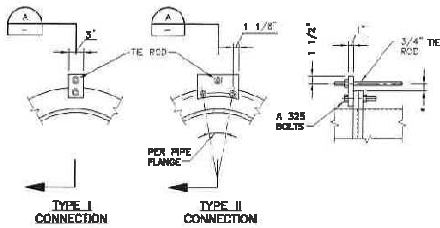
Sheet No. M-1.03



1. SEE MECHANICAL SHEETS FOR VALVE SIZES



Note: We will provide a 4" flanged outlet shop welded to the 42" header, not a tapping saddle.



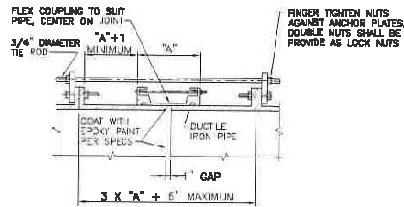
NOTES:

1. ALL EXPOSED FLEXIBLE COUPLINGS SHALL HAVE TIE RODS UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS.
2. PIPE THRUST SHALL BE BASED ON TEST PRESSURE.
3. PIPE THRUST = $0.7854 \times D^2 \times \text{TEST PRESSURE}$, WHERE D IS PIPE OD.
4. MINIMUM TIE ROD YIELD 48,000 PSI.
5. FOR THRUSTS GREATER THAN 30,000 POUNDS, ADD ONE 3/4 INCH DIAMETER ROD FOR EVERY 5,000 POUNDS INCREASE IN THRUST.
6. CONTRACTOR MAY USE ONE INCH DIAMETER ROD FOR THRUSTS GREATER THAN 30,000 POUNDS. NUMBER OF ONE INCH RODS = NUMBER OF 3/4 INCH RODS $\times 0.5625$ ROUND OFF TO THE NEXT LARGER NUMBER.
7. ALL ROD CONNECTIONS SHALL BE TYPE II FOR THRUSTS GREATER THAN 30,000 POUNDS.
8. GRIND ALL CORNERS SMOOTH.

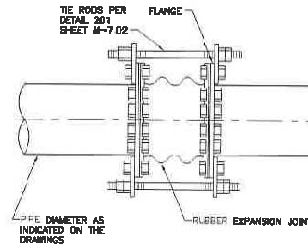
* AS REQUIRED TO CLEAR FLEXIBLE COUPLING (1 1/2" MAXIMUM).

RESTRAINED FLEXIBLE COUPLING (TYP)

DETAIL	201
NOT TO SCALE	-

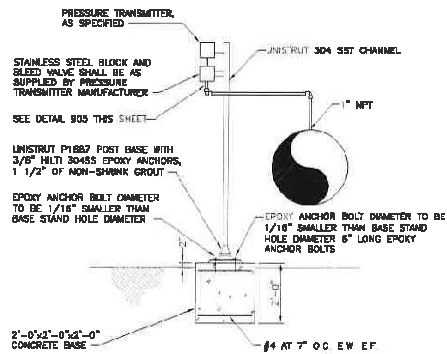


PIPE THRUST SEE NOTE 2	TYPE OF CONNECTION	NO. RODS
0-5,000	I	2
5,001-12,000	I	2
12,001-18,000	I	3
18,001-24,000	II	4
24,001-30,000	II	5



RESTRAINED RUBBER EXPANSION JOINTS

DETAIL	202
NOT TO SCALE	-

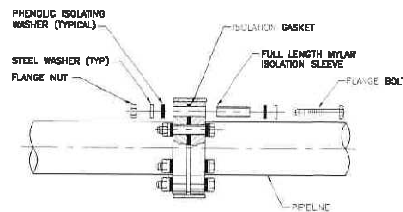


NOTE:

1. ALL DISSIMILAR METAL FITTINGS AND PIPING INSTALLED SHALL BE DIELECTRICALLY ISOLATED TO PREVENT CORROSION.

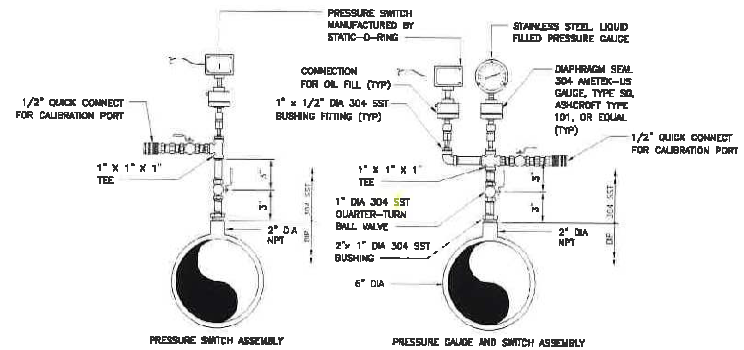
PRESSURE TRANSMITTER INSTALLATION DETAIL

DETAIL	203
NOT TO SCALE	-



DIELECTRIC ISOLATING JOINT FLANGE KIT

DETAIL	204
NOT TO SCALE	-



NOTE:

1. PROVIDE BALL VALVE, NOT CORPORATION STOPS.
2. SADDLE TAPS ARE NOT ALLOWED.
3. CORPORATION STOP NOT ALLOWED.
4. GALVANIZED NOT ACCEPTED.

PRESSURE GAUGE AND SWITCH ASSEMBLY

DETAIL	205
NOT TO SCALE	-

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 TYPICAL DETAILS - 2
 CITY PROJECT NO. WM2208.201
 WILSON PROJECT NO. 22016

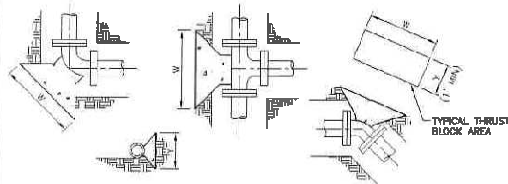
Design	Drawn	Checked	SR
SZ	Wilson	Project No.: 22016	
Date: 07/20/23	Ref:	Description:	3y

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Sheet No. M-7.02

AGENCY REVIEW



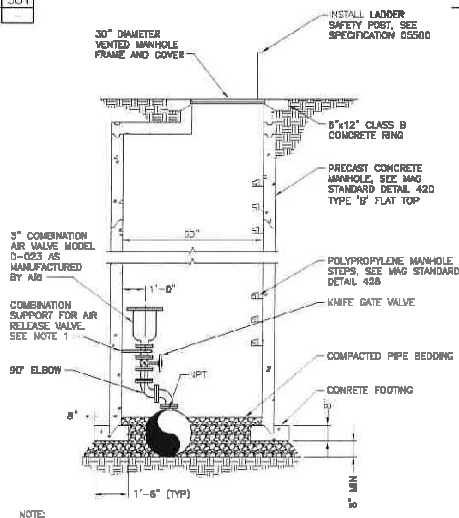
MINIMUM THRUST BLOCK AREA REQUIRED ($\pi \times W$)						
PIPE SIZE DIA	90° BEND		45° BEND		TEE	
	AREA REQUIRED (FT^2)	BLOCK	AREA REQUIRED (FT^2)	BLOCK	AREA REQUIRED (FT^2)	BLOCK
18"-20"	88	8'-6"x0'-6"	48	8'-0"x8'-0"	83	7'-6"x8'-6"
24"	128	10'-0"x13'-0"	70	7'-6"x8'-6"	90	9'-0"x10'-0"

NOTES:

- THRUST BLOCKS FOR PIPE DIAMETERS 18" AND SMALLER, SEE MAG STANDARD DETAIL 300.
- TABLE IS BASED ON 1500#/SQ FT SOIL. IF CONDITIONS ARE FOUND TO INDICATE SOIL BEARING IS LESS, NOTIFY ENGINEER FOR INCREASE OF AREA SIZE.
- FORM ALL NON-BEARING VERTICAL SURFACES.
- THRUST BLOCKS ARE TO EXTEND TO UNDISTURBED GROUND.
- CONCRETE SHALL HAVE A CONCRETE COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
- THRUST BLOCKS FOR PIPE DIAMETERS 18" AND LARGER SHALL HAVE #6 AT 12", EACH WAY, ON EACH FACE, 3" CLEAR OF FACE.

TYPICAL LOCATIONS OF THRUST BLOCKS FOR PRESSURE LINES

DETAIL	301
NOT TO SCALE	-

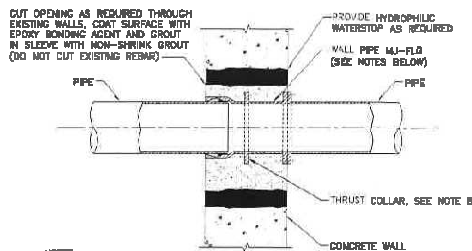


NOTE:

- ANCHOR THE DIP PIPE TO THE MANHOLE WALL WITH A STEEL PIPE CLAMP (GRINNELL FIGURE NO. 100 OR APPROVED EQUAL). USE A RUBBER GASKET MATERIAL BETWEEN THE CLAMP AND PIPE.

BURIED COMBINATION AIR VALVE

DETAIL	304
NOT TO SCALE	-

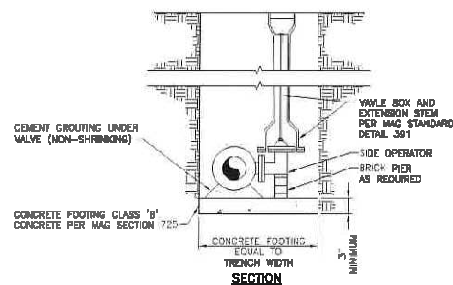


NOTES:

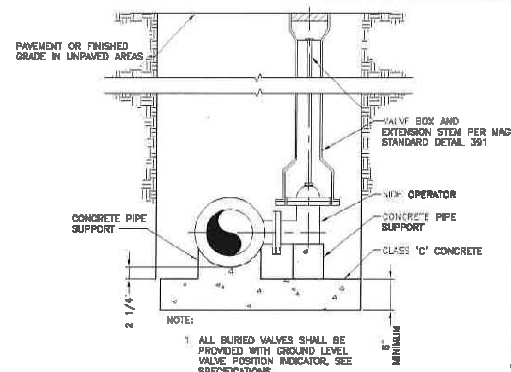
- WALL PIPE CAN BE MJ-FLO (ABOVE), MJ-MJ, FLO-FLO, MJ-PE, AND FLO-PC FOR PIPES 12" DIAMETER AND SMALLER.
- FOR PIPES LARGER THAN 12", WALL PIPE CAN BE SAME COMBINATIONS AS ABOVE, EXCEPT WITH PE/PIST IN PLACE OF MJ.
- WALL PIPE IS TO SET FLUSH WITH WALL UNLESS OTHERWISE NOTED.
- FLANGES AND MJ SHOULD BE DRILLED AND TAPPED FOR STUDS.
- WALL PIPE SHALL BE THRUST COLLAR WALL PIPE, FABRICATED FROM GEARFULLY CAST DUCTILE IRON AS MANUFACTURED BY AMERICAN DUCTILE IRON PIPE COMPANY, OR EQUAL.
- FOR STRUCTURAL REINFORCEMENT AROUND PIPING SEE STRUCTURAL DETAIL SHEETS.
- JOINTS SHALL BE FULLY RESTRAINED UNLESS OTHER WISE NOTED.
- WALL PIPE SHALL BE CAPABLE OF RESISTING THRUST.
- PIPE SHALL BE INSTALLED STRAIGHT WITHOUT HORIZONTAL OR VERTICAL OFFSET. DO NOT USE JOINT ANGULAR DEFLECTION TO MAKE UP FOR MISALIGNED PIPE.

TYPICAL WALL SLAB FITTING - INSTALLATION THROUGH EXISTING WALLS AND FLOOR SLABS WET CONDITIONS

DETAIL	302
NOT TO SCALE	-



BURIED PLUG AND BUTTERFLY VALVES 12" AND SMALLER



NOTE:

- ALL BURIED VALVES SHALL BE PROVIDED WITH GROUND LEVEL VALVE POSITION INDICATOR, SEE SPECIFICATIONS.

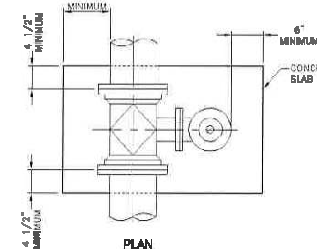
SECTION

NOTES:

- CONCRETE OR MASONRY PIER SHALL NOT BE REQUIRED FOR TOP MOUNTED OPERATOR.
- VALVE BOX COVER, SEE CDC STANDARD DETAIL C-307 FOR POTABLE WATER VALVES.
- VALVE BOXES IN UNPAVED AREAS SHALL HAVE A CONCRETE COLLAR PER CDC STANDARD DETAIL C-317.

BURIED PLUG, BUTTERFLY AND GATE VALVES GREATER THAN 12"

DETAIL	303
NOT TO SCALE	-



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TYPICAL DETAILS - 3
CITY PROJECT NO. W22018.201
WILSON PROJECT NO. 22018

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Date: 07/10/23	Wilson Project No.: 22018	
Rev	Date	Description

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ORIGINAL DRAWING
1" = 10'-0"
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SCALES ACCORDINGLY



Sheet No. M-7.03



NOTE:
SUPPORT TO BE 12" THICK UNLESS OTHERWISE NOTED.

PIPE SUPPORT ON FOOTING

PIPE SUPPORT ON FOOTING

Sheet No. 9-5

PCL CONSTRUCTION, INC.

Reclaimed Water Conveyance Improvements - GMP 2 - WW2206.401

City of Chandler

<i>Electrical and I&C</i>			
<i><u>Work Description</u></i>	<i><u>Sub / Supplier No.1</u></i>	<i><u>Sub / Supplier No.2</u></i>	<i><u>Sub / Supplier No.3</u></i>
<i>Electrical Sub</i>	Ludvik Electric		
	<i>AWRF</i>	\$1,334,470.00	
	<i>OWRF</i>	\$275,190.00	
	<i>Total Price</i>	\$1,609,660.00	

Designates Selected Subcontractor / Supplier

Reference: City of Chandler RW Conveyance Improvements 90% - GMP 2

Subject: **ELECTRICAL BID SCOPE/PROPOSAL**

Bid Date: 08/18/2023

We submit our proposal for the Electrical and Instrumentation work of Specification Divisions 16 and 17 as shown on the Electrical and Instrumentation Drawings, including Addenda NONE, and as follows:

Chandler AWRF Site Electrical	\$ 1,334,470.00
Chandler OWRF Site Electrical	\$ 275,190.00
Electrical and Instrumentation Bid Amount	\$ 1,609,660.00

Option: ADD \$ 1% for Performance and Payment Bonds, if required.

EXCLUSIONS:

1. Taxes, permits, utility company costs and fees.
2. Temporary lighting and power. We will provide portable power for our tools if needed.
3. Removal of refuse. We will deposit refuse in your dumpster.
4. Patching of concrete and asphalt. It is understood that PCL will replace any asphalt and concrete that has been sawcut and removed.
5. Grouting and all formed concrete (i.e. pads, bases, curbs, etc.).
6. Unloading, storing, and setting of equipment we do not furnish.
7. Process and mechanical connections, piping, tubing, fittings, valves, spools, etc.
8. Surveying, traffic control, construction water, compaction testing, concrete testing, and de-watering.

CLARIFICATIONS:

1. This revised bid proposal reflects the revisions for the MV UG Box/Vaults to be installed under the MV Switches at the AWRF Site as discussed in the 9/29 meeting.
2. This proposal includes the Badger M2000 20" flow meter option provided by vendor Western Environmental Equipment rather than the specified Endress+Hauser ProMag W400 20" flow meter. Note: Vendor stated approximate lead time for submittals is 1-3 weeks and lead times for deliverables is 10-12 weeks after submittals.
3. Excavation, concrete, backfill, haul off, and sawcuts are included for underground electrical work. It is understood that PCL will provide new asphalt and/or concrete for what has been sawcut and removed.
4. It is understood that PCL will provide the new electrical equipment pads for the new Prefab Electrical Building, new 15kV MV Switchgear, and new MV Transformers (T13A, T13B). Ludvik has not included any concrete pads for equipment.
5. Section 17138 Insertion Mass Flow Meters indicates an FCI Manufactured Flow Meter. It is understood that an Insertion Mass Flow Meter works with air flow, not liquids. Ludvik has included a quoted McCrometer MAG Insertion Type FM in our proposal.



CLARIFICATIONS (continued):

6. Dring the MV Switches and MV Transformers change out and additions, Ludvik assumes the Owner has the capability to transfer loads between A and B sides to allow time for installation of the new equipment. No temporary generators or back-up is included in our proposal.
7. No Foxboro Programming is included in this proposal. Ludvik and the Instrumentation Integrator/Programmer (VerTech) have included PLC and SCADA Programming.
8. Electrical and instrumentation items specified under other sections, identified to be furnished by other sections, or understood to be provided by others are not included. The following items are typical of these:
 - a. Section 13447 Electric Motor Actuators includes all electric-driven actuators for valves and gates.
 - b. Section 15119 Specialty Valves and Appurtenanaces includes Solenoid Valves and Flow Control Valves.
 - c. PRV Control Panel (IFS-LCP-PRV-101) with programming is understood to be part of the PRV Package.
 - d. Motor Temperature Switches (TE-009, TE-010) are part of the RW Pump Motors Package.
9. Landscaping, painting, bollards, and toilet facilities are not included.
10. Attachment points on fabricated tanks, such as metal or fiberglass tabs, are to be provided by others to facilitate anchoring of electrical work.
11. Project duration is understood to be approximately 12 months. Ludvik electrical work is estimated at approximately 9-10 months. This is an approximate estimate and would need more time by the Project Manager and Scheduler to get an accurate representation for the duration of work. This is also contingent on any long lead times, startup & testing, inspections, GMP-1 procurement, and other variables that will impact project schedule.

AWRF Electrical

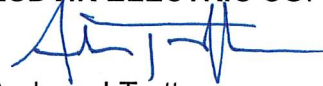
- a. AWRF Site work and ductbank: Approximately 3-4 months
- b. MV SW, MV XFMR and ductbank: Approximately 2-3 months
- c. Electrical Building and RW PS: Approximately 2-3 months

OWRF Electrical

- a. OWRF Site work and ductbank: Approximately 1-2 months
- b. IFCS & ASR Well 3: Approximately 1-2 months

This proposal is submitted for a mutually agreeable subcontract and schedule. It is valid for award within 120 calendar days. Please contact us at 602-777-5000 with any questions or for additional information.

Sincerely,
LUDVIK ELECTRIC CO.


Andrew J Trotter
Estimator



Final Pricing	Calculated (%)	Calculated (\$)	Variance (%)	Modified (\$)	Modified (%)	Alarm
Database Material (Extension)		385,413.47		385,413.47		
Material Escalation	5.000	19,270.67		19,270.67	5.000	
Quoted Material (Extension)		316,243.07		316,243.07		
Material Total		720,927.21		720,927.21		
Direct Labor		282,195.34		282,195.34		
Labor Escalation		4,239.68		4,239.68		
Indirect Labor		179,722.32		179,722.32		
Labor Total		466,157.34		466,157.34		
General Expenses		84,822.00		84,822.00		
Total Cost		1,271,906.55		1,271,906.55		
Labor Markup	40.000	186,462.94	-100.00			
Adjustment Markup				190,785.98	15.000	
Total Markup	14.660	186,462.94	2.32	190,785.98	15.000	
PRICE GOOD FOR 120 DAYS (P)	10.000	145,836.95	0.30	146,269.25	10.000	
Bond Cost 1yr warr max 24mnth	0.866	13,894.07	-100.00			
Selling Price		1,618,100.51	-0.56	1,608,961.78		
Final Price		1,618,100.51	-0.56	1,608,961.78		

Bid Item	Total
MOBILIZATION	70,104.45
AWRF SITE WORK & DUCTBANK	377,213.36
MV SWITCHES	280,092.80
MV XFMRS	52,492.53
NEW ELECTRICAL BLDG	235,003.70
RW PUMP STATION	299,009.64
FIBER OPTIC WORK	20,558.51
OWRF SITE WORK & DUCTBANK	214,224.66
INTEL FLW CNTRL STRUCTURE	49,353.36
EXISTING ASR WELL SITE	10,908.76
Revised Totals	1,608,961.78
Remainder	
Final Price	1,608,961.78

	Labor Type	Crew	Hours	Rate \$	SubTotal	rdn	frng	Brdn Tot.	Frng Tot.	Total	Full Rate
2	SUPERINTENDENT 3	1.00	2,141.25	82.92	177,552.45					177,552.45	82.92
10	JOURNEYMAN AZ NET FOR BIDS	1.00	2,141.25	48.87	104,642.89					104,642.89	48.87
	Totals	2.00	4,282.50	65.90	282,195.34					282,195.34	65.90

	Escalation Period	Description	% of Contract	Labor Hours	Escalation %	Escalation \$	nancing	Total	Code	Type
1		WAGE INCREASE	50.000	2,141.25	3.000	1.98		4,239.68		
	Totals		50.000	4,282.50				4,239.68		

	Indirect Labor	Lab %	Hours	Rate \$	SubTotal	Brdn %	Frng \$	Brdn Tot.	Frng Tot.	Total	Full Rate
1	NON-PROD SUPERINTENDENT 3		346.00	82.92	28,690.32					28,690.32	82.92
4	PROJECT COORDINATOR		1,000.00	47.00	47,000.00					47,000.00	47.00
10	PROJECT MANAGER		1,000.00	85.00	85,000.00					85,000.00	85.00
13	ESTIMATOR (PLACE HOLDER)		1.00	100.00	100.00					100.00	100.00
16	CAD DRAWINGS		173.00	55.00	9,515.00					9,515.00	55.00
19	WIRING COORDINATOR		100.00	57.00	5,700.00					5,700.00	57.00
22	CONTROLS COORDINATOR		1.00	57.00	57.00					57.00	57.00
25	SCHEDULING		1.00	60.00	60.00					60.00	60.00
31	SAFETY SUPERVISOR		60.00	60.00	3,600.00					3,600.00	60.00
	Totals		2,682.00	67.01	179,722.32					179,722.32	67.01

	General Expenses	Alarm	Quantity	Cost/Unit	Total Cost	Tax(%)	rehearkup	Total	Notes
1	PROJECT START AND FINISH DATES	Off	1.00	1.00	1.00			1.00	JUNE 2024
2	PROJECT DURATION	Off	1.00	1.00	1.00			1.00	12 MNTHS, LE
4	CELL PHONE PER MONTH	Off	12.00	100.00	1,200.00			1,200.00	
5	TABLET WITH DATA PER MONTH	Off	12.00	175.00	2,100.00			2,100.00	
6	SITE OFFICE PER MONTH	Off	12.00	1,200.00	14,400.00			14,400.00	
7	STORAGE UNIT PER MONTH	Off	12.00	250.00	3,000.00			3,000.00	
8	OFFICE JANITORIAL PER MONTH	Off	12.00	150.00	1,800.00			1,800.00	
9	DELIVER/PICKUP TRAILER EACH	Off	2.00	1,000.00	2,000.00			2,000.00	
10	DELIVER/PICKUP STORAGE UNIT EA	Off	4.00	250.00	1,000.00			1,000.00	
11	TOOLS @ 3% OF DIRECT LABOR	Off	0.03	290,000.00	8,700.00			8,700.00	
12	GF TRUCK w/FUEL+MAINT PER MNTH	Off	12.00	1,800.00	21,600.00			21,600.00	
13	SITE TRUCK w/FUEL+MAINT PER MNTH	Off	12.00	1,000.00	12,000.00			12,000.00	DB WORK, LO
17	ICE & WATER PER HR	Off	4,400.00	0.30	1,320.00			1,320.00	
21	HOISTING: ELEC BLDG, MV SWs, MV XFMR	Off	4.00	3,000.00	12,000.00			12,000.00	
22	COMPUTER EACH	Off	1.00	750.00	750.00			750.00	
23	PRINTER/SCANNER/COPIER	Off	1.00	750.00	750.00			750.00	
25	OFFICE SUPPLIES	Off	1.00	1,000.00	1,000.00			1,000.00	
26	SAFETY SUPPLIES	Off	1.00	1,000.00	1,000.00			1,000.00	
27	DRUG TESTING	Off	4.00	50.00	200.00			200.00	
	Totals				84,822.00			84,822.00	

	Description	Quantity	Net Cost	Unit	Labor	Unit	Total Material	Total Hours
1	QUOTE FIXTS rclurie	1	2,758.00	E	0.01	E	2,758.00	0.01
2	QUOTE INSTR vertech	1	164,750.00	E	0.01	E	164,750.00	0.01
3	QUOTE PROG vertech	1	57,640.00	E	0.01	E	57,640.00	0.01
4	QUOTE STUDIES resa	1	3,450.00	E	0.01	E	3,450.00	0.01
5	QUOTE TESTING resa	1	18,450.00	E	0.01	E	18,450.00	0.01
6	QUOTE FA hiller	1	25,000.00	E	0.01	E	25,000.00	0.01
7	QUOTE LTNG PROT hicks	1	13,380.00	E	0.01	E	13,380.00	0.01
8	QUOTE PRECAST jensen	1	24,060.00	E	0.01	E	24,060.00	0.01
9	QUOTE FIBER casa	1	6,755.07	E	0.01	E	6,755.07	0.01
10	GRC CONDUIT 1"	260	519.71	C	9.00	C	1,351.25	23.40
11	GRC CONDUIT 1.5"	5	885.05	C	11.00	C	44.25	0.55
12	GRC 90 ELBOW 1"	24	1,283.91	C	32.00	C	308.14	7.68
13	GRC 90 ELBOW 1.5"	1	2,185.08	C	42.00	C	21.85	0.42
14	GRC COUPLING 1"	13	405.59	C	0.01	E	52.73	0.13
15	GRC COUPLING 1.5"	1	739.15	C	0.01	E	7.39	0.01
16	1 LB38 FORM 8 COND	2	38.52	E	0.62	E	77.04	1.24
17	1 380 FORM 8 STL COVER	2	9.32	E	0.13	E	18.64	0.26
18	1 GASK853N FORM 8 GASK	2	7.62	E	0.06	E	15.24	0.12
19	1" STL GND BUSHING	94	573.26	C	0.15	E	538.86	14.10
20	1 1/2" STL GND BUSHING	1	776.75	C	0.30	E	7.77	0.30
21	2" STL GND BUSHING	1	1,015.84	C	0.50	E	10.16	0.50
22	3" STL GND BUSHING	21	2,340.70	C	0.70	E	491.55	14.70
23	HUB 1" ZINC INSUL w/GRD SCREW	13	2,383.74	C	0.45	E	309.89	5.85
24	HUB 1.5" ZINC INSUL w/GRD SCREW	1	2,994.96	C	0.55	E	29.95	0.55
25	GRC CUT & THREAD 1"	22	0.01	C	28.00	C	0.00	6.16
26	GRC CUT & THREAD 1.5"	1	0.01	C	35.00	C	0.00	0.35
27	PVC40 CONDUIT 1" UG OR SLAB	7,160	131.13	C	2.50	C	9,388.91	179.00
28	PVC40 CONDUIT 1.5" UG OR SLAB	10	203.17	C	3.00	C	20.32	0.30
29	PVC40 CONDUIT 2" UG OR SLAB	80	259.02	C	3.20	C	207.22	2.56
30	PVC40 CONDUIT 3" UG OR SLAB	1,115	485.03	C	3.60	C	5,408.08	40.14
31	PVC40 90 ELBOW 1" UG OR SLAB	70	235.71	C	15.00	C	165.00	10.50
32	PVC40 90 ELBOW 2" UG OR SLAB	2	585.59	C	22.00	C	11.71	0.44
33	PVC40 90 ELBOW 3" UG OR SLAB	22	1,845.17	C	30.00	C	405.94	6.60
34	PVC COUPLING 1"	68	44.45	C	0.01	C	30.23	0.01
35	PVC COUPLING 1.5"	1	83.87	C	0.01	C	0.84	0.00
36	PVC COUPLING 2"	1	107.21	C	0.01	C	1.07	0.00
37	PVC COUPLING 3"	19	314.20	C	0.01	C	59.70	0.00
38	PVC FEMALE ADAPTER 1"	208	76.25	C	12.00	C	158.60	24.96
39	PVC FEMALE ADAPTER 1.5"	2	122.45	C	18.00	C	2.45	0.36
40	PVC FEMALE ADAPTER 2"	2	147.12	C	20.00	C	2.94	0.40
41	PVC FEMALE ADAPTER 3"	47	408.00	C	30.00	C	191.76	14.10
42	1" PVC END BELL	87	312.80	C	15.00	C	272.14	13.05
43	1 1/2" PVC END BELL	2	400.66	C	20.00	C	8.01	0.40
44	2" PVC END BELL	2	575.60	C	22.00	C	11.51	0.44
45	3" PVC END BELL	35	670.55	C	30.00	C	234.69	10.50
46	2" BASE SPACER	1,438	183.34	C	2.50	C	2,636.43	35.95
47	3" BASE SPACER	214	207.05	C	2.75	C	443.09	5.88
48	1" LT FLEX	36	2,870.03	M	8.00	C	103.32	2.88
49	1 1/2" LT FLEX	7	3,859.75	M	12.00	C	27.02	0.84
50	3" LT FLEX	18	9,881.36	M	22.00	C	177.86	3.96
51	1 1/2" LT STRAIGHT CONN	1	2,973.76	C	35.00	C	29.74	0.35
52	1 1/2" LT 90DEG CONN	1	4,893.09	C	35.00	C	48.93	0.35
53	1" LT ST CONN PVC/CTD	12	74.05	E	15.00	C	888.60	1.80
54	1 1/2" LT ST CONN PVC/CTD	1	139.57	E	20.00	C	139.57	0.20
55	3" LT ST CONN PVC CTD	3	902.71	E	75.00	C	2,708.13	2.25
56	1" LT 90 CONN PVC CTD	12	114.74	E	15.00	C	1,376.88	1.80
57	1 1/2" LT 90 CONN PVC CTD	1	222.44	E	20.00	C	222.44	0.20

	Description	Quantity	Net Cost	Unit	Labor	Unit	Total Material	Total Hours
58	3" LT 90 CONN PVC CTD	3	1,131.80	E	75.00	C	3,395.40	2.25
59	PVC CTD GRC CONDUIT 1"	664	851.75	C	11.00	C	5,655.62	73.04
60	PVC CTD GRC CONDUIT 1.5"	10	1,310.87	C	14.00	C	131.09	1.40
61	PVC CTD GRC CONDUIT 2"	20	1,710.06	C	16.00	C	342.01	3.20
62	PVC CTD GRC CONDUIT 3"	190	3,268.96	C	24.00	C	6,211.02	45.60
63	1" PVC/CTD 90 ELB	139	2,636.40	C	0.18	E	3,664.60	25.02
64	1 1/2" PVC/CTD 90 ELB	2	3,980.40	C	0.25	E	79.61	0.50
65	3" PVC/CTD 90 ELB	26	16,724.40	C	0.50	E	4,348.34	13.00
66	2" PVC/CTD-90D-36R	2	324.82	E	0.35	E	649.64	0.70
67	3" PVC/CTD-90D-36R	10	580.52	E	0.55	E	5,805.20	5.50
68	1" PVC/CTD GRC CPLG	138	8.39	E	0.01	E	1,157.82	1.38
69	1 1/2" PVC/CTD GRC CPLG	2	11.63	E	0.01	E	23.26	0.02
70	2" PVC/CTD GRC CPLG	2	17.02	E	0.01	E	34.04	0.02
71	3" PVC/CTD GRC CPLG	38	51.11	E	0.01	E	1,942.18	0.38
72	1" PVC COATED LB	11	87.05	E	0.75	E	957.55	8.25
73	1" PVC COATED C	2	92.44	E	0.75	E	184.88	1.50
74	1" PVC COATED T	3	84.73	E	0.95	E	254.19	2.85
75	PVC/CTD HUB ZINC 1" w/GRD SCREW	41	72.36	E	0.45	E	2,966.76	18.45
76	PVC/CTD HUB ZINC 1.5" w/GRD SCREW	1	113.50	E	0.55	E	113.50	0.55
77	PVC/CTD HUB ZINC 2" w/GRD SCREW	1	142.25	E	0.60	E	142.25	0.60
78	PVC/CTD HUB ZINC 3" w/GRD SCREW	21	273.10	E	0.70	E	5,735.10	14.70
79	1" PVC/GRC CUT&THREAD	132	0.01	C	25.00	C	0.01	33.00
80	1 1/2" PVC/GRC CUT&THREAD	2	0.01	C	30.00	C	0.00	0.60
81	2" PVC/GRC CUT&THREAD	2	0.01	C	35.00	C	0.00	0.70
82	3" PVC/GRC CUT&THREAD	38	0.01	C	55.00	C	0.00	20.90
83	PVC CTD STRUT STRAP 1"	146	1,195.20	C	15.00	C	1,744.99	21.90
84	PVC CTD STRUT STRAP 1.5"	3	1,510.80	C	30.00	C	45.32	0.90
85	PVC CTD STRUT STRAP 2"	2	1,790.40	C	35.00	C	35.81	0.70
86	PVC CTD STRUT STRAP 3"	41	2,559.60	C	45.00	C	1,049.44	18.45
87	STRUT STRAP 1" 316SS	40	370.80	C	15.00	C	148.32	6.00
88	STRUT STRAP 1.5" 316SS	2	456.00	C	30.00	C	9.12	0.60
89	LINK SEAL 1" LSA300-C-04	4	87.38	E	0.70	E	349.52	2.80
90	CORE DRILL 2" DIA x 6"	4	200.00	E	0.25	E	800.00	1.00
91	WEDGE ANCHOR 3/8" x 3" L 316SS	456	242.00	C	0.01	C	1,103.52	0.05
92	WEDGE ANCHOR 1/2" x 4.5" L 316SS	6	588.50	C	0.01	C	35.31	0.00
93	EPOXY ANCHOR 1/4" 316SS	8	286.00	C	8.00	C	22.88	0.64
94	EPOXY ANCHOR 3/8" 316SS	30	412.50	C	8.00	C	123.75	2.40
95	EPOXY ANCHOR 1/2" 316SS	60	715.00	C	8.00	C	429.00	4.80
96	EPOXY ANCHOR 5/8" 316SS	28	1,045.00	C	8.00	C	292.60	2.24
97	SPRING NUT 3/8" 316SS	4	231.00	C	0.01	C	9.24	0.00
98	SPRING NUT 1/2" 316SS	6	229.90	C	0.01	C	13.79	0.00
99	HEX NUT 1/2-13 316SS	24	66.00	C	0.01	C	15.84	0.00
100	HEX ROD COUPLING 1/2" 316SS	6	801.90	C	0.01	C	48.11	0.00
101	SQUARE WASH 3/8" 316SS	8	302.50	C	0.01	C	24.20	0.00
102	SQUARE WASH 1/2" 316SS	12	176.00	C	0.01	C	21.12	0.00
103	FENDER WASH 3/8" 316SS	4	55.00	C	0.01	C	2.20	0.00
104	FENDER WASH 1/2" 316SS	6	66.00	C	0.01	C	3.96	0.00
105	HEX BOLT 3/8"-16 x 1.25" L 316SS	4	44.00	C	0.01	C	1.76	0.00
106	STRUT 1-5/8 x1-5/8 316SS (FOR CONDUIT HANG	117	1,562.00	C	0.01	C	1,827.54	0.01
107	STRUT 1-5/8 x1-5/8 316SS	5	1,562.00	C	13.00	C	78.10	0.65
108	STRUT BK-BK 1-5/8 x1-5/8 316SS	9	2,420.00	C	15.00	C	217.80	1.35
109	THREADED ROD 1/2"-13 316SS	30	247.50	C	11.00	C	74.25	3.30
110	ANCHOR PLATE FOR LG XFMR OR BLDG FRAME	12	40.00	E	0.01	E	480.00	0.12
111	EXCAV+BKFL 18"x36" BACKHOE LNFT	1,030	10.00	E	32.00	C	10,300.00	329.60
112	EXCAV+BKFL 18"x60" BACKHOE LNFT	140	10.00	E	40.00	C	1,400.00	56.00
113	6'x6'x6' MANHOLE EXCAV	3	250.00	E	8.00	E	750.00	24.00
114	2'x2'x2' HANDHOLE EXCAV	3	150.00	E	6.00	E	450.00	18.00

	Description	Quantity	Net Cost	Unit	Labor	Unit	Total Material	Total Hours
115	EMH-RW3-01: MANHOLE w/ H20 CVR 4'x4'x4'	1	0.02	E	6.00	E	0.02	6.00
116	CMH-RW3-01: MANHOLE w/ H20 CVR 4'x4'x4'	1	0.02	E	6.00	E	0.02	6.00
117	CMH-RW3-02: MANHOLE w/ H20 CVR 4'x4'x4'	1	0.02	E	6.00	E	0.02	6.00
118	EHF-IFS01: UG B1017 BOX w/ H20 STL CVR 10"x17"x10"	1	423.38	E	2.50	E	423.38	2.50
119	EHF-IFS01 EXT: UG B1017 EXTENSION 10"x17"x10"	1	61.70	E	1.50	E	61.70	1.50
120	CHH-IFS01: UG B1017 BOX w/ H20 STL CVR 10"x17"x10"	1	423.38	E	2.50	E	423.38	2.50
121	CHH-IFS01 EXT: UG B1017 EXTENSION 10"x17"x10"	1	61.70	E	1.50	E	61.70	1.50
122	FD BOX MAL 1G 1-HUB .75" FD2	4	18.23	E	0.57	E	72.92	2.28
123	FD COVER STL 1G DPLX RCPT DS23	2	3.91	E	0.08	E	7.82	0.16
124	FD COVER ALUM 1G W/P DPLX RCPT WLRD1	2	39.97	E	0.08	E	79.94	0.16
125	FD COVER STL 1G SW DS32	2	3.91	E	0.08	E	7.82	0.16
126	CONCRETE 3000LB w/5LBS DYE CUYD	100	276.00	E	0.50	E	27,600.00	50.00
127	#3 RE-BAR LNFT STRAIGHT	7,485	0.63	E	3.00	C	4,715.55	224.55
128	#4 RE-BAR LNFT PREBENT+CUT	6,945	0.63	E	4.00	C	4,375.35	277.80
129	TIE WIRE -ROLL #16 GAUGE	18	30.00	E	0.01	E	540.00	0.18
130	SAWCUT ASPHALT 5"	1,200	1.73	E	0.01	E	2,076.00	12.00
131	SAWCUT ASPHALT REMOVAL	1,200	0.01	E	0.06	E	12.00	72.00
132	SAWCUT CURB	22	28.75	E	0.25	E	632.50	5.50
133	SAWCUT CURB REMOVAL	22	0.01	E	1.50	E	0.22	33.00
134	TRENCH PLATING LOT: AWRP + OWRP SITE	1	10,000.00	E	60.00	E	10,000.00	60.00
135	AWRP SITE HAUL OFF + RMVL LOT: ALL SITE DBs,	1	15,000.00	E	173.00	E	15,000.00	173.00
136	OWRP SITE HAUL OFF + RMVL LOT: ALL SITE DBs,	1	8,000.00	E	85.00	E	8,000.00	85.00
137	POTHOLE LOT: MV SWs + MV XFMRs AREA	1	5,000.00	E	80.00	E	5,000.00	80.00
138	3/4" 1G PVC-CT FD BOX	2	68.85	E	0.25	E	137.70	0.50
139	1" 1G PVC-CT FD BOX	1	72.04	E	0.25	E	72.04	0.25
140	20A 125V GFCI REC (SG)	4	15.28	E	35.00	C	61.12	1.40
141	20A 120-277V 3W SW SPEC	2	842.40	C	40.00	C	16.85	0.80
142	XHHW 14 CU	16,345	216.89	M	6.00	M	3,545.07	98.07
143	XHHW 12 CU	5,530	294.42	M	7.00	M	1,628.14	38.71
144	XHHW 10 CU	130	441.28	M	9.00	M	57.37	1.17
145	XHHW 8 CU	180	787.23	M	10.00	M	141.70	1.80
146	XHHW 6 CU	440	1,328.65	M	11.00	M	584.61	4.84
147	XHHW 4 CU	680	1,955.15	M	12.00	M	1,329.50	8.16
148	XHHW 1 CU	80	3,278.65	M	15.00	M	262.29	1.20
149	XHHW 2/0 CU	180	5,036.39	M	20.00	M	906.55	3.60
150	XHHW 400 CU	2,760	14,445.81	M	34.00	M	39,870.44	93.84
151	#2/1C 15KV CU SHLD 133%	540	7,622.06	M	24.38	M	4,115.91	13.17
152	1PR16S TC (BELDEN 9342)	2,260	3,927.50	M	10.00	M	8,876.15	22.60
153	RS-485 BELDEN CABLE	515	3,795.74	M	10.00	M	1,954.81	5.15
154	#24-4P CAT6 PVC	320	937.50	M	10.00	M	300.00	3.20
155	#2 BARE-CU/BURIED	480	1,779.06	M	22.50	M	853.95	10.80
156	#4/0 BARE-CU/BURIED	1,610	4,895.08	M	31.25	M	7,881.08	50.31
157	#4 BARE-CU/INSIDE	5	1,129.26	M	30.00	M	5.65	0.15
158	#2 BARE-CU/INSIDE	21	1,779.06	M	33.75	M	37.36	0.71
159	3/4"x10' CU CLAD GRD ROD	16	42.24	E	1.63	E	675.84	26.08
160	CONC TEST WELL & COVER	4	300.00	E	1.50	E	1,200.00	6.00
161	#4/0 TO GRD ROD CADWELD	17	22.00	E	0.75	E	374.00	12.75
162	#2 CADWELD SPLICE	8	22.00	E	0.75	E	176.00	6.00
163	#4/0 CADWELD SPLICE	33	22.00	E	0.75	E	726.00	24.75
164	#2 CADWELD TEE OR WYE	4	22.00	E	0.75	E	88.00	3.00
165	#4/0 CADWELD TEE OR WYE	42	22.00	E	0.75	E	924.00	31.50
166	#2 CADWELD CROSS X	2	22.00	E	0.75	E	44.00	1.50
167	#4/0 CADWELD CROSS X	7	22.00	E	0.75	E	154.00	5.25
168	#2 TO REBAR CADWELD	4	22.00	E	0.75	E	88.00	3.00
169	#4/0 TO REBAR CADWELD	4	22.00	E	0.75	E	88.00	3.00
170	#4/0 TO PIPE CADWELD	8	22.00	E	0.75	E	176.00	6.00
171	#4/0 TO FLAT STEEL CADWELD	14	22.00	E	0.75	E	308.00	10.50

	Description	Quantity	Net Cost	Unit	Labor	Unit	Total Material	Total Hours
172	#2 LUG OR BAR CADWELD	4	22.00	E	0.75	E	88.00	3.00
173	#4/0 LUG OR BAR CADWELD	36	22.00	E	0.75	E	792.00	27.00
174	CADWELD MOLD ALLOWANCE	7	125.00	E	0.01	E	875.00	0.07
175	BURIED UTIL FOIL TAPE 6x1000'	1,120	185.00	M	5.00	M	207.20	5.60
176	BRASS TAG	228	4.50	E	0.15	E	1,026.00	34.20
177	MULETAPE (\$/ft)	1,210	236.66	M	5.00	M	286.36	6.05
178	6AWG CRIMP LUG 1-H	6	2.87	E	0.24	E	17.22	1.44
179	4AWG CRIMP LUG 1-H	12	3.82	E	0.28	E	45.84	3.36
180	2/0AWG CRIMP LUG 1-H	12	10.03	E	0.57	E	120.36	6.84
181	400MCM CRIMP LUG 2-H	18	34.52	E	1.14	E	621.36	20.52
182	#2 15KV SHLD TERM 1C w/PREP+LUG	24	137.50	E	2.50	E	3,300.00	60.00
183	#2 DEAD-BREAK ELBOW 600A/15KV	30	396.00	E	2.60	E	11,880.00	78.00
184	#2 15KV SHLD SPLICE 1C w/PREP+BARREL	24	386.10	E	4.00	E	9,266.40	96.00
185	HI-POT TEST 1 SET OF 3 MV CONDUCTORS	18	750.00	E	0.25	E	13,500.00	4.50
186	HI-POT TEST 1 MV SWBD, SWGR, MCC, ETC	2	1,000.00	E	2.00	E	2,000.00	4.00
187	# 16 WIRE TERM	42	1.10	E	0.15	E	46.20	6.30
188	# 14 WIRE TERM	127	1.10	E	0.18	E	139.70	22.86
189	# 12 WIRE TERM	12	0.80	E	0.20	E	9.60	2.40
190	# 10 WIRE TERM	6	0.80	E	0.20	E	4.80	1.20
191	# 8 WIRE TERM	16	0.80	E	0.22	E	12.80	3.52
192	# 6 WIRE TERM	14	0.80	E	0.25	E	11.20	3.50
193	# 4 WIRE TERM	14	0.80	E	0.28	E	11.20	3.92
194	# 2 WIRE TERM	6	0.80	E	0.32	E	4.80	1.92
195	# 1 WIRE TERM	4	0.80	E	0.35	E	3.20	1.40
196	# 2/0 WIRE TERM	12	1.30	E	0.40	E	15.60	4.80
197	# 400 MCM TERM	60	2.40	E	0.60	E	144.00	36.00
198	CAT-6 CONNECTOR	2	1.00	E	0.35	E	2.00	0.70
199	200HP 480V 3W M/H/U	2	48.00	E	7.00	E	96.00	14.00
200	FIXT A: 40W SUSPND MTD LITHONIA DMW2 LED	2	0.02	E	1.75	E	0.04	3.50
201	FIXT AE: 40W SUSPND MTD LITHONIA DMW2 LED w	1	0.02	E	2.00	E	0.02	2.00
202	FIXT B: 120V 26W LITHONIA DSXW-1 LED WALL PAC	1	0.02	E	1.75	E	0.02	1.75
203	FIXT C: 120V LITHONIA LQC LED EXIT PNDNT MTD	1	0.02	E	1.25	E	0.02	1.25
204	750KVA 3PH 13.8KV 3PH 4W N3R OIL-FILLED MV XF	2	0.02	E	36.00	E	0.04	72.00
205	XFMR-L-RW3: 30KVA 480V-120/208V 3PH 4W NEMA	1	0.02	E	10.00	E	0.02	10.00
206	XFMR NEOPRENE PADS (MV XFMRs)	12	5.00	E	0.10	E	60.00	1.20
207	MCC-RW3-A/B: 800A BUS 480/277V 3PH 4W 65KAIC	1	0.02	E	48.00	E	0.02	48.00
208	PP-RW3: 100A MCB 208V 3PH 4W 22KAIC NEMA 1 P	1	0.02	E	0.02	E	0.02	0.02
209	12.47KV 600A 3PH N3R PAD-MTD MV SWGR 4A/7A/1	1	0.02	E	32.00	E	0.02	32.00
210	12.47KV 600A 3PH N3R PAD-MTD MV SWGR 4B/7B/1	1	0.02	E	32.00	E	0.02	32.00
211	MV-SW-A/B UG BOX: VAULT, FRT, EQUIP, MISC	2	15,000.00	E	12.00	E	30,000.00	24.00
212	MV SW MOPO LOT: RESEARCH, COORD, ETC	1	0.01	E	24.00	E	0.01	24.00
213	VFD-RW-09: 200HP 480V 3PH NEMA 1 VFD	1	0.02	E	12.00	E	0.02	12.00
214	VFD-RW-10: 200HP 480V 3PH NEMA 1 VFD	1	0.02	E	12.00	E	0.02	12.00
215	STAND -SM	4	680.00	E	1.75	E	2,720.00	7.00
216	STAND -MED	1	900.00	E	2.25	E	900.00	2.25
217	SUNSHADE -SM	2	400.00	E	1.00	E	800.00	2.00
218	SUNSHADE -MED	1	600.00	E	1.50	E	600.00	1.50
219	PLC-RW3: PLC CAB w/ MODICON M340, FOPP, ET S	1	0.02	E	14.00	E	0.02	14.00
220	EXST LCP-RW1 MODS: CNTRLRS, ALRMS, REVISE	1	0.02	E	10.00	E	0.02	10.00
221	LCP-RW3: PRESS CNTRL PNL w/ INSTRs, ALRMs, R	1	0.02	E	10.00	E	0.02	10.00
222	SBO: IFS-LCP-PRV-101: PRV CNTRL PNL N3R ENCL	1	0.02	E	6.00	E	0.02	6.00
223	EM STOP CNTRL STA N3R	2	0.02	E	1.50	E	0.04	3.00
224	MODS TO ASR-WL3-PLC LOT: I/O MODS, ETH CONN	1	0.02	E	6.00	E	0.02	6.00
225	FE+FIT MAG 20"	1	0.02	E	2.50	E	0.02	2.50
226	INSERTION MAG FM 42"	1	0.02	E	2.50	E	0.02	2.50
227	FLOW XMTR	1	0.02	E	2.00	E	0.02	2.00
228	PRESS SW w/DIA SEAL	2	0.02	E	1.00	E	0.04	2.00

	Description	Quantity	Net Cost	Unit	Labor	Unit	Total Material	Total Hours
229	PRESS GAUGE	1	0.02	E	0.01	E	0.02	0.01
230	PRESS GAUGE w/DIA SEAL	2	0.02	E	0.01	E	0.04	0.02
231	PRESS XMTR	3	0.02	E	1.00	E	0.06	3.00
232	DEMO 12.47KV 600A 3PH MV SW 4A/7A/12A	1	0.01	E	40.00	E	0.01	40.00
233	DEMO 12.47KV 600A 3PH MV SW 4B/7B/12B	1	0.01	E	40.00	E	0.01	40.00
234	#8 MV CABLE DEMO	540	0.01	M	10.00	M	0.01	5.40
235	#6 MV CABLE DEMO	1,620	0.01	M	13.00	M	0.02	21.06
236	DE-ENERGIZE MV FEEDS LOT: RESEARCH, COORD	2	250.00	E	32.00	E	500.00	64.00
237	MV-SW DEMO LOT: EQUIP, JK HMR, TESTS, WIRE,	2	5,000.00	E	80.00	E	10,000.00	160.00
238	MISC LUBE TAPE TIES SEALANTS HDWR ETC	1	4,000.00	E	0.01	E	4,000.00	0.01
239	PREFAB STL ELEC BLDG: AZZ ENCLS - SET, INSTA	1	0.02	E	80.00	E	0.02	80.00
240	RW ELEC BLDG AREA MOPO LOT: RESEARCH, COO	1	0.01	E	24.00	E	0.01	24.00
241	RW PS PMPS AREA MOPO LOT: RESEARCH, COOR	1	0.01	E	40.00	E	0.01	40.00
242	EXST BLDG MOPO LOT: LCP-RW1 & PWR-001-LEP F	1	0.01	E	32.00	E	0.01	32.00
243	FIBER OPTIC MOPO LOT: RESEARCH, COORD, ROU	1	0.01	E	24.00	E	0.01	24.00
244	OWRF INTEL FLW CS MOPO LOT: RESEARCH, COO	1	0.01	E	16.00	E	0.01	16.00
245	ASR WELL 3 MOPO LOT: RESEARCH, COORD, ETC.	1	0.01	E	24.00	E	0.01	24.00
246	TEMP POWER ALLOWANCE: TRLRS, MISC, PWR, E	1	40,000.00	E	100.00	E	40,000.00	100.00
247	PLACEHOLDER FOR MOB	1	0.01	E	0.01	E	0.01	0.01
248	TIE STRAP 316SS FOR GRD TO 1.5" LT FLEX	7	3.00	E	0.04	E	21.00	0.28
249	TIE STRAP 316SS FOR GRD TO 3" LT FLEX	33	5.00	E	0.04	E	165.00	1.32
	Totals	69,503					701,656.54	4,282.49

October 4, 2023

Andrew Trotter
Ludvik Electric
1020 East University Drive
Phoenix, AZ 85034

Quote #: **Q230555 – Chandler Reclaimed Water Conveyance Project***(8/18/23: Revised to add panels to project scope)**(9/25/23: Revised to replace Endress + Hauser magnetic flow meter with Badger)**(10/4/23: Revised to reflect expedited pricing on Badger flow meter)***PROJECT**

Thank you for the opportunity to provide our world class industrial automation engineering services. In response to your request for a quote, the following proposal is being provided for the Chandler Reclaimed Water Conveyance Project. Vertech will provide PLC and SCADA programming, panel design and build, as well as instrumentation for the addition of Pumps 9 and 10. I will follow up with you in a couple of days to discuss this proposal and answer any questions you may have.

SCOPE

Vertech will program the PLC and SCADA per the City's current programming standards and the provided control narrative. Additionally, the required instrumentation will be provided for the addition of Pumps 9 and 10 into the current Reclaimed Water distribution system. Pumps 1 through 8 currently exist in the system and are controlled via the Foxboro DCS. Per the specification provided, Pumps 9 and 10 will be controlled by a separate Modicon M340 PLC requiring integration with the Foxboro system. Vertech will set the new M340 controller up to act as a slave to the Foxboro system and will provide a Modbus TCP/IP or RTU interface and a tag list indicating the Modbus addresses for connection to the existing Foxboro system. No Foxboro programming is included in this quote. This project is based on the following documentation:

- 2023.07.20 RWCI Agency Review Drawings.pdf
- 2023.07.20 RWCI Agency Review Technical Specifications.pdf

Services supplied by Vertech:

- Design PLC-RW3 and LCP-RW3 control panels and review with customer for approval.
 - **NOTE:** (3) design reviews are included.
- Develop instrument loop drawings.
- Program the Modicon M340 PLC as per current City standards to control Pumps 9 and 10.
 - **NOTE:** The M340 PLC will act as a slave to the existing Foxboro DCS system.
- Develop list of all Modbus tag addresses for interfacing Pumps 9 and 10 to existing Foxboro DCS system.

- Review all programming with customer for approval.
 - **NOTE:** Includes (3) design reviews.
- FAT on both panels at Vertech's Phoenix panel shop.
- Onsite startup support for Reclaimed Water Conveyance system Pumps 9 and 10.
 - **NOTE:** Includes (5) 8-hr days for startup support. If additional time is required, it will be billed at Vertech's current standard rates.
- Modify the existing ASR Well 3 PLC and SCADA programs to add the new monitoring of the flow and pressure through the ASR line.
 - **NOTE:** This work will be performed onsite and is included in the Startup Costs.
- Develop O&M manual for operation of the system.
- Provide operator training.
- Provide onsite programming support after startup as necessary.

Hardware supplied by Vertech:**PLC-RW3 Control Panel:**

- (1) Enclosure, NEMA 4/12 with back panel, data pocket, LED panel light, and AC unit with thermostat
- (1) Redundant power supply, 24Vdc
- (1) Modicon 12-slot chassis with the following components:
 - (1) M340 PLC controller
 - (1) Ethernet module
 - (1) Chassis power supply, 24Vdc
 - (2) Digital input modules, 16-point, 24Vdc sinking with terminal block
 - (1) Digital output module, 16-point, 24Vdc sourcing with terminal block
 - (2) Analog input modules, 4-channel, 4-20mA with terminal block
 - (1) Analog output module, 4-channel, 4-20mA with terminal block
- Magelis HMI, 10.4", color touchscreen
- Communication gateway
- (2) Fiberoptic patch panels with CCH panel adapters
- (1) Cisco Ethernet switch, IE-3300 with PoE, 16 ports with required SFP modules and support contract
- (1) Graceport programming port
- (1) UPS
- Ground bar systems for AC and DC power
- Relays as required
- Circuit protection as required

LCP-RW3 Pressure Control Panel:

- (1) Enclosure, NEMA 4/12 with back panel, data pocket
- (1) Power supply, 24Vdc
- (5) Control relays with sockets

- (2) Pilot lights, yellow, 30mm
- Ground bar systems for AC and DC power

Instrumentation supplied by Vertech:

- (2) Ashcroft pressure gauges with assembled diaphragm seals, 200 psi range (Range TBD)
 - P&ID: I-2.01
 - Tags: PI-009, PI-010
- (2) Ashcroft pressure switches with assembled diaphragm seals, 200 psi range (Range TBD)
 - P&ID: I-2.01
 - Tags: PSH-009, PSH-010
- (2) Rosemount pressure transmitter, 3051 series, inline transmitter, 4-20mA/HART output, 0-30psi range, LCD display with 306 in-line manifold for bleed and block
 - P&ID: I-2.02
 - Tags: PIT-300A, PIT-300B
- (1) Rosemount pressure transmitter, , inline transmitter, 4-20mA/HART output, 0-30psi range, LCD display with 306 in-line manifold for bleed and block with pressure gauge
 - P&ID: I-3.01
 - Tags: PIT/PI-101
- (1) McCrometer magmeter, insertion type, 51" sensor length, 75 ft cable, single forward flow with installation tool
 - P&ID: I-2.02
 - Tags: FE/FIT-300
 - **NOTE:** McCrometer is not listed on the specification
- ~~(1) Endress + Hauser ProMag W400 flow meter, 20", with stainless steel mounting hardware, NEMA 4X enclosure, 16 char. Display with grounding rings (Removed 9/25/23)~~
- (1) Badger M2000 magnetic flow meter, 20", sensor mount transmitter, local display, HART communications (Added 9/25/23)
 - P&ID: I-3.01
 - Tags: FE/FIT-101

Software License:

- (1) ControlExpert programming license, single E-license

Spare Parts:

- (1) Power supply, 24Vdc
- (5) each Relay style
- (1) PLC chassis, 12 slot
- (1) M340 PLC
- (1) Ethernet module

- (1) Chassis power supply, 120Vac
- (3) Digital input modules, 16-point, 24 Vdc, sinking
- (3) Digital output modules, 16-point, 24Vdc, sourcing
- (3) Analog input modules, 4-channel, 4-20mA
- (3) Analog output modules, 4-channel, 4-20mA

PRICING

Reclaimed Water Conveyance Project

City of Chandler

QTY	ITEM DESCRIPTION	PRICE
1	Panel Design	\$ 20,370
1	Programming, Reviews, Submittals, and O&M Manual	\$ 32,040
1	Onsite Startup and Programming Support	\$ 24,080
1	PLC-RW3 Panel Hardware	\$ 40,670
1	LCP-RW3 Panel Hardware	\$ 3,440
1	Instrumentation (without flow meter)	\$ 53,420
1	Programming Software	\$ 1,520
1	Spare Parts	\$ 12,200
1	Project Management	\$ 21,090
	Total	\$ 208,830

Flow Meter Options

City of Chandler

QTY	ITEM DESCRIPTION	PRICE
1	Endress +Hauser ProMag W400, 20" flow meter (Lead time: 3-4 weeks ARO)	\$ 13,570
1	Badger M2000, 20" flow meter (Lead time: 10-12 wks ARO)	\$ 14,160

NOTES AND ASSUMPTIONS

- Instrument manufacturer startup and training is included with instrument costs.
- This quote assumes the City will provide all Foxboro programming.
- Startup consists of (5) 8-hour days for onsite startup support and (5) 8-hour days for programming support and training.

EXCLUSIONS

The following is **NOT** provided:

- Foxboro programming of any type.
- Programming of any type or startup for Pumps 1 – 8 operations.
- Pre-construction video.
- Construction photos.
- Software licenses
- Control panel hardware of any type including, but not limited to, PLCs, power supplies, etc.
- Design services including loop drawings.
- Installation.
- Calibration of existing equipment.
- Any permits or other governmental fees required for physical installation of any equipment.
- Sales, use or TPT tax as may be required by law.
- Additional hardware required to accommodate any changes requisitions during the course of designing or building the system.
- Any services or hardware not specified by this proposal document.

PAYMENT AND AVAILABILITY

- Net 30 days. FOB Origin
- Pricing is good for 60 days from date of this proposal.
- Estimated Lead time: 25 - 27 Weeks. Please reconfirm lead time at time of order.
 - *Lead time subject to change based on Vertech's resource availability at time of order.*
 - *Lead times were determined based on current parts availability.*

CONTACT INFORMATION

Contact Bob Simpson with any questions regarding this proposal or to place an order:

Bob Simpson
480.756.2300 Office
480.231.9062 Mobile
bsimpson@vertech.com

TERMS AND CONDITIONS

1. Definition of Terms: "Vertech" shall be Vertech Industrial Systems, LLC. "Contractor" shall be the legal entity issuing the contract or purchase order to Subcontractor authorizing the Work. "Owner" shall be the legal entity taking possession of all tangible goods produced as a result of executing the Work. The "Work" shall be the entirety of the goods and services defined in the attached Proposal. The "Work Product" shall be the software deliverable provided by Vertech as a part of the Work. The "Proposal" includes this document in its entirety.

2. Entire Agreement: The entire agreement between Vertech and Contractor consists of: (a) these Terms and Conditions, (b) the Proposal, (c) the written requirements of Contractor (if any) that are attached as Exhibit B and, (d) if applicable, Contractor's later purchase orders to the extent consistent with the foregoing documents (collectively the "Contract"). To the extent any later purchase order includes terms that additional, different or inconsistent with these Terms and Conditions or the Proposal, such additional, different or inconsistent terms are expressly rejected by Vertech unless agreed to by both Contractor and Vertech in writing. The Contract may only be modified by a written Change Order, executed by both Contractor and Vertech.

3. Payment: Payment must be made according to the terms defined in this Proposal or otherwise agreed to in writing. Failure to make payment as agreed will result in the assessment of finance charges of 1.5% per month or the highest amount allowable by law, whichever is smaller. Additionally, lack of payment shall be just cause to withhold shipment of any tangible goods or the release of any Work Product, design documents or software. Prior to the release of any deliverable to the client, the client's payment account for the affected project shall be current.

4. Payment Default: If, after seven (7) days' notice by Vertech, the Contractor does not make payment for the Work in conformity with this Contract (or, with or without such notice if the Contractor has repeatedly failed to make payment in conformity with this Contract), Vertech may suspend the Work

until it receives all payments then due, and the Contract Sum shall be increased by Vertech's reasonable demobilization and remobilization costs. In the event collection of any amounts due to Vertech is referred to an attorney, Contractor shall bear all costs of collection, including, but not limited to, Vertech's reasonable attorney fees. Vertech may require prepayment of any or all amounts due if the financial condition of Contractor or Owner reasonably justifies it.

5. Schedule: The Schedule for completing the Work shall be modified from time to time to reflect changes in scope or specifications or to permit revisions, particularly with respect to the software development portion of the Work. The Schedule also shall be extended in the event of delays caused by the Contractor, Owner or anything else not caused by Vertech's acts or omissions and that are beyond Vertech's reasonable control.

6. Cooperation: To complete Vertech's portion of the Project, Vertech will require Contractor and/or Owner to provide sufficient technical assistance to ensure that the specifications for the Work and the requirements of the Owner are communicated to Vertech in a timely and cohesive manner consistent with the agreed scope of the Work. Contractor will take all steps necessary to secure the availability of such technical personnel at appropriate times to coordinate and communicate with Vertech. Vertech will not be liable for any failure to perform the Work, to the extent that the failure is caused by Contractor's lack of cooperation. Vertech is entitled to rely on the accuracy and completeness of any data, material, or other information furnished by Contractor, without independent investigation or verification.

7. Warranties: The Work will be deemed accepted, and Vertech's warranty period described herein shall begin, upon the earliest of the following events: (a) the date of first use by the Owner or the party for whom the Work is intended to benefit; whether such use is partial or complete; or

(b) the date of successful completion of the Site Acceptance Test (SAT).

Vertech warrants the computer and controls hardware supplied for the Project to the extent of any manufacturer's warranty to Vertech that is applicable to such equipment. Vertech warrants that it will, for a period of one (1) year, correct, repair or replace Work Product that fails to meet the design requirements of the Contract under normal use. This warranty is void if anyone other than Vertech has modified the Work Product in any way. Failure to purchase adequate training for those using the Work will void this limited warranty. EXCEPT AS SET FORTH IN THIS PROPOSAL WITH REGARD TO BOTH HARDWARE AND SOFTWARE, VERTECH MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND WHATSOEVER, INCLUDING BUT NOT LIMITED TO, ANY WARRANTY OF FREEDOM FROM PATENT INFRINGEMENT, OF MERCHANTABILITY, OF FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING OR USAGE OF TRADE OR OTHER EXPRESS OR IMPLIED WARRANTIES.

8. Third Party Licenses: The Contractor shall ensure that Owner is in possession of valid licenses for all third-party software (not provided by Vertech) used for the Project, and shall indemnify and hold harmless Vertech against all claims by licensors of such software. Vertech makes no warranty regarding such third-party software or its effect on the performance of the Work Product to be developed by Vertech for the Project.

9. Owner and Contractor Intellectual Property: Any intellectual property of Owner or Contractor provided to Vertech in relation to the Project shall remain the exclusive property of Owner or Contractor, as applicable, subject to a non-transferable, non-exclusive, limited license granted to Vertech hereunder for the performance of the Work.

10. Vertech Intellectual Property: Upon payment of the Contract amount to Vertech, all portions of the Work Product that are unique or customized to Owner's processes, products or systems will become the property of Owner. All pre-existing intellectual property of Vertech (including such property that may be incorporated into the Work), and all other portions of the Work Product (such as general object and source code, development methodologies, design patterns, frameworks, templates, styles, toolkits, utilities and drivers that are not unique or

customized to Owner's processes, products or systems) shall remain the exclusive property of Vertech, subject to a non-transferable, non-exclusive, limited license granted to Owner upon payment of the Contract amount to Vertech for Owner's proper internal utilization of the Work as intended by the Proposal. Under no circumstances shall Owner or Contractor reverse engineer or transmit to any third party Vertech's retained intellectual property without Vertech's prior express written consent.

11. Liability Limits: The total liability of Vertech to Contractor for any loss, indemnity, damage or delay of any kind will not under any circumstances exceed the Contract Sum. UNDER NO CIRCUMSTANCES WILL VERTECH BE LIABLE FOR ANY LOSS, INDEMNITY, DAMAGE OR DELAY ARISING OUT OF ITS FAILURE TO PERFORM DUE TO CAUSES BEYOND ITS REASONABLE CONTROL, INCLUDING, WITHOUT LIMITATION, ACTS OF GOD, INTERFERENCE BY OTHERS, DELAYS IN RECEIVING APPROVALS OR NECESSARY INFORMATION FROM OWNER OR CONTRACTOR, FIRES, STRIKES, FLOODS, WAR, TERRORISM, RIOTS, DELAYS IN TRANSPORTATION AND ADVERSE WEATHER. UNDER NO CIRCUMSTANCES WILL VERTECH BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES BASED ON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, GROSS NEGLIGENCE, STRICT LIABILITY, PRODUCTS LIABILITY OR ANY OTHER LEGAL THEORY.

12. Indemnification: To the fullest extent permitted by law, Contractor shall indemnify and hold harmless Vertech, Vertech's sub-subcontractors, and agents and employees of any of them from and against all claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of Work, provided that any such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or personal property damage, but only to the extent caused by the negligent acts or omission of the Contractor or anyone directly or indirectly employed or contracted with by Contractor (other

than Vertech) or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder.

To the fullest extent permitted by law, Vertech shall indemnify and hold harmless the Contractor, the Contractor's other subcontractors, and agents and employees of any of them from and against all claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of Work, provided that any such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or personal property damage, but only to the extent caused by the negligent acts or omission of Vertech or anyone directly or indirectly employed or contracted with by Vertech (other than Contractor) or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder.

13. No Solicitation: Commencing immediately and continuing until a date one (1) year after the date of final completion of the Work, Contractor agrees not to directly or indirectly employ, solicit for employment, or advise or recommend to any other person that such other person employ or solicit for employment, any person employed by or under contract to Vertech. Should Contractor directly or indirectly employ any person employed by or under contract to Vertech during a period commencing immediately and continuing until a date one (1) year after the date of final completion of the Work, Contractor agrees to pay Vertech the sum of \$50,000.00 per individual so hired.

14. Risk of Loss: The responsibility for loss or damage of the equipment specified in the Contract shall be Contractor's from the time of shipment. Contractor is responsible for providing and maintaining adequate insurance protecting the equipment against loss or damage of any kind. Vertech shall pay for and maintain until final acceptance of the Work, policies of insurance issued by carriers acceptable to the Contractor which afford coverage for worker's compensation (including employer's liability) and general liability.

15. Precedence of Documents: To the extent these Terms and Conditions are inconsistent with the Proposal or Contractor's written requirements (if any) attached as Exhibit B or any of Contractor's purchase orders, these Terms and Conditions shall take priority. To the extent the Proposal is inconsistent with the Contractor's written

requirements (if any) attached as Exhibit B or any of Contractor's purchase orders, the Proposal shall take priority. Vertech's Proposal is subject to Contractor's acceptance of these Terms and Conditions. Any purchase order, acknowledgement or other document submitted by Contractor to Vertech that includes any terms that are inconsistent with or contradict these Terms and Conditions or the Proposal are deemed rejected unless explicitly accepted by Vertech, in writing.

16. Tax Liability: All prices shall be subject to any existing or future tax or governmental charge upon any services, production, shipment, installation, sale or use of the goods or services provided by Vertech to the extent Vertech is or shall be required to collect or pay such taxes by law or regulation. The amount of such taxes shall be paid to Vertech immediately upon request, or in lieu thereof, a tax exemption certificate in a form satisfactory to the applicable taxing authority may be presented to Vertech.

17. Suspension: Contractor may Suspend (suspend, delay, or interrupt) the performance of the Work in writing for such period of time as may be determined to be appropriate for the convenience of the Contractor or Owner and not due to any act or omission of Vertech. Upon receipt of such Suspension notice, Vertech shall immediately suspend, delay, or interrupt that portion of the Work as ordered by the Contractor. The Contract price and Schedule shall be equitably adjusted by a written Change Order for the cost and delay resulting from such Suspension including demobilization and remobilization of labor. For any Suspension lasting longer than four (4) weeks, Vertech shall be entitled to adjust the price of un-performed Work to reflect increases in material costs and labor rates.

18. Termination for Convenience: Vertech may terminate this Contract for any of the reasons that Contractor may terminate its contract, if any, with

Owner or any higher-tier contractor. Contractor may terminate this Contract at any time upon the giving of thirty (30) days' notice. Such termination shall entitle Vertech to receive payment for the Work executed, costs incurred by reason of such termination (including any restocking charges), and

reasonable overhead and profit on Work not yet executed.

19. Termination for Cause: Customer may terminate Vertech for persistently or repeatedly failing or neglecting to carry out the Work in accordance with the Contract (and only after failing to take steps to correct such failure following ten (10) days written notice by Customer). If terminated for cause, Vertech shall be entitled to receive payment for the Work executed up to termination.

20. Dispute Resolution: All claims arising out of this Contract shall be subject to arbitration before a single arbitrator in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association. The arbitrator shall be a person with experience in software development issues. The governing law and place of the arbitration will be the state of the Project at a mutually convenient and accessible location.

21. Export Control Compliance: Client: (i) acknowledges and agrees that the Work Product and its components are subject to export controls under the U.S. Commerce Department's Export Administration Regulations ("EAR") and may be subject to similar laws in other applicable countries; (ii) represents and warrants that Client is not located

in any country listed in Country Group E:1 in Supplement No. 1 to part 740 of the EAR; (iii) shall not export, re-export, release, or transfer the Work Product to any prohibited destination or to any party who has been prohibited from participating in U.S. export transactions by any federal agency of the U.S. government or any other relevant Government agency; (iv) shall not use or transfer the Work Product for use in connection with the design, development or production of nuclear, chemical or biological weapons, semiconductor or supercomputer manufacturing subject to part 744 of the EAR, or rocket systems, space launch vehicles, or sounding rockets or unmanned air vehicle systems; and (v) acknowledge and agree that if Client exports, re-exports, or transfers the Work Product to eligible recipients, then Client shall: (a) strictly comply with all applicable export control laws, (b) obtain all necessary licenses and permits, including those required by the EAR; and (c) submit all reports required by the Commerce Department's Bureau of Industry and Security or other applicable Government Agency. Vertech will not have any liability for the failure to obtain a U.S. export license to export the Work Product. Client shall indemnify Vertech, including its officers, directors and agents from all losses and liabilities (including reasonable attorneys' fees and court costs) arising from any breach of Client representations, warranties or obligations under this Section.

CLIENT APPROVAL

By signing the following, the client gives Vertech the notice to proceed with this scope of work, and agrees to the Terms and Conditions set forth in this proposal.

Vertech Industrial Systems, LLC**Ludvik Electric**_____
Signature_____
Signature_____
Printed Name_____
Printed Name_____
Title_____
Title_____
Date_____
Date

Date: Aug 16, 2023

Quote: RCL23-145814-1

Quote
Page 1/2



RCL
RC Lurie Company

R.C. Lurie Co.
1122 North 7th Street
Phoenix AZ 85006
Phone: (602) 258-2400
Fax:
From: Sean Carnal
Quoter Ph:
Email: scarnal@rclurie.com

Project CITY OF CHANDLER - RECLAIMED
WATER CONVEYANCE
IMPROVEMENTS PROJECT
Location CHANDLER AZ
Quote RCL23-145814-1

To: Andrew Trotter
Ludvik
444 W. 21st St., Suite 101
Tempe AZ 85282
Phone: (480) 921-0809
Fax: (480) 921-0840
Email: atrotter@ludvikelectric.com

For
Bid Date Aug 16, 2023
Expires Sep 15, 2023
Engineer: Wilson Engineers

QTY	Type	MFG	Part
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Note	ALL MUST BE VERIFIED, INCOMPLETE		
Note	PART NUMBERS LISTED ON SCHEDULE		

2	A	AS SPECIFIED LITH-HOL EVT4 6000LM FST WD MVOLT GZ10 40K 80CRI Line Note: VERIFY LUMENS, DIFFUSER, DISTRIBUTION & KELVIN	
2	A	GRIPLE	HCHK10 - HC VSM TONG HANGING KIT - 10' XP2-LG-10FT-V2-2PK
1	AE	LITH-HOL	EVT4 6000LM FST WD MVOLT GZ10 40K 80CRI E15WCP Line Note: VERIFY LUMENS, DIFFUSER, DISTRIBUTION & KELVIN
1	AE	GRIPLE	HCHK10 - HC VSM TONG HANGING KIT - 10' XP2-LG-10FT-V2-2PK
1	B	LITH-HTK	DSXW1 LED 10C 700 30K TFTM 277 PE DDBXD Line Note: SPECIFY VOLTAGE
1	C	LITH-EMR	LQC 1 R EL N Line Note: VERIFY LETTER COLOR
1	FRT	FREIGHT	ESTIMATED FREIGHT

Total for: AS SPECIFIED

Total:

\$2,758.00
\$2,758.00

Terms and conditions of sale:

EMAIL QUOTE REQUESTS TO: RCLQUOTES@RCLURIE.COM

Prices firm for 30 days.
Manufacturer's Standard Freight Terms and Conditions for Sale Apply.
Any deviation voids this quote.

Date: Aug 16, 2023

Quote: RCL23-145814-1

Quote
Page 2/2



RCL
RC Lurie Company

R.C. Lurie Co.
1122 North 7th Street
Phoenix AZ 85006
Phone: (602) 258-2400
Fax:

From: Sean Carnal
Quoter Ph:
Email: scarnal@rclurie.com

Project CITY OF CHANDLER - RECLAIMED
WATER CONVEYANCE
IMPROVEMENTS PROJECT
Location CHANDLER AZ
Quote RCL23-145814-1

Lamps included for types quoted only, unless otherwise noted.
Quote is for types and quantities listed only.
All types are quoted with standard finish unless specified otherwise.
No spares or extras included unless otherwise noted.
Verify all voltages and finishes--custom finishes will req re-quote.
Lighting Control System Start-Up Requires 3-Week Prior Notice
Standard Manufacturer Warranty applies unless otherwise noted.

Sales Tax - It is the responsibility of the electrical contractor to determine if the materials included in this proposal are subject to Arizona sales tax.

September 25, 2023

Andrew Trotter
Ludvik Electric
1020 East University Drive
Phoenix, AZ 85034

Quote #: **Q230555 – Chandler Reclaimed Water Conveyance Project**

(8/18/23: Revised to add panels to project scope)

(9/25/23: Revised to replace Endress + Hauser magnetic flow meter with Badger)

PROJECT

Thank you for the opportunity to provide our world class industrial automation engineering services. In response to your request for a quote, the following proposal is being provided for the Chandler Reclaimed Water Conveyance Project. Vertech will provide PLC and SCADA programming, panel design and build, as well as instrumentation for the addition of Pumps 9 and 10. I will follow up with you in a couple of days to discuss this proposal and answer any questions you may have.

SCOPE

Vertech will program the PLC and SCADA per the City's current programming standards and the provided control narrative. Additionally, the required instrumentation will be provided for the addition of Pumps 9 and 10 into the current Reclaimed Water distribution system. Pumps 1 through 8 currently exist in the system and are controlled via the Foxboro DCS. Per the specification provided, Pumps 9 and 10 will be controlled by a separate Modicon M340 PLC requiring integration with the Foxboro system. Vertech will set the new M340 controller up to act as a slave to the Foxboro system and will provide a Modbus TCP/IP or RTU interface and a tag list indicating the Modbus addresses for connection to the existing Foxboro system. No Foxboro programming is included in this quote. This project is based on the following documentation:

- 2023.07.20 RWCI Agency Review Drawings.pdf
- 2023.07.20 RWCI Agency Review Technical Specifications.pdf

Services supplied by Vertech:

- Design PLC-RW3 and LCP-RW3 control panels and review with customer for approval.
 - **NOTE:** (3) design reviews are included.
- Develop instrument loop drawings.
- Program the Modicon M340 PLC as per current City standards to control Pumps 9 and 10.
 - **NOTE:** The M340 PLC will act as a slave to the existing Foxboro DCS system.
- Develop list of all Modbus tag addresses for interfacing Pumps 9 and 10 to existing Foxboro DCS system.
- Review all programming with customer for approval.

- **NOTE:** Includes (3) design reviews.
- FAT on both panels at Vertech's Phoenix panel shop.
- Onsite startup support for Reclaimed Water Conveyance system Pumps 9 and 10.
 - **NOTE:** Includes (5) 8-hr days for startup support. If additional time is required, it will be billed at Vertech's current standard rates.
- Modify the existing ASR Well 3 PLC and SCADA programs to add the new monitoring of the flow and pressure through the ASR line.
 - **NOTE:** This work will be performed onsite and is included in the Startup Costs.
- Develop O&M manual for operation of the system.
- Provide operator training.
- Provide onsite programming support after startup as necessary.

Hardware supplied by Vertech:**PLC-RW3 Control Panel:**

- (1) Enclosure, NEMA 4/12 with back panel, data pocket, LED panel light, and AC unit with thermostat
- (1) Redundant power supply, 24Vdc
- (1) Modicon 12-slot chassis with the following components:
 - (1) M340 PLC controller
 - (1) Ethernet module
 - (1) Chassis power supply, 24Vdc
 - (2) Digital input modules, 16-point, 24Vdc sinking with terminal block
 - (1) Digital output module, 16-point, 24Vdc sourcing with terminal block
 - (2) Analog input modules, 4-channel, 4-20mA with terminal block
 - (1) Analog output module, 4-channel, 4-20mA with terminal block
- Magelis HMI, 10.4", color touchscreen
- Communication gateway
- (2) Fiberoptic patch panels with CCH panel adapters
- (1) Cisco Ethernet switch, IE-3300 with PoE, 16 ports with required SFP modules and support contract
- (1) Graceport programming port
- (1) UPS
- Ground bar systems for AC and DC power
- Relays as required
- Circuit protection as required

LCP-RW3 Pressure Control Panel:

- (1) Enclosure, NEMA 4/12 with back panel, data pocket
- (1) Power supply, 24Vdc
- (5) Control relays with sockets
- (2) Pilot lights, yellow, 30mm

- Ground bar systems for AC and DC power

Instrumentation supplied by Vertech:

- (2) Ashcroft pressure gauges with assembled diaphragm seals, 200 psi range (Range TBD)
 - P&ID: I-2.01
 - Tags: PI-009, PI-010
- (2) Ashcroft pressure switches with assembled diaphragm seals, 200 psi range (Range TBD)
 - P&ID: I-2.01
 - Tags: PSH-009, PSH-010
- (2) Rosemount pressure transmitter, 3051 series, inline transmitter, 4-20mA/HART output, 0-30psi range, LCD display with 306 in-line manifold for bleed and block
 - P&ID: I-2.02
 - Tags: PIT-300A, PIT-300B
- (1) Rosemount pressure transmitter, , inline transmitter, 4-20mA/HART output, 0-30psi range, LCD display with 306 in-line manifold for bleed and block with pressure gauge
 - P&ID: I-3.01
 - Tags: PIT/PI-101
- (1) McCrometer magmeter, insertion type, 51" sensor length, 75 ft cable, single forward flow with installation tool
 - P&ID: I-2.02
 - Tags: FE/FIT-300
 - **NOTE:** McCrometer is not listed on the specification
- ~~(1) Endress + Hauser ProMag W400 flow meter, 20", with stainless steel mounting hardware, NEMA 4X enclosure, 16 char. Display with grounding rings (Removed 9/25/23)~~
- (1) Badger M2000 magnetic flow meter, 20", sensor mount transmitter, local display, HART communications (Added 9/25/23)
 - P&ID: I-3.01
 - Tags: FE/FIT-101

Software License:

- (1) ControlExpert programming license, single E-license

Spare Parts:

- (1) Power supply, 24Vdc
- (5) each Relay style
- (1) PLC chassis, 12 slot
- (1) M340 PLC
- (1) Ethernet module
- (1) Chassis power supply, 120Vac

- (3) Digital input modules, 16-point, 24 Vdc, sinking
- (3) Digital output modules, 16-point, 24Vdc, sourcing
- (3) Analog input modules, 4-channel, 4-20mA
- (3) Analog output modules, 4-channel, 4-20mA

PRICING**Reclaimed Water Conveyance Project**
City of Chandler

QTY	ITEM DESCRIPTION	PRICE
1	Panel Design	\$ 20,370
1	Programming, Reviews, Submittals, and O&M Manual	\$ 32,040
1	Onsite Startup and Programming Support	\$ 24,080
1	PLC-RW3 Panel Hardware	\$ 40,670
1	LCP-RW3 Panel Hardware	\$ 3,440
1	Instrumentation (without flow meter)	\$ 53,420
1	Programming Software	\$ 1,520
1	Spare Parts	\$ 12,200
1	Project Management	\$ 21,090
	Total	\$ 208,830

Flow Meter Options
City of Chandler

QTY	ITEM DESCRIPTION	PRICE
1	Endress +Hauser ProMag W400, 20" flow meter (Lead time: 3-4 weeks ARO)	\$ 13,570
1	Badger M2000, 20" flow meter (Lead time: 25-26 wks ARO)	\$ 12,040

NOTES AND ASSUMPTIONS

- Instrument manufacturer startup and training is included with instrument costs.
- This quote assumes the City will provide all Foxboro programming.
- Startup consists of (5) 8-hour days for onsite startup support and (5) 8-hour days for programming support and training.

EXCLUSIONS

The following is **NOT** provided:

- Foxboro programming of any type.
- Programming of any type or startup for Pumps 1 – 8 operations.
- Pre-construction video.
- Construction photos.
- Software licenses
- Control panel hardware of any type including, but not limited to, PLCs, power supplies, etc.
- Design services including loop drawings.
- Installation.
- Calibration of existing equipment.
- Any permits or other governmental fees required for physical installation of any equipment.
- Sales, use or TPT tax as may be required by law.
- Additional hardware required to accommodate any changes requisitions during the course of designing or building the system.
- Any services or hardware not specified by this proposal document.

PAYMENT AND AVAILABILITY

- Net 30 days. FOB Origin
- Pricing is good for 60 days from date of this proposal.
- Estimated Lead time: 25 - 27 Weeks. Please reconfirm lead time at time of order.
 - *Lead time subject to change based on Vertech's resource availability at time of order.*
 - *Lead times were determined based on current parts availability.*

CONTACT INFORMATION

Contact Bob Simpson with any questions regarding this proposal or to place an order:

Bob Simpson
480.756.2300 Office
480.231.9062 Mobile
bsimpson@verttech.com

TERMS AND CONDITIONS

1. Definition of Terms: "Vertech" shall be Vertech Industrial Systems, LLC. "Contractor" shall be the legal entity issuing the contract or purchase order to Subcontractor authorizing the Work. "Owner" shall be the legal entity taking possession of all tangible goods produced as a result of executing the Work. The "Work" shall be the entirety of the goods and services defined in the attached Proposal. The "Work Product" shall be the software deliverable provided by Vertech as a part of the Work. The "Proposal" includes this document in its entirety.

2. Entire Agreement: The entire agreement between Vertech and Contractor consists of: (a) these Terms and Conditions, (b) the Proposal, (c) the written requirements of Contractor (if any) that are attached as Exhibit B and, (d) if applicable, Contractor's later purchase orders to the extent consistent with the foregoing documents (collectively the "Contract"). To the extent any later purchase order includes terms that additional, different or inconsistent with these Terms and Conditions or the Proposal, such additional, different or inconsistent terms are expressly rejected by Vertech unless agreed to by both Contractor and Vertech in writing. The Contract may only be modified by a written Change Order, executed by both Contractor and Vertech.

3. Payment: Payment must be made according to the terms defined in this Proposal or otherwise agreed to in writing. Failure to make payment as agreed will result in the assessment of finance charges of 1.5% per month or the highest amount allowable by law, whichever is smaller. Additionally, lack of payment shall be just cause to withhold shipment of any tangible goods or the release of any Work Product, design documents or software. Prior to the release of any deliverable to the client, the client's payment account for the affected project shall be current.

4. Payment Default: If, after seven (7) days' notice by Vertech, the Contractor does not make payment for the Work in conformity with this Contract (or, with or without such notice if the Contractor has repeatedly failed to make payment in conformity with this Contract), Vertech may suspend the Work

until it receives all payments then due, and the Contract Sum shall be increased by Vertech's reasonable demobilization and remobilization costs. In the event collection of any amounts due to Vertech is referred to an attorney, Contractor shall bear all costs of collection, including, but not limited to, Vertech's reasonable attorney fees. Vertech may require prepayment of any or all amounts due if the financial condition of Contractor or Owner reasonably justifies it.

5. Schedule: The Schedule for completing the Work shall be modified from time to time to reflect changes in scope or specifications or to permit revisions, particularly with respect to the software development portion of the Work. The Schedule also shall be extended in the event of delays caused by the Contractor, Owner or anything else not caused by Vertech's acts or omissions and that are beyond Vertech's reasonable control.

6. Cooperation: To complete Vertech's portion of the Project, Vertech will require Contractor and/or Owner to provide sufficient technical assistance to ensure that the specifications for the Work and the requirements of the Owner are communicated to Vertech in a timely and cohesive manner consistent with the agreed scope of the Work. Contractor will take all steps necessary to secure the availability of such technical personnel at appropriate times to coordinate and communicate with Vertech. Vertech will not be liable for any failure to perform the Work, to the extent that the failure is caused by Contractor's lack of cooperation. Vertech is entitled to rely on the accuracy and completeness of any data, material, or other information furnished by Contractor, without independent investigation or verification.

7. Warranties: The Work will be deemed accepted, and Vertech's warranty period described herein shall begin, upon the earliest of the following events: (a) the date of first use by the Owner or the party for whom the Work is intended to benefit; whether such use is partial or complete; or

(b) the date of successful completion of the Site Acceptance Test (SAT).

Vertech warrants the computer and controls hardware supplied for the Project to the extent of any manufacturer's warranty to Vertech that is applicable to such equipment. Vertech warrants that it will, for a period of one (1) year, correct, repair or replace Work Product that fails to meet the design requirements of the Contract under normal use. This warranty is void if anyone other than Vertech has modified the Work Product in any way. Failure to purchase adequate training for those using the Work will void this limited warranty. EXCEPT AS SET FORTH IN THIS PROPOSAL WITH REGARD TO BOTH HARDWARE AND SOFTWARE, VERTECH MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND WHATSOEVER, INCLUDING BUT NOT LIMITED TO, ANY WARRANTY OF FREEDOM FROM PATENT INFRINGEMENT, OF MERCHANTABILITY, OF FITNESS FOR A PARTICULAR PURPOSE, OR ARISING FROM A COURSE OF DEALING OR USAGE OF TRADE OR OTHER EXPRESS OR IMPLIED WARRANTIES.

8. Third Party Licenses: The Contractor shall ensure that Owner is in possession of valid licenses for all third-party software (not provided by Vertech) used for the Project, and shall indemnify and hold harmless Vertech against all claims by licensors of such software. Vertech makes no warranty regarding such third-party software or its effect on the performance of the Work Product to be developed by Vertech for the Project.

9. Owner and Contractor Intellectual Property: Any intellectual property of Owner or Contractor provided to Vertech in relation to the Project shall remain the exclusive property of Owner or Contractor, as applicable, subject to a non-transferable, non-exclusive, limited license granted to Vertech hereunder for the performance of the Work.

10. Vertech Intellectual Property: Upon payment of the Contract amount to Vertech, all portions of the Work Product that are unique or customized to Owner's processes, products or systems will become the property of Owner. All pre-existing intellectual property of Vertech (including such property that may be incorporated into the Work), and all other portions of the Work Product (such as general object and source code, development methodologies, design patterns, frameworks, templates, styles, toolkits, utilities and drivers that are not unique or

customized to Owner's processes, products or systems) shall remain the exclusive property of Vertech, subject to a non-transferable, non-exclusive, limited license granted to Owner upon payment of the Contract amount to Vertech for Owner's proper internal utilization of the Work as intended by the Proposal. Under no circumstances shall Owner or Contractor reverse engineer or transmit to any third party Vertech's retained intellectual property without Vertech's prior express written consent.

11. Liability Limits: The total liability of Vertech to Contractor for any loss, indemnity, damage or delay of any kind will not under any circumstances exceed the Contract Sum. UNDER NO CIRCUMSTANCES WILL VERTECH BE LIABLE FOR ANY LOSS, INDEMNITY, DAMAGE OR DELAY ARISING OUT OF ITS FAILURE TO PERFORM DUE TO CAUSES BEYOND ITS REASONABLE CONTROL, INCLUDING, WITHOUT LIMITATION, ACTS OF GOD, INTERFERENCE BY OTHERS, DELAYS IN RECEIVING APPROVALS OR NECESSARY INFORMATION FROM OWNER OR CONTRACTOR, FIRES, STRIKES, FLOODS, WAR, TERRORISM, RIOTS, DELAYS IN TRANSPORTATION AND ADVERSE WEATHER. UNDER NO CIRCUMSTANCES WILL VERTECH BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES BASED ON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, GROSS NEGLIGENCE, STRICT LIABILITY, PRODUCTS LIABILITY OR ANY OTHER LEGAL THEORY.

12. Indemnification: To the fullest extent permitted by law, Contractor shall indemnify and hold harmless Vertech, Vertech's sub-subcontractors, and agents and employees of any of them from and against all claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of Work, provided that any such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or personal property damage, but only to the extent caused by the negligent acts or omission of the Contractor or anyone directly or indirectly employed or contracted with by Contractor (other

than Vertech) or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder.

To the fullest extent permitted by law, Vertech shall indemnify and hold harmless the Contractor, the Contractor's other subcontractors, and agents and employees of any of them from and against all claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of Work, provided that any such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or personal property damage, but only to the extent caused by the negligent acts or omission of Vertech or anyone directly or indirectly employed or contracted with by Vertech (other than Contractor) or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder.

13. No Solicitation: Commencing immediately and continuing until a date one (1) year after the date of final completion of the Work, Contractor agrees not to directly or indirectly employ, solicit for employment, or advise or recommend to any other person that such other person employ or solicit for employment, any person employed by or under contract to Vertech. Should Contractor directly or indirectly employ any person employed by or under contract to Vertech during a period commencing immediately and continuing until a date one (1) year after the date of final completion of the Work, Contractor agrees to pay Vertech the sum of \$50,000.00 per individual so hired.

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Owner or any higher-tier contractor. Contractor may terminate this Contract at any time upon the giving of thirty (30) days' notice. Such termination shall entitle Vertech to receive payment for the Work executed, costs incurred by reason of such termination (including any restocking charges), and

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20. Dispute Resolution: All claims arising out of this Contract shall be subject to arbitration before a single arbitrator in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association. The arbitrator shall be a person with experience in software development issues. The governing law and place of the arbitration will be the state of the Project at a mutually convenient and accessible location.

21. Export Control Compliance: Client: (i) acknowledges and agrees that the Work Product and its components are subject to export controls under the U.S. Commerce Department's Export Administration Regulations ("EAR") and may be subject to similar laws in other applicable countries; (ii) represents and warrants that Client is not located

in any country listed in Country Group E:1 in Supplement No. 1 to part 740 of the EAR; (iii) shall not export, re-export, release, or transfer the Work Product to any prohibited destination or to any party who has been prohibited from participating in U.S. export transactions by any federal agency of the U.S. government or any other relevant Government agency; (iv) shall not use or transfer the Work Product for use in connection with the design, development or production of nuclear, chemical or biological weapons, semiconductor or supercomputer manufacturing subject to part 744 of the EAR, or rocket systems, space launch vehicles, or sounding rockets or unmanned air vehicle systems; and (v) acknowledge and agree that if Client exports, re-exports, or transfers the Work Product to eligible recipients, then Client shall: (a) strictly comply with all applicable export control laws, (b) obtain all necessary licenses and permits, including those required by the EAR; and (c) submit all reports required by the Commerce Department's Bureau of Industry and Security or other applicable Government Agency. Vertech will not have any liability for the failure to obtain a U.S. export license to export the Work Product. Client shall indemnify Vertech, including its officers, directors and agents from all losses and liabilities (including reasonable attorneys' fees and court costs) arising from any breach of Client representations, warranties or obligations under this Section.

CLIENT APPROVAL

By signing the following, the client gives Vertech the notice to proceed with this scope of work, and agrees to the Terms and Conditions set forth in this proposal.

Vertech Industrial Systems, LLC**Ludvik Electric**_____
Signature_____
Signature_____
Printed Name_____
Printed Name_____
Title_____
Title_____
Date_____
Date

2443 W. 12th St. Suite 5
Tempe, AZ 85281
(480) 730-8871

August 15, 2023

ATTN: Andrew Trotter
Ludvik Electric
602-584-8632
atrotter@ludvikelectric.com

RE: **Chandler RW Conveyance Testing & Studies**
Chandler, AZ
Quote #441350

Andrew,

Thank you for your interest in RESA Power Service. We are pleased to offer the following Quote for your consideration. RESA will provide personnel and all the equipment necessary to complete the project outlined in this proposal.

RESA has been delivering electrical power solutions to thousands of customers throughout the United States since 1981. We specialize in low, medium, and high voltage electrical testing, repair services, and engineering for your electrical distribution system. We are a NETA Accredited Company, which means you are partnering with a company that provides the highest level of safety and reliability.

We appreciate this opportunity to quote and look forward to being of service to you in the near future. If you have any questions regarding this proposal, please feel free to contact me.

Chad Sheffield
Account Manager
RESA Power
chad.sheffield@resapower.com
602-396-3742



DESCRIPTION OF ARC FLASH SCOPE

New equipment on drawings:

E-1.22 dated 04/2023

E-1.23 dated 04/2023

(Existing study/relay files must be provided for existing 15kV switchgear)

1. Using the latest version of commercially available Electrical Engineering software (SKM Power Tools) we will prepare a one-line model of the electrical distribution system and electrical equipment. This model will include fault contribution from the utility or emergency generator and large motors.
2. The one-line model will include the electric utility company's protective devices, emergency generators, service entrance equipment and distribution to all 3 phase 480V equipment and 3 phase 240/120V and 208/120V panelboards. Motors greater than 50hp will also be included in the model. Motors less than 50 hp and all other non-motor loads shall be aggregated together at their respective buses.
3. Scope of studies is limited to new equipment on the drawings listed above. The closest upstream and downstream devices from the new equipment will need submittal information to complete the analysis.
4. An engineering change order will be issued for additional equipment not mentioned above or in the drawing submitted for quoting.
5. Study includes Short-Circuit Fault Analysis, Protective Device Coordination and Arc Flash Hazard Studies. These studies will NOT include any single-phase circuits. The short circuit study will include the maximum possible fault conditions and will address the three-phase bolted fault and ground fault conditions.
6. Calculate, and include on the Arc Flash Warning Labels, the available fault currents at each location in the Arc Flash Risk Assessment Report. This will include calculating maximum available fault current as well as arcing current.
7. Determine arcing time (protective device trip time) from the time-current characteristics (TCC) plots of the protective devices. (Fuses and Circuit Breakers). Protective devices will



be reviewed for coordination and for changes that could reduce the calculated incident energy.

The TCC plots will be provided for "Normal" and "standby" or alternate power sources, where applicable.

8. Provide protective device settings table with existing and/or recommended settings.
9. Using the 'Incident Energy Analysis Method', per NFPA 70E-2018 and IEEE 1584, RESA will calculate, and include on the Arc Flash Warning Labels, the 'Available Incident Energy' at each panel, switchboard, MCC, and control panel, for a given working distances.
10. Determine Flash Protection boundary. The flash protection boundary is the distance at which persons exposed to the flash, without appropriate PPE, will obtain second degree burns.

EXTENT OF ARC FLASH RISK ASSESSMENT SCOPE:

1. Labeling does not include 'non'fused' disconnects at motors, or motor labeling.

DESCRIPTION OF TESTING SCOPE

	Drawing E-1.22 dated 04/2023
2	12kV Switchgear
8	Fused Switches
8	Sets Existing 15kV Rated Conductors (test per SLD note #4)
	(C2G, C2AJ, C2V, C2X, C2W, C2Y, C2AK, & C2H)
2	New Sets 15kV rated Conductors
	(C12AA & C12BA)
2	750kVA Transformers
6	Sets 600V rated Conductors (RW3-A001 & RW3-B001)
4	Point to Point Ground Resistance Tests (new gear to existing SES)

	Drawing E-1.23 dated 04/2023
1	800A MCC-RW3-A/B (Hipot & Ground Electrode only)
	No testing is required for circuit breakers provided as part of any of the
	following:
	UL listed factory supplied motor control centers.
2	200HP VFD's
1	30kVA Transformer
2	200HP Motors
6	Seys 600V Rated Conductors
6	Point to Point Ground Resistance Tests (new gear to MCC-RW3)

PROCEDURES

***Per 2017 NETA Acceptance Testing Specifications (ATS)**

***Optional Test Not Included**

GENERAL CONSIDERATIONS

RESA considers the safety of our employees, customers, and persons associated or affected by our work to be our highest priority. All work performed by RESA will adhere to our safe work practices, NFPA-70E, customer requirements, and State and Federal standards. In all cases the most stringent procedures will be adhered to. At any point if the lead RESA technician determines that work cannot proceed safely in accordance with these requirements, work will be halted until a mutually agreeable resolution is reached.

CUSTOMER RESPONSIBILITIES

- (1) Provide instruction for onsite site-specific safety training.
- (2) Ready all the equipment listed in the scope for inspections and provide free and clear access. Single Line review will be conducted and LOTO will be applied by RESA personnel prior to work start.



- (3) Provide 2-3 weeks' prior notice for scheduling RESA Power Service for onsite testing.
- (4) Provide a purchase order or contract for the above proposed scope of work along with any and all necessary documents for either certified payroll or any other site-specific documents prior to scheduling.
- (5) Any required confined space permit issuance will be the responsibility of the customer.
- (6) Apply all arc flash labels and implement settings.
- (7) Perform operational test as may be required by the specifications.
- (8) Customer/Contractor shall provide copies of existing one-lines and electrical equipment data to be included in the analysis, as needed. RESA will furnish the contractor with a listing of required data immediately after the award of the contract.
- (9) Contractor shall solely be responsible for providing all submittal and utility information needed to perform the study to RESA.
- (10) Additional devices added to the study will be performed at an additional cost.

EXCLUSIONS:

1. Work at time other than hours specified.
2. Permits/Utility Shutdowns/3rd Party witness testing.
3. Electrical Repairs or modifications to any electrical apparatus located in work area.
4. Project is expressly limited to electrical apparatus and testing enumerated in scope of work above. Any additional testing or services requested will only be performed upon the execution and approval of written change order.

TERMS AND CONDITIONS

This price is quoted for normal working hours (ST) and expires in 90 days. Price does not include applicable local, state or federal tax. RESA is a NETA (International Electrical Testing Association) Certified Company. RESA testing programs are exceptionally thorough and performed by trained, NETA certified field engineers and technicians. Payment terms are Net 30 days from date of invoice. RESA warrants that any work performed and any material provided shall be free from defects under normal use for a period of 1 year. RESA shall repair or replace, in its sole discretion, any product provided by RESA that it determines was defective provided it receives written notice of such defect during the warranty period. RESA shall not be responsible for any kind of indirect or consequential costs or damages. The terms and conditions of this quotation supersede any conflicting terms of subsequent purchase order.



2443 W. 12th St. Suite 5
Tempe, AZ 85281
(480) 730-8871

PROJECT COST

The above scope can be performed for the price of:

Normal Working Hours M-F (7AM – 5PM)	
Acceptance Testing	\$18,450.00
Power System Study	\$3,450.00
Total	\$21,900.00

APPROVAL

Please sign below to indicate your acceptance of this proposal in its entirety include a copy of the purchase order number along with the signed approval.

NOTE: Milestone billing will apply.

SIGNATURE	
DATE	
PURCHASE ORDER #	





Hicks Lightning Protection
7420 FM 2449
Ponder, TX 76259

Estimate

Date	Estimate #
8/14/2023	136692

Name / Address
Ludvik Electric Co. 1020 E. University Drive Phoenix, AZ 85034

Project
Chandler RW Conveyance ...

Description	Total
Lightning Protection Installation - Electrical Building	13,380.00
NOTES 1) Quote includes furnishing and installing a complete lightning protection system in accordance with UL96A, LPI 175 and NFPA 780 standards. 2) Quote is in compliance with section 16062 in the project specifications. 3) Quote is based on drawings dated 7/7/23. 4) Copper wire and raw copper products are subject to adjustment based on the copper market until release of order. Quote is based on copper at \$3.73. 5) Lightning protection quote is based on providing and installing a class I copper system with aluminum materials where required and connecting to the grounding system provided by others. Quote includes certification. 6) Quote includes one ground test for the lightning protection system. EXCLUSIONS 1) It will be the responsibility of the electrical contractor to furnish and install a 1" raceway including pullstring and grounding bushing for the lightning protection system down leads. 200' will be required. 2) Quote excludes TVSS for incoming electrical and phone/data service. 3) Cutting, coring or patching of concrete is excluded.	
Quote is good for 30 days.	

Phone #	Fax #	E-mail	Web Site
866-442-5757	940-479-2182	lmohon@hickslp.com	hickslp.com



Quotation LP080823B-1

Quotation Date: 8/8/23
Revision No: 1
Customer No: 101378
Project Name: Chandler RW Conveyance
Payment Terms: Net 30 Days

Quoted By: LESLIE PACE

Document Address:

Ludvik Electric Co.
3900 S. Teller St.
Lakewood CO 80235

Delivery Address:

Chandler RW Conveyance
1020 E University Drive
Phoenix AZ 85034

Group	Part No	Description	Shipping Code	Qty	Unit	Unit Price	Net Amount
	Q10100	E444 wtih 3x3 Hatch Notes: Inside Dimensions 4'x4'x4' Includes: Knockouts, Pulling Irons, Unistrut & Sump Pit Cast In 3x3 Incidental H2O Hinged lockable hatch Riser as needed Joint Sealant 13" x 13" Cast Iron Sump Grate Galvanized Racking Kit Includes: (4 qty.) 18 Hole Racks (8 qty.) 7-1/2" Cable Rack Hooks (8 qty.) 1/2" Standard Spring Nuts (8 qty.) 1/2" Bolt x 1-3/4" Long Plated	Other As Specified	3	PCS	8,020.00	24,060.00
DELIVERY		Delivery and Handling Notes: Material is quoted to optimize deliveries. Additional deliveries will be charged at the quoted price.	Delivered and Set	1	PCS	350.00	350.00

Quotation Notes

Note: Quote based on Detail 333 provided. If something different is required, quote subject to rebid.

Call for availability prior to placing order.

Project requiring engineered submittals are subject to customer approval prior to production.

Leadtimes will vary.

Net Total:	24,410.00
Estimated Tax:	0.00
Gross Total	24,410.00

All orders are subject to credit acceptance by seller.

A 3% credit card service fee may be added for all credit card payments.

Delivery trips, setting time, or materials not noted above will be billed accordingly.

Offer to sell subject to Jensen Precast's company policies, terms and conditions.

Please refer to <https://www.jensenprecast.com/terms-of-service/> for complete terms and conditions which are hereby incorporated by reference.

All specialized product may be subject to a deposit prior to submittals and/or fabrication.

Quotation is valid for 30 days.

Thank you for choosing Jensen Precast!



Quotation LP080823B-1

Quotation Date: 8/8/23

Revision No: 1

Customer No: 101378

Project Name: Chandler RW Conveyance

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Ludvik Electric Co. Signature

Date

Ludvik Electric Co. PO

Quotation Date: 8/8/23
Revision No: 1
Customer No: 101378
Project Name: Chandler RW Conveyance
Payment Terms: Net 30 Days

TERMS AND CONDITIONS**ORDERING INSTRUCTIONS**

Please refer to the quotation number and date on all orders. Indicate desired delivery dates, quantities and item priority if applicable. Please contact our office for delivery schedules. Delivery lead-time will be estimated upon receipt of order, and is based on actual demand at that time. Any dates discussed prior to order are non-binding estimates. Orders for non-standard products should be accompanied by specifications, and blue prints or scale drawings. Notify us as soon as possible to insure prompt delivery.

COMPANY POLICIES TERMS AND CONDITIONS

THE POLICY TERMS AND CONDITIONS, DELINEATED HEREIN SHALL APPLY TO ALL QUOTATIONS, OR OFFERS TO SELL

1. Goods to Be Provided: Jensen Enterprises, Inc. dba Jensen Precast ("Jensen Precast") agrees to sell to Customer, on the terms and conditions stated herein, the materials and related items (the "goods") identified in Jensen Precast's quotation to Customer. Customer is solely responsible for determining whether the goods listed are the correct types and/or sufficient in number to meet Customer's needs and/or requirements. Jensen Precast's offer to sell is based on customer approval of Jensen Precast standard product drawings or submittals, and not in accordance with any plans and specifications, unless agreed to in writing by a duly authorized representative of Jensen Precast.
2. No Additional Terms of Sale: Customer's acceptance of Jensen Precast's quotation is limited to these Terms and Conditions of Sale. Any new or different terms or conditions stated or proposed by Customer in its acceptance of Jensen Precast's quotation or in any accompanying or related purchase order or other document are hereby rejected by Jensen Precast and shall not be binding upon Jensen Precast. The entire contract is embodied in this writing. This writing constitutes the final expression of the parties' agreement, and it is a complete and exclusive statement of the terms of that agreement.
3. Payment Terms: Jensen Precast may require payment in full prior to manufacture or shipment of any goods. If Jensen Precast agrees to provide materials on a "Cash on Delivery" basis, payment in full is due upon arrival of Jensen Precast's equipment, prior to setting of product or unloading of trucks. Credit sales will be made only after receipt of a signed Jensen Precast credit application and written credit approval by Jensen Precast's credit manager. On all credit sales, payment in full is due within 30 days after Customer's receipt of materials or services. Customer agrees to pay a service charge of 1.5% per month on all invoices not paid when due. At its option, Jensen Precast may decline to make delivery or shipment to Customer if any invoice remains past due. Customer waives and releases any claim against Jensen Precast for loss or damage allegedly sustained by Customer as a result of Jensen Precast's refusal to make delivery or shipment under such circumstances. All payments shall be made in U.S. dollars and, unless otherwise designated by Jensen Precast in writing, shall be sent to Jensen Precast's Corporate Office, 9895 Double R Blvd, Reno, NV 89521.
4. Price: The price(s) stated in Jensen Precast's quotation to Customer are firm for 30 days. The prices stated in Jensen Precast's quotation are subject to sales and use tax. Customer shall reimburse Jensen Precast for all sales and use taxes imposed upon: (a) the sale of the goods; and/or (b) the use of any materials consumed by Jensen Precast; and/or, (c) the sale of any fixtures or equipment incident to this contract. Prices are subject to delivery charges unless quoted as delivered (see shipping code definitions on quotation). Jensen Precast reserves the right to increase the cost of delivery or shipment if Customer increases mileage or number of trucks specified in the original quotation. Prices quoted are based on quantities indicated, and on customer acceptance of the entire quote. Jensen Precast reserves the right to accept or reject partial orders.
5. Time for Performance: Jensen Precast will endeavor to meet any reasonable shipping date(s) requested by Customer. However, Jensen Precast does not guarantee that the goods will be furnished by any particular date. All shipping dates stated or indicated are estimates only and are based upon conditions known at the time the dates were stated or indicated. Jensen Precast shall not in any event be liable for any loss or damage sustained by Customer on account of failure to meet any delivery or shipping date.
6. Delivery: Customer or its designated representative shall be prepared to unload, receive, and accept the goods at the time specified on the order. Customer shall provide assistance in delivering the goods, including but not limited to assisting in backing and directing Jensen Precast's truck at the delivery site, providing access to the delivery site that is acceptable to Jensen Precast, and providing a setting location for the truck, crane or other delivery equipment that is acceptable to Jensen Precast. Jensen Precast shall not be liable for any property damage arising from or related to delivery of the goods, including without limitation damage to sidewalks, curbs, fences, valves, conduit, pipes, concrete, asphalt, lawns, trees, or landscaping. All excessive unloading or stand-by time, resetting or re-delivery will be charged for at the current hourly or mileage rates of the equipment involved. If for any reason Jensen Precast cannot set the goods at the time of delivery, Customer shall be responsible for setting the goods by other means, at no cost to Jensen Precast.
7. Customer Responsibilities: The Customer or its designated representative shall be solely responsible for accomplishing the following:
 - a. Finish grade, leveling and position of the goods.
 - b. Grouting and/or sealing of vault sections, grade rings, risers, frames, covers, pipes or similar structures, unless a duly authorized representative of Jensen Precast has stated in writing that Jensen Precast will perform installation and sealing of the goods.
 - c. Excavation, bedding, shoring, backfilling, compacting and grading.
 - d. Water and/or flotation control.
 - e. Setting and adjusting ladders, racking, grates or other hardware.
 - f. Providing a one- or two-person ground crew to assist the Jensen Precast crane operator.
 - g. All other site work not specified above.
8. Returns: The goods shall not be returned for credit without prior written authorization and approval by a duly authorized representative of Jensen Precast. A minimum handling charge of 15% plus actual shipping or delivery costs shall be made on all goods returned to compensate for costs of accounting, reconditioning, restocking and delivery, except when due to fault or error of Jensen Precast. No credits shall be allowed on used, damaged, custom, specially ordered or specially manufactured goods. Customer shall bear the cost of any labor, damage or transportation associated with return of the goods.
9. Equipment: Unless otherwise agreed to in a writing signed by a duly authorized representative of Jensen Precast, equipment belonging to Jensen Precast cannot be left at any job site for the purpose of unloading or setting by others.
10. Project Information: Customer agrees to furnish to Jensen Precast promptly upon request all project information necessary for Jensen Precast to perfect or provide notice of its mechanic's lien, stop notice, and/or payment bond rights.
11. Buy America(n) Requirements: Purchaser must clearly and affirmatively notify Jensen Precast of the applicability of any order, law, regulation or other requirement that the Products be produced, manufactured, or substantially transformed in the United States, or consist wholly or partly of materials or components produced, manufactured, or substantially transformed in the United States, or that the raw material comprising the Products be of domestic origin. If Purchaser fails to notify Jensen Precast of any such requirements, Purchaser must accept delivery and pay for the Products, regardless of any such requirements, and Purchaser agrees to fully indemnify and hold Jensen Precast harmless from and against any liability, costs and expenses, including reasonable attorney fees, incurred by Jensen Precast in connection with Purchaser's omission.
12. Force Majeure: Jensen Precast will not be liable for any delay or for failure to perform its obligations hereunder resulting from any cause beyond Jensen Precast's reasonable control including, but not limited to: Customer's failure to timely supply Jensen Precast with necessary data or specifications; any changes in such data or specifications at Customer's request; fires; explosions; floods; acts of God; epidemics; quarantine; embargoes; strikes; work stoppages or slowdowns or other industrial disputes; accidents; riots or civil disturbances; acts of civil or military authorities; inability to obtain any license or consent necessary in respect of any the goods; inability to obtain equipment, materials, labor, fuel or supplies; and delay by suppliers or material shortages.
13. Limited Warranty: For a period of one year from the date of shipment or delivery to Customer, Jensen Precast warrants all of the goods which it has manufactured to be free of material defects. If any such goods are found to be materially defective during the warranty period, Jensen Precast agrees to, in its sole discretion, repair or replace the defective goods without charge to Customer. Customer's remedy with respect to such goods is limited to repair or replacement. For goods not manufactured by Jensen Precast, Customer agrees to accept as its sole remedy the warranty, if any, offered by the manufacturer or manufacturers of such goods.

AS TO ALL GOODS SOLD BY JENSEN PRECAST TO CUSTOMER, THE WARRANTY DESCRIBED IN THIS PARAGRAPH SHALL BE IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

Quotation Date: 8/8/23
Revision No: 1
Customer No: 101378
Project Name: Chandler RW Conveyance
Payment Terms: Net 30 Days

JENSEN PRECAST SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL OR LIQUIDATED DAMAGES OF ANY KIND, WHETHER THE CUSTOMER'S CLAIM IS BASED UPON CONTRACT, TORT OR ANY OTHER LEGAL THEORY.

14. Indemnity: Customer is solely responsible for the selection, installation, and use of the goods. Therefore, to the fullest extent permitted by law, Customer agrees to defend and indemnify Jensen Precast from and against any claim for loss or damage, including attorneys' fees and experts' or consultants' fees, arising from or relating to such selection, installation, and use. This indemnity applies regardless of any active and/or passive negligent act or omission on the part of Jensen Precast or its employees; provided, however, Customer shall not be obligated to indemnify Jensen Precast for the sole negligence or willful misconduct of Jensen Precast or its employees.
15. Risk of Loss: The risk of loss shall pass to Customer based on the applicable shipping code:
a. "Delivered and Set": Risk of loss shall pass to Customer when Jensen Precast's delivery truck has unloaded the product.
b. "Delivered - F.O.B. Truck": Risk of loss shall pass to Customer when Jensen Precast's delivery truck arrives at Customer's jobsite.
c. "Delivered and offloaded": Risk of loss shall pass to Customer when Jensen Precast's delivery truck arrives at Customer's jobsite.
d. "F.O.B. Jensen Precast Yard": Risk of loss shall pass upon tender of delivery of the goods to a common carrier or Customer's truck. Buyer shall procure and maintain insurance on the goods sufficient to protect its interests.
16. Dispute Resolution: All disputes arising from or relating to these Terms and Conditions of Sale and/or the furnishing of any goods by Jensen Precast to Customer shall be heard and decided exclusively in the state or federal court where the delivery or pick up of the Product(s) is located. The construction, interpretation and performance of this order and all transactions hereunder shall be governed by the laws of the state where delivery or pick up of the Products is located, without regard to its choice of law principles. These Terms and Conditions of Sale (the "Terms") apply to all quotations and sales by Jensen Precast's (including its Water Resources, Metal Tech and other branded products) products, materials, services, components, accessories, and panels (collectively, "Products"). No terms or conditions other than those stated in these Terms, and no agreement or understanding, oral or written, purporting to modify these Terms, whether contained in a purchaser's purchase forms or elsewhere, will be binding on Jensen Precast unless signed by an authorized executive manager of Jensen Precast. Customer consents to these Terms for all Products. In any legal proceedings, the prevailing party shall be entitled to recover its reasonable attorneys' fees and costs.
17. Submittals and Tests: Jensen Precast reserves the right to charge customers for the cost of submittals, engineering or tests that are in addition to those customarily provided.
18. Custom Products: Jensen Precast will charge customer for any work completed at the time of cancellation of a custom or special order. All custom orders will be invoiced to customer if not released for delivery within 30 days past estimated date of delivery.
19. Storage Fees: For every month beyond the requested manufacture date that the product remains in Jensen Precast's possession, a fee of 3% per month of total sale price of product will be added to the invoice total due upon final delivery/pick up.
20. Invoice Date: Customer will be invoiced for product at either, date of delivery or 60 days past date of originally requested delivery/pick up date.

SHIPPING POLICY

- The customer will be prepared to receive products at the specified delivery time. Excessive unloading or stand-by time, resetting or re-delivery not caused by Jensen Precast will be charged at the hourly rate for the equipment involved.
- The customer will be solely responsible for the following:
 - Finish grade, leveling, and position of product.
 - Grouting, and/or sealing of vault sections, grade rings, risers, frames and covers, pipes, etc.
 - Excavation, bedding, shoring, backfilling, compacting and grading.
 - Water and/or flotation control.
 - Setting and adjusting ladders, racking, grates or other hardware.
 - All other site work not specifically referred to.
- Equipment belonging to the company cannot be left at any jobsite for the purpose of unloading or setting by others unless previously agreed to in writing between Jensen Precast and the customer.
- Carriers are responsible for goods lost or damaged in transit. Damages or shortages should be indicated on the carrier's delivery receipt and any claims should be made in writing directly to the carrier.
- All products are to be delivered in the number of trips specified. Charges will be added for additional trips.

SHIPPING CODE DEFINITIONS

Code #1 - DELIVERED AND SET

Quoted prices include product delivery and setting with our boom truck subject to the following provisions:

- Jensen Precast will provide driver/crane operator services only using Jensen Precast's boom truck, unless otherwise specified.
- Customer will be solely responsible for all other site work associated with setting and installing this product unless specifically referred to in writing.
- Most products require assistance from the customer in setting (generally one or two laborers). Contact Jensen Precast for the specific requirements of each product.
- The customer will provide a properly prepared, sized and graded, excavation. Access and setting location for our boom truck must be acceptable to our driver or representative.
- Since site conditions, products, and delivery equipment vary, the logistics must be considered to determine the best approach for setting the product.

Attention must be given to the variables of the set, including:

- Capacity of the Jensen Precast boom truck and truck crane to be used.
- The maximum product weight relative to the setting distance from the center of the crane to the center of the excavation cannot exceed the boom truck rated capacity.
- The route to the setting location must be accessible for the boom truck without towing or pushing.
- The type of terrain, site slope, and ground conditions for outrigger footings, at the setting location.
- Overhead restrictions and other physical constraints.
- Any or all of the above could prevent Jensen Precast from setting the product. In cases where Jensen Precast cannot set the product, we will off load the product in accordance with shipping code definition #3 herein.

NOTE: If for any reason Jensen Precast cannot set the product, Jensen Precast will not be responsible, or charged, for setting by any other means.

Code #2 - DELIVERED - F.O.B. TRUCK:

Quoted prices include product delivery to the job site only; "Free On Board" the truck. Generally, this would be a flatbed truck without a crane or other unloading equipment subject to the following provisions:

- The company will provide driver services only and the customer will supply means of unloading and setting products at time of delivery. 1 hour of off-load time is allotted per truck from time of arrival at delivery location or entry point. Additional standby time not caused by Jensen Precast will be charged at the hourly rate for the equipment involved.

Code #3 - DELIVERED AND OFFLOADED:

Quoted prices include product delivery to the job site and unloaded from our truck subject to the following provisions:

- Jensen Precast will provide driver services and a means of unloading products.



Quotation LP080823B-1

Quotation Date: 8/8/23

Revision No: 1

Customer No: 101378

Project Name: Chandler RW Conveyance

Payment Terms: Net 30 Days

b. The customer will provide an acceptable location for unloading and storing products, and the means for setting the product in the permanent location.

Code #4 - F.O.B. - JENSEN PRECAST YARD:

Quoted prices include product loading on customer or common carrier trucks in the yard subject to the following provisions:

- a. Customer will be responsible for any additional charges, including charges for freight, shipping, delivery and setting.
- b. Customer or common carrier will be responsible for tie down, dunnage, pallets, etc., unless specifically referred to.
- c. Yard location will be addressed in section one of the quotation.

Code #5 - OTHER AS SPECIFIED:

If not specified in section one of this quotation, please consult our office for more specific information or written clarification.



August 17, 2023

Andrew Trotter | Estimator

Ludvik Electric Co. | 1020 E University Drive | Phoenix, AZ 85034

o: 602.584.8632 | f: 602.258.0782

atrotter@ludvikelectric.com | www.ludvikelectric.com

City of Chandler Reclaimed Water Conveyance Improvements Project

Please accept the following proposal for Fiber Optic cable installation, termination, and testing for the City of Chandler project.

Scope of Work

1. Provide factory test results and OTDR reel test each fiber segment prior to installation.
2. Provide and install (1) segment of Corning 24-Strand OS2 Singlemode fiber optic cable, through conduit and pathways provided by others. (~400') 024EUF-T4101D20 or Equivalent
3. Provide and fusion splice terminate new fiber utilizing Corning 12-Strand pigtail CCH splice cassettes with built in pigtail, fiber adapter panel, splice sleeves and splice tray. All connectors shall SC-type for OS2 Singlemode fiber. (4 Cassettes total)
4. Test and certify new fiber using Fluke DSX5000/8000 Versiv Certifying OTDR, and provide soft copy test documentation for future reference. OTDR all strands, provide end face photos of each connector using fiber optic inspection scope and provide light/loss testing.
(Corning NPI 25 Year Warranty)
5. Provide (4) Singlemode SC/LC Duplex fiber jumpers for installation by others.
6. Labor based on normal business hours. The bid assumes free and clear access through new and existing conduit pathways.

Labor	\$ 3,910.00
Material	\$ 2,845.07
Total	\$ 6,755.07

This design quote conforms to all local, state and federal requirements and meets or exceeds all NFPA, ANSI, NEC, TIA/EIA, IEEE and UL specifications.

Andrew, thank you for the opportunity to provide you with pricing for this project. Please review our Scope of Work and Bill of Materials and let us know if you have any questions or need us to make any adjustments.

Respectfully,

Mark C. Engesath
V.P. Operations
Office: (623) 537-0110
Cell: (623) 695-0504
Email: marke@cts-us.com

Rachel L. Heisler
Project Manager
Office: (623) 537-0110 ext. 5227
Cell: (623) 826-9007
Email: rachelh@cts-us.com

Assumptions / Comments / Notes and Caveats:
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Scope:

- This bid is based upon all tasks, labor and materials listed above. Additional tasks, labor or material requests not specifically mentioned will be considered above and beyond this statement of work.
- No changes to the original statement of work will be processed or administered without the express written consent of CASA TECH and the customer.
- Casa Tech will not be held responsible for any punitive penalty and/or liquidated damages for failure to meet pre-determined commitment dates due to last minute changes to the statement of work or the inability or failure of other trades restricting CASA TECH and/or its representatives from completing their objectives.

Labor:

- The "Labor" for this project has been configured with Standard non-Union / non Prevailing Wage Labor. Any additional requirements for mandatory labor rate adjustments such as Union Labor or Prevailing Wage Labor that were not recognized during the preparation of this statement of work are subject to change.
- "Standard Labor Rates" are based upon (non-Union / non-Prevailing Wage) labor rates, for normal business hours and working days of 8:00 am to 5:00 pm Monday through Friday excluding weekends and/or legal holidays.
- "Premium Labor Rates" are calculated at 1.5 times the normal labor rate and apply to all labor hours expended after normal business hours or over 8.0 hours in a normal day or work performed on Saturday.
- "Ultra-Premium Rates" are calculated at 2.0 times the normal labor rate and apply to all Sundays and legal Holidays.

Materials:

- Material pricing does not include all applicable state, city or local taxes.

Site Access:

- If site access is denied and/or determined to be a problem once the job is started additional charges and considerations may be applicable. The job will be temporarily halted until an alternative solution can be agreed upon by both parties.

Fees and Minimum Charges:

- The customer may be held liable for additional over and above charges for any last minute cancellations, escalated start and/or completion dates with less than 48 hours advanced notice from scheduled installation date.
- A site not ready fee of \$250.00 per site will be assessed if CASA TECH arrives as scheduled and cannot complete work due to unavailability of hardware or lack of access.

Certificate of Insurance / Additionally Insured Requests:

- Certificate of Insurance (COI) for our primary customers and clients are included in our standard bid proposals. However there are times when the owner of the building, the general contractor, the leasing office or some other entity will request to be added as additionally insured. As of June 1st 2013 there is a (\$125.00) fee to add each additionally insured entity to the primary customer's Certificate of Insurance. CASA TECH will pass on these additional charges over and above at the rate of (\$125.00) per each additional entity added to the primary's Certificate of Insurance.

Penetrations, Conduit, Raceway and Wire Molding:

- This bid is based upon free and clear access. Coring, drilling, conduit, wire molding, power poles or sleeves are not included unless specified in the above statement of work. This bid does not include electrical and/or conduit installation unless specified in the above statement of work. If required, a change order will be generated and additional charges will apply.
- This bid assumes all existing conduits and pathways are free and clear without obstruction.
- If any unforeseen and/or un-announced penetrations such as sleeves or cores for pathways or access are required in the floor, wall or ceiling areas, additional charges may apply.
- Any and all penetrations and sleeves installed by CASA TECH and/or its representatives will be properly sealed with the appropriate fire caulking material as described by the (NEC) "*National Electric Code* and the (NFPA) *National Fire Protection Association*".

Parking:

- Customer shall provide and arrange for free-parking accommodations at the facility for all CASA TECH employees and/or its representatives for the length and duration of the project or be held liable for additional over and above charges.

Permits and Codes:

- Any City, County or State "low voltage permits" required will be administered and obtained by CASA TECH and or its representatives. However any associated costs for these permit fees will be the sole responsibility and paid for additionally by the customer. Since every city sets their own pricing standards for these fees it is impossible to calculate and standardize on a single price for permit fees. All actual permit fees will be billed at cost plus labor to pursue, obtain and deliver to site, over and above this statement of work.

- All work will be completed in a professional and timely manner adhering to all Local City, County and State Codes, NEC, NFPA, EIA, TIA, OSHA, UL, ANSI, IEEE 802, BICSI (Building Industry Consulting Services International) TDM Standards, TIA/EIA 568-B (Commercial Building Cabling Standards), TIA/EIA 569-B (Pathways and Spaces), TIA/EIA 598-B (Optical Fiber), TIA/EIA 606-A (Administrative and Labeling) and TIA/EIA 607-A (Commercial Grounding and Bonding) rules regulations and standards set forth by these organizations.

Hazardous Materials:

- This bid does not include working in or around any “Hazardous Waste Materials”. If Asbestos or other hazardous material is discovered or known to exist in a particular area or location of the facility all work in those areas will cease until the proper authorities have been notified and the situation becomes clear to proceed.

Customer to provide:

- This bid assumes there is adequate space in customer’s existing communications room(s) to mount all equipment.
- Customer shall provide any floor plans and site diagrams at least five (5) days prior to the beginning of the installation.
- Customer shall provide a Point of Contact, such as an IT Manager or Facilities Manager that can assist in defining, determining and authorizing permission for access and hardware mounting locations.

Engineering Approval:

- This bid was designed and engineered / reviewed and approved by a certified, licensed and bonded “Arizona State Contractor” and certified and licensed ***“BICSI” Registered Communications Distribution Design Engineer (RCDD)***.

Bid Duration:

- This price quotation is good for a period of 90-Day’s from the date of Statement of Work.

TEMP GEN.CHANDLER RWCI 90% PROJECT

(1) 500KW STDBY GEN: \$10,000/MNTH. X 2 — \$20,000

(1) 1500KW STDBY GEN: \$24,745/MNTH X 2 — \$49,490

(1) 1500KW STDBY GEN: \$24,745/MNTH X 2 — \$49,490

CABLING

(1) 500KW CABLE SETS: \$5,200/MNTH X 2 — \$10,400

(2) 1500KW CABLE SETS: \$10,400/MNTH X 2 — \$20,800

GEN + CBLS : \$150,180.⁰⁰

FREIGHT : \$8,000.⁰⁰

EST. TAX : + \$18,000.⁰⁰

\$176,180.⁰⁰

LE M/U (15%) : X 1.15

\$202,607

LE LBR + PARTS : + 40,000

ALLOWANCE — \$242,607.00

OR

\$250,000.00

* NOTE: FUEL IS ESTIMATED TO COST 21,000/DAY.

BRANCH K97
3820 E WINSLOW AVE
PHOENIX AZ 85040-1651
602-267-3898
602-267-4875 FAX

RENTAL QUOTE

223823471

Job Site: CHANDLER AIRPORT
105 E QUEEN CREEK RD
CHANDLER AZ 85286
Office: 303-781-9601 Job: 303-781-9601

Customer # : 256222
Quote Date : 08/24/23
Estimated Out : 08/28/23 03:00 PM
Estimated In : 09/25/23 03:00 PM
UR Job Loc : 905 E QUEEN CREEK RD
UR Job # : 235
Customer Job ID:
P.O. # : TBD
Ordered By : JOE MILLER
Written By : MATTHEW GRUDOWSKI
Salesperson : MATTHEW GRUDOWSKI

LUDVIK ELECTRIC CO
3900 S TELLER ST
LAKEWOOD CO 80235-2213

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Please do not pay from this document

RENTAL ITEMS:							
Qty	Equipment	Description	Minimum	Day	Week	4 Week	Estimated Amt.
1	2403410	GENERATOR 600-699 KVA (Triple Shift) Single Shift Rate->	5,810.00 2,905.00		7,262.00 3,631.00	19,968.00 9,984.00	39,936.00
***** * RATES ARE BASED ON SINGLE SHIFT OPERATIONS UNLESS * OTHERWISE STATED * SINGLE SHIFT = 8 HRS / DAY, 40 HRS / WEEK, 160 HRS / 4 WEEKS * DOUBLE SHIFT = 16 HRS / DAY, 80 HRS / WEEK, 320 HRS / 4 WEEKS * TRIPLE SHIFT = UNLIMITED USAGE * ** DOUBLE SHIFT IS 1.5 X SINGLE RATE ** * ** TRIPLE SHIFT IS 2 X SINGLE RATE ** ***** * TO AVOID FUEL CHARGES THE UNIT MUST BE RETURNED WITH THE SAME * LEVEL OF FUEL IT HAD AT THE START OF THE RENTAL. YOU MAY OPT * FOR THE CONVENIENCE OF URI TO ARRANGE ONSITE FUELING SERVICES * AND INVOICE UPON YOUR REQUEST. *****							
		500KW @ 480V 3 PHASE PRIME UNITS					\$19,968
1	2403410	GENERATOR 600-699 KVA 500KW @ 480V 3 PHASE STANDBY UNITS	2,905.00		3,631.00	9,984.00	19,968.00
40	241/7662	CABLE 4/0 AWG 400 AMP 50' CAM 100a CABLE RUNS FOR EACH 500KW RUNNING PRIME		28.00	36.00	97.00	3,880.00
20	241/5970	CABLE TAIL 4/0 MCAM BARE END		7.00	8.00	22.00	440.00
40	241/5980	CABLE TAIL 4/0 FCAM BARE END		7.00	8.00	22.00	880.00
2	2404057	GENERATOR 1400-1799 KVA TIER 4 (Triple Shift) Single Shift Rate-> CALIFORNIA PERP DOCUMENT 1250KW @ 480V 3 PHASE PRIME UNITS	14,398.00 7,199.00		17,998.00 8,999.00	49,490.00 24,745.00	98,980.00
2	2404057	GENERATOR 1400-1799 KVA TIER 4 1250KW @ 480V 3 PHASE STANDBY UNITS	7,199.00		8,999.00	24,745.00	49,490.00
80	241/7662	CABLE 4/0 AWG 400 AMP 50' CAM 100a CABLE RUNS FOR EACH 1250KW RUNNING PRIME		28.00	36.00	97.00	7,760.00
40	241/5970	CABLE TAIL 4/0 MCAM BARE END		7.00	8.00	22.00	880.00
80	241/5980	CABLE TAIL 4/0 FCAM BARE END		7.00	8.00	22.00	1,760.00
Rental Subtotal:							223,974.00
SALES/MISCELLANEOUS ITEMS:							
Qty	Item		Price		Unit of Measure		Extended Amt.

CONTINUED

This proposal may be withdrawn if not accepted within 30 days. The above referenced Rental Protection Plan, environmental, and tax charges are estimates and are subject to change.

NOTICE: This is not a rental agreement. The rental of equipment and any items listed above is subject to availability and subject to the terms and conditions of the Rental and Service Agreement, which are available at <https://www.unitedrentals.com/legal/rental-service-terms-US> and which are incorporated herein by reference. A COPY OF THE RENTAL AND SERVICE AGREEMENT TERMS ARE AVAILABLE IN PAPER FORM UPON REQUEST.

BRANCH K97
3820 E WINSLOW AVE
PHOENIX AZ 85040-1651
602-267-3898
602-267-4875 FAX

RENTAL QUOTE

223823471

Job Site

CHANDLER AIRPORT
105 E QUEEN CREEK RD
CHANDLER AZ 85286

Office: 303-781-9601 Job: 303-781-9601

LUDVIK ELECTRIC CO
3900 S TELLER ST
LAKEWOOD CO 80235-2213

Customer # : 256222
Quote Date : 08/24/23
Estimated Out : 08/28/23 03:00 PM
Estimated In : 09/25/23 03:00 PM
UR Job Loc : 905 E QUEEN CREEK RD
UR Job # : 235
Customer Job ID:
P.O. # : TBD
Ordered By : JOE MILLER
Written By : MATTHEW GRUDOWSKI
Salesperson : MATTHEW GRUDOWSKI

**This is not an invoice
Please do not pay from this document**

SALES/MISCELLANEOUS ITEMS:

Qty	Item	Price	Unit of Measure	Extended Amt.
1	BULK DYED DIESEL SALES ESTIMATED FUEL COST FOR 28 DAYS RUNNING 24/7 *BASED ON UP TO 94,080 GALLONS* CHARGED AT CURRENT PRICE PER GALLON OF \$6.45 WHICH WILL VARY BASED ON THE MARKET. ACTUAL CONSUMPTIONS WILL VARY BASED ON LOADS. CALCULATIONS ARE BASED ON A 50% LOAD ON AVERAGE. FUEL IS NOT INCLUDED IN THIS QUOTE. ESTIMATED COST IS \$606,816 FOR 28 DAYS OF 3500KW @ 50% LOAD	[BULKDYEDDSL/MCI]	EACH	N/C
1	PROPERTY TAX SURCHARGE	[DRSURAZ/MCI]	3359.610	EACH 3,359.61
1	ENVIRONMENTAL SERVICE CHARGE	[ENV/MCI]	99.000	EACH 99.00
1	DELIVERY CHARGE		3950.000	EACH 3,950.00
1	PICKUP CHARGE		3950.000	EACH 3,950.00
Sales/Misc Subtotal:				11,358.61
Agreement Subtotal:				235,332.61
Tax:				20,238.61
Estimated Total:				255,571.22

COMMENTS/NOTES:

CONTACT: JOE MILLER
CELL#: 303-781-9601
CUSTOMER TO PROVIDE:
FORKLIFT FOR OFFLOADING AND LOADING
ALL LABOR FOR SETUP/TEARDOWN
ALL FINAL ELECTRICAL TERMINATIONS
EQUIPMENT GROUNDING

Rent \$ 225.571
Fuel \$ 606.816

\$ 832,387.
40,000.

LEWIS
Labor

\$ 872,387.

OH & P. 1/15
\$ 1,003,245.44

Bid Response Explanation

Quality Control – Ramm was selected as they are the low bidder of three bids received.

Survey – Lemme was selected as they are the low bidder of two bids received. Three firms were solicited, but one declined to bid.

Landscape – AAA Landscaping was selected as they are the only one that provided a bid. Three firms were solicited but, both declined to bid after originally stating they were interested in the project and were going to bid the Landscape scope.

Asphalt/Flatwork/Curb & Gutter – Gonzalez Asphalt was selected as they are the low bidder of two bids received. Three firms were solicited but, one after showing interest was non-responsive.

Concrete Supply – Cemex was selected as they are the low bidder of two concrete suppliers.

Rebar Supply & Install – Camblin Steel was selected as they are the low bidder of three bids received.

Fencing – Liberty Fence was selected as they are the low bidder of two quotes received. Three firms were solicited, but one was non-responsive.

Painting & Coatings – AO painting was selected as they are the low bidder of three bids received.

Pipe & Valve Supply – Ferguson Waterworks was selected as they are the low bidder of three bids received.

Electrical and I&C – Ludvik Electric is included as the proposed electrical supplier/subcontractor. They have been proposed based on providing the best value for this project due to their previous experience onsite.

PCL Construction, Inc. will self-perform the below scopes as proposed and approved of in the procurement plan submitted prior to commencement of GMP 2 bid package solicitation. PCL asserts that the scopes for the proposed self-perform work are of insignificant quantity at intermittent time periods in the project schedule. Subcontracting these scopes would not be cost effective since multiple mobilizations would be required for each scope, during which only small quantities of work would be completed by the subcontractors. By self-performing, PCL resources can be spread across these scopes to ensure work is continuous and more cost effective. PCL understands that self-perform work is cost reimbursable.

- Site prep, Earthwork, and backfill
- Concrete (form/placement/strip)
- Equipment Install (Vertical Turbine Pumps)
- Buried and Exposed Mechanical Pipe Install

Schedule Clarifications and Assumptions

1. The GMP assumes that a construction NTP and executed contract (GMP #2) will be in place for the Onsite Improvements by January 16, 2024.

Technical Clarifications and Assumptions

2. The GMP excludes special inspections including 3rd party NACE coating inspection and certified welding inspection.
3. The GMP excludes the cost of reclaimed water/ potable water for construction use at the OWRF site.
4. The GMP assumes, per Geotechnical Reports provided, that native soils can be used for fill and backfill at both the AWRF and OWRF sites.
5. The GMP excludes public outreach firm services.
6. The GMP assumes 4" thick of Asphalt wherever is it required to be replaced.
7. The GMP does not include any concrete thrust blocks for buried piping. All piping and fittings will be restrained joint.
8. The GMP excludes cathodic protection for all buried ductile iron pipe.
9. The GMP includes pressure class 250 and cement lining for all Ductile Iron pipe 24" through 42" at both the AWRF and OWRF facilities.
10. The GMP excludes price of inspection(s) for the interior of the existing pump cans and does not include any potential coating repairs to them.
11. The GMP assumes three feet (3'-0" +/-) of over excavation, compaction, and import fill and slopes scarified for the new prefab electrical building and transformer embankment fill area.
12. The GMP assumes that the existing flanges for the two pump cans, that are to be used of the three existing, are within a tolerance that is manageable, and the flanges are thick enough to be machined and resurfaced (if required). The GMP excludes any other modifications or repairs to the existing pump cans including but not limited to; flange repair/replacement, vortex suppressor fin repair or modification, and/or corrosion repairs. Two days of milling per pump can flange is included in the GMP.

Contractual Clarifications and Assumptions

13. The GMP is based on the 90% Agency Design set of drawings and specifications dated July 2023 for the OWRF and AWRF Site Improvements.
14. The GMP does not include costs for abatement of asbestos/lead paint or remediation of hazardous waste materials or archeological mitigation. The Contractor shall be responsible for only those hazardous materials and/or chemicals as brought on site by contractor forces; and shall not be responsible for any existing hazardous conditions not known or foreseen prior to the start of construction.
15. The GMP excludes any costs associated with COC building permits, Fire Department approval permit, utility permitting (SRP), approval to construct permit, grading permit or any additional permitting outside of County dust suppression, ADEQ SWPPP, and Traffic Control permit requirements.
16. The GMP excludes all costs associated with mitigating or monitoring archeological areas.

17. The GMP includes an unforeseen utility allowance. This allowance is to cover price impacts associated with unknown utilities including but not limited to: relocating the utility, installation of additional fittings to circumvent the utility, restraining of utility, and repair of the unmarked utility.
18. The GMP includes a Construction Contingency which includes the following: Contractor's Contingency, Design Contingency, and an Escalation Contingency.
19. The GMP includes an allowance for temporary power for the office trailers and for the electrical MOPO at AWRF. The allowance for the electrical MOPO is based on coordination with the City of Chandler Plant Operations, Wilson Engineers, Ludvik Electric and PCL. The allowance includes stand-by generators with associated labor and materials to set up and some fuel.
20. The GMP includes an Owner's Allowance.
21. The GMP includes a 12'x60' site office trailer for the Engineer at the AWRF Site for 13 months and \$15,000 for Office Materials and Furniture.
22. The GMP assumes General Conditions are lump sum.
23. All billable labor and equipment rates for self-perform reimbursable, allowance requests, time and material, and owner contingency scope shall be billed per attached rate schedule. Overtime, when authorized by COC, will be billed at 1.5 times the billable hourly rate(s). Billable rates may contain an element of profit based on crew mix and timing of hire. Billable rates, as presented in this GMP, are valid through July 2025.

PCL Billable Rates	
Classification	Billable Hourly Rate (\$/HR)
Construction Manager	\$143.41
General Superintendent	\$130.02
Project Manager	\$133.85
Project Engineer	\$93.53
Startup and Commissioning Manager	\$133.85
Project Accountant	\$45.50
Assistant Superintendent	\$105.17
Field Engineer	\$79.81
Safety Coordinator	\$93.53
Foreman	\$87.71
Equipment Operator	\$56.93
Laborer	\$46.17
Concrete Worker	\$56.93
Crane Operator	\$72.32
Carpenter	\$56.93
Millwright	\$56.93
Plumber/Pipefitter	\$56.93
Pipe Layer	\$56.93
Small Tool Assessment Rate	\$1.25/MH
Expendable Assessment Rate	\$0.70/MH
Safety Assessment Rate	5% of Total Hourly Labor Price
Project Bond Rate	0.8% Direct Price
Subcontract/Material Bond Rate	1.325% of Sub/Material Price
General Liability Insurance	1% Direct Price
Builders Risk Insurance	0.4% Direct Price

**Billable hourly equipment rates shall be FHWA operated rates published by Bluebook (Arizona Specific Rates) on equipmentwatch.com.



CONSTRUCTION



WW2206.401 Reclaimed Water Conveyance Improvements - GMP 2 Construction

Line	Description	QTY	UOM	Unit Price	Total
1	DIV 1-GENERAL REQUIREMENTS-AWRF	1	LS		\$ 660,001.00
1.1	Install SWPPP	1	LS	\$ 20,638.00	\$ 20,638.00
1.2	Maintain SWPPP	1	LS	\$ 52,651.00	\$ 52,651.00
1.3	Dust Control	1	LS	\$ 119,925.00	\$ 119,925.00
1.4	Construction Water	1	LS	\$ 6,235.00	\$ 6,235.00
1.5	Quality Control	1	LS	\$ 17,892.00	\$ 17,892.00
1.6	Survey	1	LS	\$ 40,830.00	\$ 40,830.00
1.7	Support Equipment (Fork Lift, etc.)	9.5	MO	\$ 15,239.05	\$ 144,771.00
1.8	Field Supervision	6	MO	\$ 25,906.67	\$ 155,440.00
1.9	Small Tools/Expendables	27085	MH	\$ 3.40	\$ 92,019.00
1.10	Dumpster	12	MO	\$ 800.00	\$ 9,600.00
2	Div 2-Site Construction-AWRF	1	LS		\$ 2,103,716.00
2.0	Demo 15 kV Switch Pads	1	LS	\$ 3,599.00	\$ 3,599.00
2.1	Site Prep-Laydown Yard	1	LS	\$ 24,456.00	\$ 24,456.00
2.2	Perimeter Fencing	1	LS	\$ 3,500.00	\$ 3,500.00
2.3	SOG Excavation	186	CY	\$ 84.86	\$ 15,784.00
2.4	ABC Subgrade	153	CY	\$ 217.10	\$ 33,217.00
2.5	SOG Backfill	68	CY	\$ 160.63	\$ 10,923.00
2.6	E-House Embankment Over-Ex	286	CY	\$ 27.40	\$ 7,837.00
2.7	E-House Embankment Subgrade Prep	6882	SF	\$ 2.33	\$ 16,058.00
2.8	Place E-house Embankment	920	CY	\$ 65.65	\$ 60,400.00
2.9	Fine Grade E-House Embankment	6882	SF	\$ 2.22	\$ 15,260.00
2.10	Rip Rap Swale	1	LS	\$ 28,339.00	\$ 28,339.00
2.11	Remove Asphalt Millings	192	TN	\$ 98.69	\$ 18,949.00
2.12	Remove Rip Rap	136	CY	\$ 206.71	\$ 28,112.00
2.13	Site Rough Grade	8500	SY	\$ 0.84	\$ 7,168.00
2.14	Dirt Haul Off	394	CY	\$ 33.07	\$ 13,028.00
2.15	Asphalt Removal (including Haul Off)	10900	SF	\$ 2.53	\$ 27,556.00
2.16	Subgrade Prep	10900	SF	\$ 2.75	\$ 30,005.00
2.17	Asphalt Paving	10900	SF	\$ 14.05	\$ 153,175.00
2.18	Faltwork (R&R)	1	LS	\$ 2,629.00	\$ 2,629.00
2.19	Remove Trees & Shrubs	1	LS	\$ 32,054.00	\$ 32,054.00
2.20	Landscaping	1	LS	\$ 133,325.00	\$ 133,325.00
2.21	Yard Pipe Materials	1	LS	\$ 885,892.00	\$ 885,892.00
2.22	Pothole Tie Ins	2	EA	\$ 7,541.96	\$ 15,083.92
2.23	Unload & Handle Pipe	1	LS	\$ 13,570.47	\$ 13,570.47
2.24	DLB RW 42"	461	LF	\$ 209.09	\$ 96,390.49
2.25	Test RW 42"	1	LS	\$ 3,171.03	\$ 3,171.03
2.26	DLB RW 30"	924	LF	\$ 194.67	\$ 179,875.08
2.27	Test RW 30"	1	LS	\$ 3,171.04	\$ 3,171.04
2.28	DLB 6" Drain	53	LF	\$ 183.76	\$ 9,739.28
2.29	Test 6" Drain	1	LS	\$ 1,526.69	\$ 1,526.69
2.30	Pipe Connection MOPOs	2	EA	\$ 13,191.50	\$ 26,383.00
2.31	Flushing	1	LS	\$ 179,898.00	\$ 179,898.00
2.32	ARV Manhole	1	LS	\$ 23,641.00	\$ 23,641.00
3	DIV 3-Concrete-AWRF	1	LS		\$ 160,933.00
3.0	SOG Subgrade Prep	2090	SF	\$ 2.06	\$ 4,297.00
3.1	FPS Concrete	110	CY	\$ 1,234.36	\$ 135,780.00
3.2	Rebar Subcontractor	1	LS	\$ 20,856.00	\$ 20,856.00
4	DIV 5-Metals-AWRF	1	LS		\$ 5,819.00
4.0	Fabricate Bollards	2	EA	\$ 1,220.50	\$ 2,441.00
4.1	Install Bollards	2	EA	\$ 1,689.00	\$ 3,378.00
5	DIV 9-Finishes-AWRF	1	LS		\$ 17,245.00
5.0	Coatings Subcontractor	1	LS	\$ 17,245.00	\$ 17,245.00
6	DIV 11-Equipment-AWRF	1	LS		\$ 51,920.00
6.0	Machine Existing Pump Cans	2	EA	\$ 9,441.00	\$ 18,882.00
6.1	Install VT Pumps	2	EA	\$ 16,519.00	\$ 33,038.00
7	DIV 15-Mechanical-AWRF	1	LS		\$ 397,681.00
7.0	Pipe Materials	1	LS	\$ 281,283.00	\$ 281,283.00

7.1	Unload Pipe Materials	1 LS	\$ 8,471.00	\$ 8,471.00
7.2	Install Exposed Mechanical	1 LS	\$ 103,127.00	\$ 103,127.00
7.3	Welding Subcontractor	1 LS	\$ 4,800.00	\$ 4,800.00
7.4	Exposed Pipe Testgin	1 LS	\$ 11,417.00	\$ 11,417.00
8	DIV 16/17-E&IC-AWRF	1 LS		\$ 1,334,470.00
8.0	Electrical Subcontractor	1 LS	\$ 1,334,470.00	\$ 1,334,470.00
9	DIV 1-GENERAL REQUIREMENTS-OWRF	1 LS		\$ 396,150.00
9.0	Install SWPPP	1 LS	\$ 20,638.00	\$ 20,638.00
9.1	Maintain SWPPP	1 LS	\$ 28,076.00	\$ 28,076.00
9.2	Dust Control	1 LS	\$ 89,466.00	\$ 89,466.00
9.4	Quality Control	1 LS	\$ 4,650.00	\$ 4,650.00
9.5	Survey	1 LS	\$ 19,932.00	\$ 19,932.00
9.6	Support Equipment (Fork Lift, etc.)	4.8 MO	\$ 15,239.17	\$ 73,148.00
9.7	Field Supervision	6 MO	\$ 25,906.67	\$ 155,440.00
9.9	Dumpster	6 MO	\$ 800.00	\$ 4,800.00
10	Div 2-Site Construction-OWRF	1 LS		\$ 650,627.00
10.1	Site Prep-Laydown Yard	1 LS	\$ 7,890.00	\$ 7,890.00
10.2	Perimeter Fencing	1 LS	\$ 1,500.00	\$ 1,500.00
10.3	SOG Excavation	88 CY	\$ 84.60	\$ 7,445.00
10.4	ABC Subgrade	56 CY	\$ 151.88	\$ 8,505.00
10.5	SOG Backfill	28 CY	\$ 245.00	\$ 6,860.00
10.6	Remove Rip Rap	20 CY	\$ 693.60	\$ 13,872.00
10.7	Ex & Grade Swale	380 LF	\$ 63.79	\$ 24,239.00
10.8	Rough Grade Site	6784 SF	\$ 1.88	\$ 12,773.00
10.9	Dirt Haul Off	235 CY	\$ 31.97	\$ 7,514.00
10.10	Ashpalt Removal	378 SF	\$ 15.96	\$ 6,033.00
10.11	Asphalt Subgrade Prep	378 SF	\$ 30.81	\$ 11,645.00
10.12	Asphalt Paving	378 SF	\$ 19.15	\$ 7,240.00
10.13	Landscaping Sub	1 LS	\$ 78,975.00	\$ 78,975.00
10.14	Remove Trees & Shrubs	1 LS	\$ 18,018.00	\$ 18,018.00
10.15	Yard Pipe Materials	1 LS	\$ 92,687.00	\$ 92,687.00
10.16	Pothole Tie Ins	4 EA	\$ 3,694.67	\$ 14,778.68
10.17	Unload & Handle Pipe	1 LS	\$ 1,476.87	\$ 1,476.87
10.18	DLB RW 24"	167 LF	\$ 280.54	\$ 46,849.76
10.19	Test RW 24"	2 EA	\$ 3,106.25	\$ 6,212.50
10.20	Valve Support Pads	1 EA	\$ 6,459.01	\$ 6,459.01
10.21	Tie Ins	2 EA	\$ 34,998.09	\$ 69,996.18
10.22	Hot Tap Subcontractor	1 LS	\$ 132,576.00	\$ 132,576.00
10.23	Flushing	1 LS	\$ 67,082.00	\$ 67,082.00
11	DIV 3-Concrete-OWRF	1 LS		\$ 51,405.00
11.0	SOG Subgrade Prep	706 SF	\$ 3.16	\$ 2,233.00
11.1	FPS Concrete	36 CY	\$ 1,191.33	\$ 42,888.00
11.2	Rebar Subcontractor	1 LS	\$ 6,284.00	\$ 6,284.00
12	DIV 9-Finishes-OWRF	1 LS		\$ 12,245.00
12.0	Coatings Subcontractor	1 LS	\$ 12,245.00	\$ 12,245.00
13	DIV 15-Mechanical-OWRF	1 LS		\$ 405,163.00
13.0	Pipe Materials	1 LS	\$ 323,122.00	\$ 323,122.00
13.1	Unload Pipe Materials	1 LS	\$ 7,970.00	\$ 7,970.00
13.2	Install Exposed Mechanical	1 LS	\$ 74,071.00	\$ 74,071.00
14	DIV 16/17-E&IC-OWRF	1 LS		\$ 275,190.00
14.0	Electrical Subcontractor	1 LS	\$ 275,190.00	\$ 275,190.00
15	GENERAL CONDITIONS	1 LS		\$ 1,701,226.00
15.0	Mobilization	1 LS	\$ 14,554.00	\$ 14,554.00
15.1	Demobilization	1 LS	\$ 14,554.00	\$ 14,554.00
15.2	Set Up Water Supplies	1 LS	\$ 26,557.00	\$ 26,557.00
15.3	Toilets	18 MO	\$ 2,394.33	\$ 43,098.00
15.4	Site Restoration	1 LS	\$ 36,238.00	\$ 36,238.00
15.5	Field Offices, Connexes, Facilities AWRF	25 MO	\$ 7,304.64	\$ 182,616.00
15.6	Field Offices, Connexes, Facilities OWRF	6 MO	\$ 5,217.33	\$ 31,304.00
15.7	Project Staff	68.5 MO	\$ 19,741.68	\$ 1,352,305.00
16	BONDS AND INSURANCE	1 LS		\$ 228,516.00
16.0	BOND	1 LS	\$ 65,790.00	\$ 65,790.00
16.1	SUBCONTRACT BONDS	1 LS	\$ 47,593.00	\$ 47,593.00
16.2	GL INSURANCE	1 LS	\$ 82,238.00	\$ 82,238.00
16.3	BUILDERS RISK INSURANCE	1 LS	\$ 32,895.00	\$ 32,895.00
17	TAXES	1 LS		\$ 368,995.00
17.0	Taxes	1 LS	\$ 368,995.00	\$ 368,995.00
18	CONSTRUCTION CONTINGENCY	1 LS		\$ 449,999.00

18.0 Construction Contingency	1 LS	\$ 449,999.00	\$ 449,999.00
19 ALLOWANCES	1 LS		\$ 1,099,682.00
19.0 Unforeseen Utility Allowance	1 LS	\$ 100,000.00	\$ 100,000.00
19.2 MOPO Temporary Power Allowance	1 LS	\$ 273,607.00	\$ 273,607.00
19.3 Intel Property Access Allowance	1 LS	\$ 26,075.00	\$ 26,075.00
19.4 Owner's Allowance	1 LS	\$ 700,000.00	\$ 700,000.00
20 FEE	1 LS		\$ 596,225.00
20.0 Fee	1 LS	\$ 596,225.00	\$ 596,225.00

TOTAL	\$ 10,967,208.00
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#	Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Calendar	2023														2024														2025													
								N	D	Jan	F	M	Apr	M	Jun	Jul	A	S	Oct	N	D	Jan	F	M	A	M	Jun	Jul	A	S	Oct	N	D	Jan	F	M	A	M	Jun	Jul	A	S	Oct	N					
1	Chandler Reclaim Water Conveyance Improvements Project		1018	01-Nov-22 A	12-Jul-25	0	Calendar Days																																										
2	Phase 1- On-Site Improvements		1018	01-Nov-22 A	12-Jul-25	0	Calendar Days																																										
3	Design		381	01-Nov-22 A	31-Oct-23	0	Calendar Days																																										
4	DES1000	Submit 30% Design Price Model	40	01-Nov-22 A	09-Dec-22 A		Calendar Days	Submit 30% Design Price Model																																									
5	DES1010	30% Design Received	0	01-Nov-22 A			Calendar Days	30% Design Received																																									
6	DES1020	Submit Early Procurement Package GMP-1	35	14-Mar-23 A	20-Apr-23 A		Calendar Days	Submit Early Procurement Package GMP-1																																									
7	DES1030	Early Procurement Specs Received	0	15-Mar-23 A			Calendar Days	Early Procurement Specs Received																																									
8	DES1040	60% Design Received	0	13-Apr-23 A			Calendar Days	60% Design Received																																									
9	DES1050	90% Design Development	84	14-Apr-23 A	20-Jul-23 A		Calendar Days	90% Design Development																																									
10	DES1060	Submit 60% Design Price Model	35	14-Apr-23 A	01-Jun-23 A		Calendar Days	Submit 60% Design Price Model																																									
11	DES1070	Prepare GMP 2 (From 90% Design)	44	20-Jul-23 A	31-Aug-23 A		Calendar Days	Prepare GMP 2 (From 90% Design)																																									
12	DES1080	90% Design Receive	0	20-Jul-23 A			Calendar Days	90% Design Receive																																									
13	DES1090	Final Design	14	02-Aug-23 A	31-Oct-23	0	Calendar Days	Final Design																																									
14	General Conditions		729	21-Apr-23 A	12-Jul-25	0	Calendar Days																																										
15	GMP1-GC1000	GMP 1-Early Procurement - Negotiation and Council Approval	86	21-Apr-23 A	30-Aug-23 A		Calendar Days	GMP 1-Early Procurement - Negotiation and Council Approval																																									
16	GMP1-GC1010	GMP-1 NTP	0	31-Aug-23 A			Calendar Days	GMP-1 NTP																																									
17	GMP1-GC1020	GMP-1 Issue Contracts	31	01-Sep-23 A	02-Oct-23 A		Calendar Days	GMP-1 Issue Contracts																																									
18	GMP2-GC1000	GMP 2-Onsite Imp. Construction - Review, Negotiation, and Council Approval	183	02-Sep-23 A	31-Oct-23	0	Calendar Days	GMP 2-Onsite Imp. Construction - Review, Negotiation, and Council Approval																																									
19	GMP2-GC1010	GMP-2 Council Date	37	01-Nov-23	07-Dec-23	0	Calendar Days	GMP-2 Council Date																																									
20	GMP2-GC1020	GMP 2-NTP	40	08-Dec-23	16-Jan-24	0	Calendar Days	GMP 2-NTP																																									
21	GMP2-GC1030	GMP 2-Issue Contracts	30	17-Jan-24	15-Feb-24	0	Calendar Days	GMP 2-Issue Contracts																																									
22	GMP2-GC1040	GMP 2-Delayed Construction Mobilization Start	0	28-Jun-24*		0	Calendar Days	GMP 2-Delayed Construction Mobilization Start																																									
23	GMP2-GC1050	Ocotillo Complete	0		19-Nov-24*	0	Calendar Days	Ocotillo Complete																																									
24	GMP1-GC1030	GMP 1-Delivery Completion	0		14-Feb-25*	0	Calendar Days	GMP 1-Delivery Completion																																									
25	GMP2-GC1060	GMP 2- Substantial Completion	0		12-Jun-25	0	Calendar Days	GMP 2- Substantial Completion																																									
26	GMP2-GC1070	Punchlist	30	13-Jun-25	12-Jul-25	0	Calendar Days	Punchlist																																									
27	GMP2-GC1080	Final Completion	0		12-Jul-25	0	Calendar Days	Final Completion																																									
28	Procurement		483	03-Oct-23 A	11-Feb-25	106	Calendar Days																																										
29	Submittals		205	03-Oct-23 A	09-May-24	354	Calendar Days																																										
30	Prepare & Submit		191	03-Oct-23 A	25-Apr-24	354	Calendar Days																																										
31	GMP1-P&S1000	VT Pumps (Floway)	84	03-Oct-23 A	25-Dec-23	9	Calendar Days	VT Pumps (Floway)																																									
32	GMP1-P&S1010	E-house	84	03-Oct-23 A	25-Dec-23	151	Calendar Days	E-house																																									
33	GMP1-P&S1020	Xfmrs (Expedited)	35	18-Oct-23	21-Nov-23	30	Calendar Days	Xfmrs (Expedited)																																									
34	GMP1-P&S1030	Control Panels	56	18-Oct-23	12-Dec-23	164	Calendar Days	Control Panels																																									
35	GMP1-P&S1040	MCC (Expedited)	105	18-Oct-23	30-Jan-24	3	Calendar Days	MCC (Expedited)																																									
36	GMP1-P&S1050	VFD	70	18-Oct-23	26-Dec-23	10	Calendar Days	VFD																																									
37	GMP1-P&S1060	15 kV Switches	42	18-Oct-23	28-Nov-23	147	Calendar Days	15 kV Switches																																									
38	GMP2-P&S1210	Pipe, Valves, & Fittings	28	16-Feb-24	14-Mar-24	31	Calendar Days	Pipe, Valves, & Fittings																																									
39	GMP2-P&S1220	Electrical Disconnects	28	16-Feb-24	14-Mar-24	145	Calendar Days	Electrical Disconnects																																									
40	GMP2-P&S1230	Instrumentation	28	16-Feb-24	14-Mar-24	54	Calendar Days	Instrumentation																																									
41	GMP2-P&S1130	OWRF Yard Pipe and Fittings	14	16-Feb-24	29-Feb-24	14	Calendar Days	OWRF Yard Pipe and Fittings																																									
42	GMP2-P&S1140	OWRF Flow Meter (Badger)	21	16-Feb-24	07-Mar-24	21	Calendar Days	OWRF Flow Meter (Badger)																																									
43	GMP2-P&S1150	OWRF Exposed Pipe and Fittings	14	16-Feb-24	29-Feb-24	59	Calendar Days	OWRF Exposed Pipe and Fittings																																									
44	GMP2-P&S1160	OWRF 4" ARVs	14	16-Feb-24	29-Feb-24	31	Calendar Days	OWRF 4" ARVs																																									
45	GMP2-P&S1170	OWRF 4" BFVs	14	16-Feb-24	29-Feb-24	45	Calendar Days	OWRF 4" BFVs																																									
46	GMP2-P&S1180	OWRF Pressure Gauge	14	16-Feb-24	29-Feb-24	59	Calendar Days	OWRF Pressure Gauge																																									
47	GMP2-P&S1190	OWRF Cla-Val	14	16-Feb-24	29-Feb-24	66	Calendar Days	OWRF Cla-Val																																									
48	GMP2-P&S1200	OWRF 20" Plug Valve	14	16-Feb-24	29-Feb-24	0	Calendar Days	OWRF 20" Plug Valve																																									
49	GMP2-P&S1260	02318 Aggregates	21	16-Feb-24	07-Mar-24	64	Calendar Days	02318 Aggregates																																									

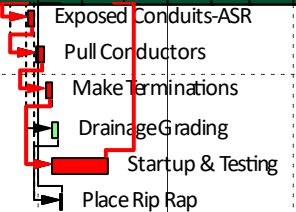


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#	Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	Calendar	2023														2024														2025																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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299	A2290	Exposed Conduits-ASR	5	24-Sep-24	28-Sep-24	0	Calendar Days																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										</



LIST OF TECHNICAL SPECIFICATIONS**GMP #2****CITY OF CHANDLER****RECLAIMED WATER CONVEYANCE IMPROVEMENTS PROJECT COC PROJECT NO. WW2206.401**

Specification Section	Specification Title	# of Pages	Dated
DIVISION 1 - GENERAL REQUIREMENTS			Jul-23
01010	SUMMARY OF WORK	4	Jul-23
01012	PLANT OPERATION DURING CONSTRUCTION	14	Jul-23
01013	ENGINEERING SERVICES	2	Jul-23
01040	COORDINATION	2	Jul-23
01050	FIELD ENGINEERING/SURVEYING	1	Jul-23
01090	REFERENCE STANDARDS/ABBREVIATIONS	5	Jul-23
01201	PRE-CONSTRUCTION CONFERENCE	2	Jul-23
01202	PROGRESS MEETINGS	2	Jul-23
01300	SUBMITTALS	60	Jul-23
01310	PROGRESS SCHEDULE	10	Jul-23
01380	CONSTRUCTION PHOTOGRAPHS	3	Jul-23
01400	QUALITY CONTROL	2	Jul-23
01410	TESTING	1	Jul-23
01412	STORMWATER POLLUTION PREVENTION PLAN AND PERMIT	3	Jul-23
01414	EARTHMOVING AND DUST CONTROL	2	Jul-23
01451	TESTING LABORATORY SERVICES FURNISHED BY OWNER	3	Jul-23
01500	CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS	13	Jul-23
01640	MATERIALS AND EQUIPMENT	5	Jul-23
01650	STARTING OF SYSTEMS	9	Jul-23
01660	FIELD TESTS OF EQUIPMENT	3	Jul-23
01700	CONTRACT CLOSEOUT	2	Jul-23
01710	CLEANING	3	Jul-23
01720	RECORD DOCUMENTS	4	Jul-23
01730	OPERATION AND MAINTENANCE DATA	4	Jul-23
01750	SPARE PARTS AND MAINTENANCE	2	Jul-23

Specification Section	Specification Title	# of Pages	Dated
DIVISION 1 - GENERAL REQUIREMENTS (CONT'D)			
01800	EQUIPMENT SCHEDULE	4	Jul-23
01821	INSTRUCTION OF OPERATIONS AND MAINTENANCE PERSONNEL	6	Jul-23
DIVISION 2 - SITE CONSTRUCTION			
02050	DEMOLITIONS	7	Jul-23
02100	SITE PREPARATION	5	Jul-23
02150	SHORING	3	Jul-23
02315	EARTHWORK, EXCAVATION, AND BACKFILL	21	Jul-23
02318	CRUSHED STONE, GRAVEL, AND DECOMPOSED GRANITE	3	Jul-23
02319	RIPRAP	3	Jul-23
02371	FILTER FABRIC FOR RIPRAP CHANNELS	4	Jul-23
02480	LANDSCAPE	12	Jul-23
02500	ASPHALT PAVEMENT	3	Jul-23
02580	PAVEMENT MARKINGS	3	Jul-23
02751	PORTLAND CEMENT CONCRETE PAVING	7	Jul-23
DIVISION 3 - CONCRETE			
03100	CONCRETE FORMWORK	10	Jul-23
03200	CONCRETE REINFORCEMENT	8	Jul-23
03251	CONCRETE JOINTS	11	Jul-23
03300	CAST-IN-PLACE CONCRETE	23	Jul-23
03600	GROUT	8	Jul-23
DIVISION 4 – MASONRY (NOT USED)			
DIVISION 5 - METALS			
05051	ANCHOR BOLTS, TOGGLE BOLTS, AND CONCRETE INSERTS	7	Jul-23
05500	METAL FABRICATIONS	9	Jul-23
DIVISION 6 - WOOD AND PLASTICS (NOT USED)			
DIVISION 7 - THERMAL AND MOISTURE PROTECTION (NOT USED)			

Specification Section	Specification Title	# of Pages	Dated
DIVISION 8 - DOORS AND WINDOWS (NOT USED)			
DIVISION 9 - FINISHING			
09900	PAINTING	22	Jul-23
09920	COATING SYSTEMS	8	Jul-23
DIVISION 10 - SPECIALTIES			
10400	EQUIPMENT IDENTIFICATION PLATES	5	Jul-23
10425	SIGNS	7	Jul-23
10523	FIRE PROTECTION SPECIALTIES	1	Jul-23
DIVISION 11 - EQUIPMENT			
11295	HYDRAULIC VALVES	10	Jul-23
11310	VERTICAL TURBINE PUMPS (GMP 1)		
DIVISION 12 – FURNISHINGS (NOT USED)			
DIVISION 13 - SPECIAL CONSTRUCTION			
13122	PRE-ENGINEERED BUILDING (GMP 1)		
13447	ELECTRIC MOTOR ACTUATORS	12	Jul-23
DIVISION 14 - HOISTING AND CONVEYING SYSTEMS (NOT USED)			
DIVISION 15 - MECHANICAL			
15010	BASIC MECHANICAL REQUIREMENTS	3	Jul-23
15030	CLEANING MECHANICAL SYSTEMS	1	Jul-23
15050	PIPING SYSTEMS	17	Jul-23
15051	BURIED PIPING INSTALLATION	15	Jul-23
15052	EXPOSED PIPING INSTALLATION	12	Jul-23
15061	DUCTILE IRON PIPE	8	Jul-23
15062	STEEL PIPE	7	Jul-23
15119	SPECIALTY VALVES	7	Jul-23
15120	PIPING SPECIALTIES AND ACCESSORIES	6	Jul-23
15140	SUPPORTS AND ANCHORS	6	Jul-23
15260	PIPING INSULATION	5	Jul-23
15290	DUCT WORK INSULATION	4	Jul-23

Specification Section	Specification Title	# of Pages	Dated
DIVISION 15 – MECHANICAL (CONT'D)			
15781	AIR CONDITIONING UNIT	2	Jul-23
15890	DUCT WORK	4	Jul-23
15910	DUCT WORK ACCESSORIES	3	Jul-23
15936	AIR OUTLETS AND INLETS	2	Jul-23
15982	LINE VOLTAGE THERMOSTAT	4	Jul-23
15990	TESTING, ADJUSTING, AND BALANCING	3	Jul-23
DIVISION 16 - ELECTRICAL			
16000	GENERAL ELECTRICAL REQUIREMENTS	10	Jul-23
16001	PACKAGED SYSTEMS AND PACKAGED CONTROL PANELS	4	Jul-23
16010	ELECTRICAL: BASIC REQUIREMENTS	8	Jul-23
16050	BASIC MATERIALS AND METHODS	3	Jul-23
16060	ELECTRICAL DEMOLITION	3	Jul-23
16062	LIGHTNING PROTECTION	8	Jul-23
16111	CONDUITS	6	Jul-23
16117	CONCRETE MANHOLES, HANDHOLES AND PULL BOXES	9	Jul-23
16123	600 VOLT CLASS CABLE	5	Jul-23
16124	INSTRUMENTATION CLASS CABLE	3	Jul-23
16130	OUTLET, PULL, AND JUNCTION BOXES	5	Jul-23
16137	UNDERGROUND DUCT BANKS	4	Jul-23
16141	WIRING DEVICES	6	Jul-23
16142	WEATHERPROOF WHILE IN USE OUTLET ENCLOSURES	3	Jul-23
16143	TERMINAL BLOCKS	3	Jul-23
16160	ENCLOSURES	2	Jul-23
16161	CONTROL PANELS	34	Jul-23
16170	GROUNDING AND BONDING	9	Jul-23
16190	SUPPORTING DEVICES	5	Jul-23
16195	ELECTRICAL IDENTIFICATION	6	Jul-23
16225	ELECTRIC MOTORS 250 HORSEPOWER OR LESS (GMP 1)		
16282	SURGE PROTECTIVE DEVICE	5	Jul-23
16307	15000 VOLT CLASS CABLE	6	Jul-23
16321	OIL FILLED SUBSTATION TRANSFORMERS (GMP 1)		
16435	PAD-MOUNTED SWITCHGEAR (GMP 1)		

Specification Section	Specification Title	# of Pages	Dated
DIVISION 16 – ELECTRICAL (CONT'D)			
16440	DISCONNECT SWITCHES	2	Jul-23
16461	TRANSFORMERS - DRY TYPE (GMP 1)		
16470	PANELBOARDS	8	Jul-23
16477	600 V FUSES	4	Jul-23
16481	MOTOR CONTROL CENTERS (MCC) (GMP 1)		
16485	VARIABLE FREQUENCY DRIVES – LOW VOLTAGE (GMP 1)		
16500	LIGHTING	5	Jul-23
16611	STATIC UNINTERRUPTIBLE POWER SUPPLY	3	Jul-23
16720	FIRE SURVEILLANCE AND ALARM SYSTEM	7	Jul-23
16912	ETHERNET NETWORK EQUIPMENT	4	Jul-23
16913	SINGLE MODE FIBER OPTIC CABLING	9	Jul-23
16920	ELECTRICAL ACCEPTANCE TESTING	8	Jul-23
16951	SHORT CIRCUIT, COORDINATION AND ARC FLASH HAZARD REPORT	5	Jul-23
DIVISION 17 – INSTRUMENTATION			
17000	INSTRUMENTATION	14	Jul-23
17111	FLOAT SWITCHES	3	Jul-23
17120	PRESSURE TRANSMITTERS	3	Jul-23
17121	PRESSURE SWITCHES AND GAUGES	4	Jul-23
17137	MAGNETIC FLOW METERS	5	Jul-23
17138	INSERTION MASS FLOW METERS	3	Jul-23
17150	LIMIT AND POSITION SWITCHES	4	Jul-23
17221	ELECTRONIC 4 –20 MA INDICATORS	3	Jul-23
17222	SIGNAL CONDITIONERS (NOT INCLUDED)		
17451	MODICON M340 PROGRAMMABLE LOGIC CONTROLLER SYSTEM	7	Jul-23
17452	MODICON UNITY PLC SYSTEM SOFTWARE AND ACCESSORIES	7	Jul-23
17454	OPERATIONS AND CONTROL DESCRIPTIONS	8	Jul-23
17456	PROGRAMMING GENERAL	5	Jul-23
17670	PROCESS CONTROL SYSTEM INSTRUMENT INDEX	1	Jul-23

LIST OF DRAWINGS
GMP #2
CITY OF CHANDLER
RECLAIMED WATER CONVEYANCE IMPORVEMENTS PROJECT

PROJECT NO. WW2206.401

GENERAL

SHEET #	SHEET NAME	DATED
G-1	COVER	Jul-23
G-2	SHEET INDEX	Jul-23
G-3	GENERAL NOTES - 1	Jul-23
G-4	GENERAL NOTES - 2	Jul-23
G-5	LEGENDS, SYMBOLS, ABBREVIATIONS, AND CODES	Jul-23
G-6	AWRF HYDRAULIC PROFILE	Jul-23
G-7	OWRF HYDRAULIC PROFILE	Jul-23
G-8	AWRF PROCESS SCHEMATIC	Jul-23
G-9	OWRF PROCESS SCHEMATIC	Jul-23

DEMOLITION

SHEET #	SHEET NAME	DATED
D-1.01	AWRF - OVERALL DEMOLITION PLAN	Jul-23
D-1.02	AWRF - PARTIAL DEMOLITION PLAN - 1	Jul-23
D-1.03	AWRF - PARTIAL DEMOLITION PLAN - 2	Jul-23
D-1.04	AWRF - PARTIAL DEMOLITION PLAN - 3	Jul-23

CIVIL

SHEET #	SHEET NAME	DATED
C-1.0	AWRF- SURVEY CONTROL SHEET	Jul-23
C-1.01	AWRF - OVERALL SITE PLAN	Jul-23
C-1.02	AWRF - PARTIAL SITE PLAN - 1	Jul-23
C-1.21	AWRF - OVERALL YARD PIPING PLAN	Jul-23
C-1.22	AWRF - PARTIAL YARD PIPING PLAN - 1	Jul-23
C-1.23	AWRF - PARTIAL YARD PIPING PLAN - 2	Jul-23
C-1.24	AWRF - PARTIAL YARD PIPING PLAN - 3	Jul-23
C-1.25	AWRF - PARTIAL YARD PIPING PLAN - 4	Jul-23
C-1.41	AWRF - GRADING AND DRAINAGE OVERALL SITE PLAN	Jul-23
C-1.42	AWRF - GRADING AND DRAINAGE SITE PLAN - 1	Jul-23
C-1.91	AWRF - YARD PIPING PROFILE	Jul-23
C-3.0	OWRF - SURVEY CONTROL SHEET	Jul-23
C-3.01	OWRF - OVERALL SITE PLAN	Jul-23
C-3.02	OWRF - PARTIAL SITE PLAN - 1	Jul-23
C-3.21	OWRF - OVERALL YARD PIPING PLAN	Jul-23
C-3.22	OWRF - PARTIAL YARD PIPING PLAN - 1	Jul-23
C-3.41	OWRF - GRADING AND DRAINAGE OVERALL SITE PLAN	Jul-23
C-3.42	OWRF - GRADING AND DRAINAGE SITE PLAN - 1	Jul-23
C-3.91	OWRF - YARD PIPING PROFILE	Jul-23

MECHANICAL

SHEET #	SHEET NAME	DATED
M-1.01	AWRF - RECLAIMED WATER PUMP STATION RENDERING	Jul-23
M-1.02	AWRF - RECLAIMED WATER PUMP STATION PLAN	Jul-23
M-1.03	AWRF - RECLAIMED WATER PUMP STATION SECTIONS	Jul-23
M-3.01	OWRF - INTEL FLOW CONTROL STRUCTURE RENDERING	Jul-23
M-3.02	OWRF - INTEL FLOW CONTROL STRUCTURE PLAN AND SECTION	Jul-23
M-7.01	TYPICAL DETAILS - 1	Jul-23
M-7.02	TYPICAL DETAILS - 2	Jul-23
M-7.03	TYPICAL DETAILS - 3	Jul-23

STRUCTURAL

SHEET #	SHEET NAME	DATED
S-1	GENERAL STRUCTURAL DETAILS - 1	Jul-23
S-2	GENERAL STRUCTURAL DETAILS - 2	Jul-23
S-3	GENERAL STRUCTURAL DETAILS - 3	Jul-23

S-4	STANDARD SECTIONS AND DETAILS - 1	Jul-23
S-5	STANDARD SECTIONS AND DETAILS - 2	Jul-23
S-1.01	RECLAIMED WATER PUMP STATION PLAN AND SECTION	Jul-23
S-1.10	ELECTRICAL BUILDING PLAN	Jul-23
S-1.11	ELECTRICAL BUILDING SECTION AND DETAILS	Jul-23
S-1.21	INTEL FLOW CONTROL PLAN AND SECTION	Jul-23

ELECTRICAL

SHEET #	SHEET NAME	DATED
E-1.00	ELECTRICAL SYMBOLS AND LEGEND	Jul-23
E-1.01	AWRF OVERALL ELECTRICAL SITE PLAN	Jul-23
E-1.02	AWRF PARTIAL SITE PLAN	Jul-23
E-1.21	AWRF OVERALL SINGLE LINE DIAGRAM DEMOLITION	Jul-23
E-1.22	AWRF OVERALL SINGLE LINE DIAGRAM MODIFICATIONS	Jul-23
E-1.23	AWRF MCC-RW3 SINGLE LINE DIAGRAM	Jul-23
E-1.24	PANEL SCHEDULE - NEW ELECTRICAL BUILDING	Jul-23
E-1.41	AWRF RECLAIMED WATER AREA DEMOLITION POWER PLAN	Jul-23
E-1.42	AWRF RECLAIMED WATER AREA ADDITIONS POWER PLAN	Jul-23
E-1.43	AWRF RECLAIMED WATER AREA ADDITIONS GROUNDING AND LIGHTING PLAN	Jul-23
E-1.44	AWRF RECLAIMED WATER PUMP STATION MODIFICATIONS	Jul-23
E-1.51	POWER CONDUIT BLOCK DIAGRAMS	Jul-23
E-1.52	CONTROL CONDUIT BLOCK DIAGRAMS	Jul-23
E-1.61	AWRF RECLAIMED WATER PUMP STATION SCHEMATIC DIAGRAM - 1	Jul-23
E-1.62	AWRF RECLAIMED WATER PUMP STATION SCHEMATIC DIAGRAM - 2	Jul-23
E-3.01	OWRF OVERALL ELECTRICAL SITE PLAN	Jul-23
E-3.02	OWRF PARTIAL SITE ELECTRICAL PLAN - 1	Jul-23
E-3.21	OWRF PANEL SCHEDULES MODIFICATIONS	Jul-23
E-3.41	INTEL FLOW CONTROL STRUCTURE ELECTRICAL PLAN	Jul-23
E-6.01	STANDARD ELECTRICAL DETAILS 1	Jul-23
E-6.02	STANDARD ELECTRICAL DETAILS 2	Jul-23
E-6.03	STANDARD ELECTRICAL DETAILS 3	Jul-23
E-6.04	STANDARD ELECTRICAL DETAILS 4	Jul-23

INSTRUMENTAL

SHEET #	SHEET NAME	DATED
I-0.00	INSTRUMENTATION STANDARD SYMBOLS AND LEGEND	Jul-23
I-1.01	AWRF ETHERNET COMMUNICATION ARCHITECTURE	Jul-23
I-2.01	AWRF RECLAIMED WATER PUMP STATION MODIFICATIONS P&ID - 1	Jul-23
I-2.02	AWRF RECLAIMED WATER PUMP STATION MODIFICATIONS P&ID - 2	Jul-23
I-3.01	INTEL FLOW CONTROL STRUCTURE P&ID	Jul-23

Section 6

CMAR Deliverables



PROCUREMENT SELECTION PLAN

INTRODUCTION

The purpose of this document is to provide detail of PCL Procurement Plan procedure related to subcontractor and supplier selection for GMP 2. The following sections detail our procurement approach for this phase of the project:

- 1) Subcontractor and Supplier Work Package Definition
- 2) PCL Self-Perform Scopes
- 3) Prequalification Process
- 4) Bid Solicitation Process
- 5) Bid Openings
- 6) Bid Evaluation Process
- 7) Key Dates

1) SUBCONTRACTOR AND SUPPLIER WORK PACKAGE DEFINITION

After reviewing the 90% documents, the project team determined the appropriate work categories for the GMP 2 bid packages. The bid package approach consists of smaller packages to encourage the maximum subcontractor bid participation. The matrix (scopes and subcontractor/suppliers) will be finalized after receiving input from City of Chandler. A list of the bid packages and subcontractors and suppliers that will be invited to bid is attached.

2) PCL SELF-PERFORM SCOPES

In order to control the schedule and maintain direct control over the critical scopes of work, PCL will self-perform:

- Site Work and Demolition
- Forming and Placing Structural Concrete
- Underground Pipe, Process Mechanical, and Process Equipment Installation

PCL will provide detailed, open-book pricing for all self-performed scopes of work. The major scopes of supply (concrete readymix, rebar, process equipment, and piping materials) will be competitively bid as shown in the Selection Matrix.

3) PREQUALIFICATION PROCESS

A project team's success depends upon selecting reliable and highly qualified subcontractor partners. For this reason, PCL reviews subcontractors financials to pre-qualify subcontractors through our Subcontractor default insurance programs.

The process requires Subcontractors to provide key financial information, licenses held, and their current Experience Modification Rating (EMR) score for safety.

Upon completion of this process, a maximum contract amount is established for the subcontractor. If the anticipated scope of work is going to be over the maximum contract amount or their current EMR score is over 1.0, PCL will complete another evaluation to establish the risk for using this company on the project and will have to be approved by PCL's Senior Management Team. In order to expedite the prequalification process for GMP 2, PCL may request the subcontractor provide a bonding capacity letter and current EMR rate for immediate review and approval.

4) BID SOLICITATION PROCESS

PCL will solicit all bids and track the communication from all potential bidders by using a software program called SmartBid. PCL will create a project within the system that will provide the bidder with an overview of the project, the official bid date, instructions to bid, and location of the bid submission/opening. In addition to this information, PCL will upload all necessary bid documents including but not limited to specifications, contract drawings, relevant bid exhibits, addendums, and bid forms. All communication regarding bid addendums, requests for information, and any project notes will be sent through SmartBid as well.

5) BID OPENINGS

All bids will be received by PCL via the SmartBid platform. All submissions will be recorded by bid package including the company's name and the amount submitted by the bidder. Any bid that is received after the bid time will be considered late and may not be considered for evaluation. All required documentation that is requested to be submitted with the bid will then enter the Bid Evaluation Process.

6) BID EVALUATION PROCESS

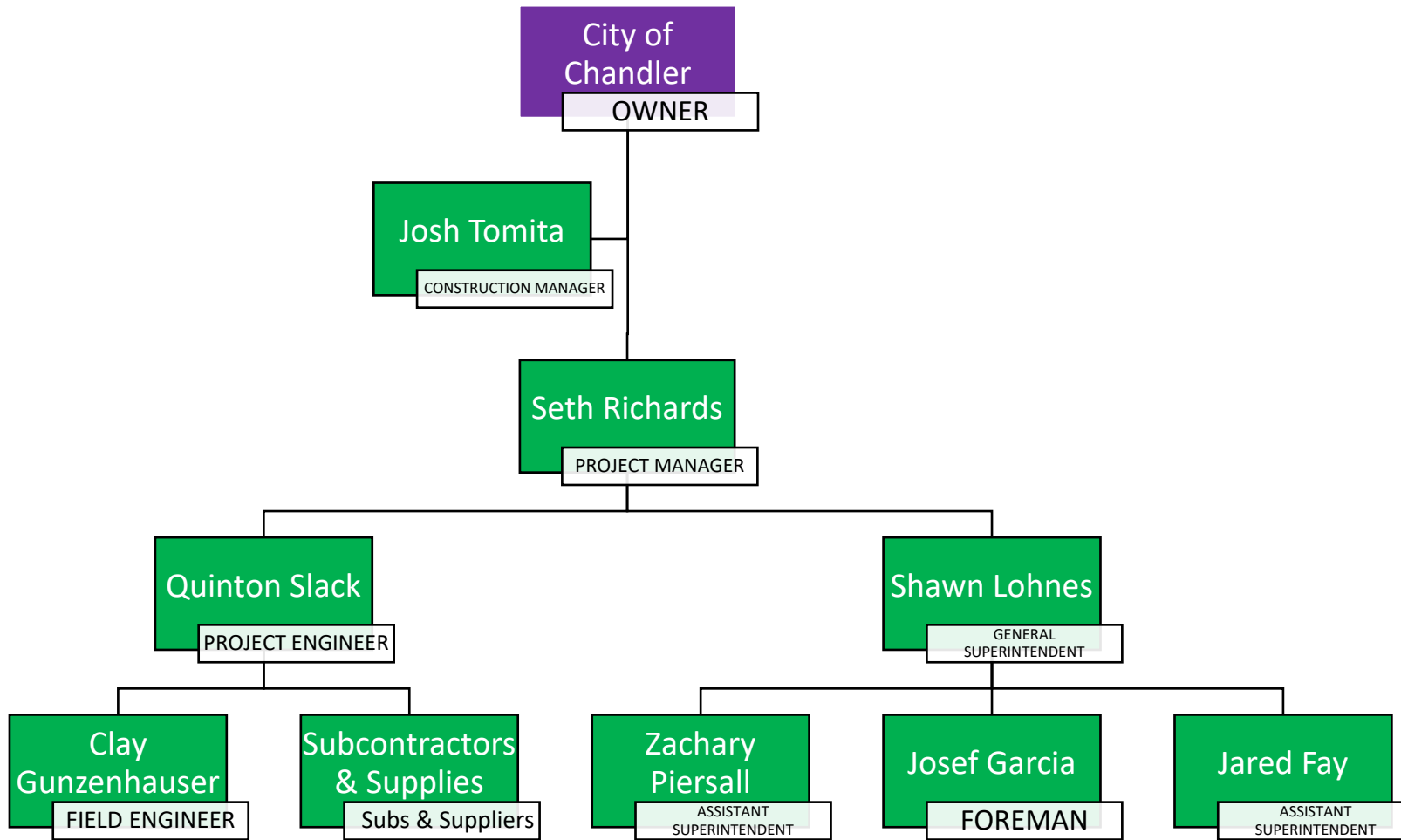
The PCL evaluation process of proposals will be performed by leveling the bids. This process includes the review of all exclusions, assumptions, and clarifications found in the bidders proposal. After an initial review of the bid, PCL may hold a meeting with each subcontractor to discuss their proposal and discuss the items entered in the leveling form. The final process in the bid evaluation process will be a final meeting with the Project Team to discuss the successful bidders and the leveled items. All bidders will be notified through SmartBid regardless if they are successful or unsuccessful.

8) KEY DATES

The following are the timeframes associated with subcontractor/supplier selection, GMP 2 submittal and prime contract execution:

Draft Procurement Plan Submitted to City of Chandler	July 24, 2023 (Complete)
Subcontractor/Supplier Solicitation Process Begins	July 28, 2023 (Complete)
Subcontractor/Supplier Bids Due	August 18, 2023 (Complete)
GMP 2 Submittal	September 1, 2023 (Complete)
GMP 2 Revision Submittal	October, 25, 2023

Staffing Plan & Resumes



**Please note that this is a preliminary team selection. Team Members may change based on date of contract execution and construction schedule.*

Title	Responsibilities
CM (Airport and Ocotillo)	Attend Weekly Meetings, General Project Oversight
PM (Airport and Ocotillo)	Pay Applications, Schedule Ownership/Maintenance, Project Execution Oversight, Overall Budget Management/Forecasting, Administer the Construction Contract, Review All Subcontracts and Purchase Orders, Writes critical subcontracts and purchase orders, Administer Quality Program, Negotiated Allowance Requests and Contingency Pricing Requests, Mentors Project and Field Engineering Staff, Develops Health, Safety, and Environment Plan, oversees Health, Safety, and Environmental Plan, Ensures Accountability of Subcontractors and Suppliers to Meet Overall Project Goals, ensure City Project Goals are met. Main point of Contact
General Superintendent (Airport and Ocotillo)	Overall Responsibility for Field Operations, Overall Responsibility for Project Safety, Quality, Schedule, Temp Facilities/Yard, Mentors Project and Field Engineering Staff, Subcontractor Field Management, Develop 3 Week Look Ahead Schedules, Long term strategic planning in conjunction with project manager
PE (Airport and Ocotillo)	Review Submittals, Assist in development of MOPO plans, Review Critical Lift Plans, RFIs, Coordination with CED, Subs, and Suppliers, Write Subcontracts, Reviews and compiles QC Testing requirements for FEs (Inspection and Testing Log), Procures permanent Materials, Coordinate Deliveries, Review Sub and Supplier Billings, Inventory and inspect materials upon arrival, Track T&M Work by compiling field tickets electronically for billing, Assist with Safety, Responsible ensuring the maintenance and storage requirements of materials are met.
Assistant Superintendent For Ocotillo	Assist Project Super with Subcontractor Field Management Support, Responsible for day to day self-perform forces management <i>at the site of work</i> , Oversee SWPPP installation and Maintenance, Dust Control Operations, Track T&M work through field tickets, track quantities, assist with safety planning and documentation, assist with QC inspections, conduct small material purchases, plan tools and equipment, completes daily diaries documenting events at assigned site

FE for Ocotillo	Coordinate with subs/self perform forces in the field, Survey and Layout, Ensure Div 1 Facilities are planned and maintained, Assist Superintendents with field operation management, Assist PEs when needed with scopes specific to their sites, Inventory Management (prepares delivered materials for use by trades), Ensures supplies of consumable materials are adequate, Schedules and supervises, logs, and tracks quality control testing for thier assigned site and scopes in accordance with project requirements, performs daily inspections to ensure conformance to the drawings and specs, resolves non-conformances in the field when applicable, reports non-conformances to PE when a corrective action plan is required.
Assistant Superintendent For Airport	Assist Project Super with Subcontractor Field Management Support, Responsible for day to day self-perform forces management <i>at the site of work</i> , Oversee SWPPP installation and Maintenance, Dust Control Operations, Track T&M work through field tickets, track quantities, assist with safety planning and documentation, assist with QC inspections, conduct small material purchases, plan tools and equipment, completes daily diaries documenting events at assigned site
FE for Airport	Coordinate with subs/self perform forces in the field, Survey and Layout, Ensure Div 1 Facilities are planned and maintained, Assist Superintendents with field operation management, Assist PEs when needed with scopes specific to their sites, Inventory Management (prepares delivered materials for use by trades), Ensures supplies of consumable materials are adequate, Schedules and supervises, logs, and tracks quality control testing for thier assigned site and scopes in accordance with project requirements, performs daily inspections to ensure conformance to the drawings and specs, resolves non-conformances in the field when applicable, reports non-conformances to PE when a corrective action plan is required.
HSE (Airport and Ocotillo)	Safety oversight, including weekly Audits



JOSH TOMITA

PROJECT MANAGER

Josh has 14 years of experience, including 12 years at PCL with construction of water/wastewater infrastructure. Josh has experience in all aspects of construction, including surveying, estimating, BIM, and coordination of structural, mechanical and equipment scopes of work. Josh's project management experience includes budget management, coordinating projects that have multiple sites, coordinating with multiple design firms, scheduling, subcontractor management, and start-up and commissioning.

YEARS WITH PCL

12

YEARS OF EXPERIENCE

14

EDUCATIONAL BACKGROUND

Bachelor of Science, Business Administration (Finance), New Mexico State University

TRAINING

OSHA 30-Hour
Erosion Control Coordinator
Certification
CPR and First Aid

RELEVANT PROJECT EXPERIENCE

West Area Water Reclamation Facility Odor Control and Disinfection System Improvements

Glendale, Arizona

Delivery Method: Design-Bid-Build | **Role:** Project Manager

Construction Value: \$2.5 million

This project consisted of demolition of the chemical wet scrubber odor control system, chemical metering pumps, and chemical storage tanks and installation of a biotrickling filter system, foul air blowers, chemical metering pumps, bulk chemical storage tanks, electrical panel upgrades, and system integration.

Zone 3D and 4A Improvements Program Water Treatment Plant Booster Pump Stations - CMAR

Phoenix, Arizona

Delivery Method: CMAR | **Role:** Sr. Project Manager

Construction Value: \$35 million

PCL is providing CMAR services at the 24th Street WTP for a 76-MGD booster pump station with pump cans and vertical turbine pumps, a supporting surge system consisting of one suction surge tank and two discharge tanks, 66- to 84-inch-diameter suction and discharge piping, and a PRV station with pressure-reducing valves and isolation valves. The pump station has control valves, isolation butterfly valves, and gate valves. Construction also includes a 15 kV unified electrical building, a site wall, grading, and drainage.

Booster Pump Station Replacement 3SE-B1/2S-B3- CMAR

Phoenix, Arizona

Delivery Method: CMAR | **Role:** Project Manager

Construction Value: \$16.5 million

This CMAR project consists of replacement of two booster pump stations that help supply water to the Ahwatukee area of Phoenix. The 3SE-B1 BPS were replaced with a 44-MGD BPS, and the 2S-B3 BPS was replaced with a 20-MGD pressure-reducing valve station. The existing BPSs were kept in service during three large-diameter pipe (30-, 36-, and 48-inch) tie-ins. These tie-ins were performed simultaneously and in conjunction with work for the Scenario 3B Lining Project shutdown.

Booster Pump Station Replacement: 3B-B3 & 3B-B4- CMAR

Phoenix, Arizona

Delivery Method: CMAR | **Role:** Project Manager

Construction Value: \$13.1 million

This CMAR project was for the replacement of the booster pump stations at the 64th Street Reservoir Facility and 24th Street Water Treatment Plant. Construction included installation of four vertical turbine pumps installed in pump can barrels, suction valve vault structure, 10,000 gallon hydropneumatic surge tank, air compressor, and controls.



RELEVANT PROJECT EXPERIENCE

Jomax Booster Pump Station Upgrades- CMAR

Peoria, Arizona

Delivery Method: CMAR | **Role:** Sr. Project Manager

Construction Value: \$2 million

The overall project will consist of constructing upgrades to the existing Jomax Booster Pump Station. PCL will install a new waterline and turnout structure from 67th Avenue to the Jomax Booster Pump Station site; construct a new Terramar Pressure Reducing Station at the site; and decommission the existing Terramar Booster Pump Station. Completion of this project will ensure the City's infrastructure is capable of accommodating the increased flow allocation from the Pyramid Peak Water Treatment Plant.

64th St. Reservoir and 24th St. Water Treatment Plant (2C-B1 and 3A-B1) BPS Replacement- CMAR

Scottsdale, Arizona

Delivery Method: CMAR | **Role:** Project Manager

Construction Value: \$15.5 million

This project included a new 15-MGD (2C-B4) BPS and a new 10-MGD (3A-B3) BPS at the 64th Street reservoir and 24th Street WTP. Each BPS consisted of excavation, shoring design and installation; structural concrete; vertical turbine pumps and cans; hydropneumatic surge tanks; buried and exposed mechanical piping; electrical and instrumentation; and demolition and removal of the existing BPSs. PCL also performed start-up and testing.

Paradise Valley Phoenix Interconnect - CMAR

Paradise Valley, Arizona

Delivery Method: CMAR | **Role:** Project Manager

Construction Value: \$6 million

This project included installation of 11,400 LF of 24-inch DIP through the right-of-way of a highly traveled corridor. PCL expanded an existing booster pump station to accommodate the additional supply from the new interconnect transmission line. PCL installed a new booster pump, new process piping (including connections to existing systems), and electrical upgrades for the new pump in an existing electrical building. The expansion of the BPS was done at the end of the project to allow for a complete design analysis and procurement of building permits.

San Jacinto Valley Regional Water Reclamation Facility Title 22 Tertiary Treatment Upgrade and Plant 2 Facilities

San Jacinto, California

Delivery Method: Design-Bid-Build | **Role:** Field Engineer

Construction Value: \$122 million

Josh was responsible for the coordination of the design for the pipe support system, including seismic bracing and expansion control, coordination of process piping and equipment. This expansion project to the existing facility allows a maximum capacity of 14 MGD. Construction included a new effluent pump station with ten vertical turbine pumps with a total operating capacity of 46 MGD, retrofitting existing plant facilities, new digester structures, sludge storage, additional chlorine contact structure, primary and secondary clarifiers, aerobic basin structure, new headworks, biofilters, flocculation basin, new operations and administration buildings, a main electrical building, minor electrical buildings throughout the project site, and a warehouse.

Jordan Basin Water Reclamation Facility

Riverton, Utah

Delivery Method: Design-Bid-Build | **Role:** Field Engineer

Construction Value: \$97 million

Josh was responsible for coordination of multiple masonry structures, structural steel, process pipe and underground pipe. This \$98 million project was the construction of a 15 MGD membrane bioreactor water reclamation facility, including an influent pump station, headworks building, process basins and building with aerobic and anaerobic zones, UV disinfection building, and a dewatering building which houses centrifuge equipment and related polymer system. The project included approximately 6 miles of underground piping and two miles of exposed piping.



RELEVANT PROJECT EXPERIENCE

EPCOR Water Well Equipping Projects – Bullhead Well 16-4, Laredo Vista Well 2, Sun City Well 8.3, Corta Bella Well 2 – CMAR

Bullhead City and Sun City, Arizona

Delivery Method: CMAR | **Role:** Project Manager

Construction Value: \$3 million

Josh was responsible for preparing the GMP while coordinating with two design firms and the client and managing all aspects of construction for three separate well sites, including start-up and close-out activities. The project included installation of 3,100 feet of off-site pipeline, 2,800 feet of off-site primary power duct bank, well pumps, chlorination systems, electrical gear, masonry site walls, and buried and process pipe.

Trash Rake Installation at Mark Wilmer Pumping Plant – CMAR

Parker, Arizona

Delivery Method: CMAR | **Role:** Project Manager

Construction Value: \$2.9 million

This CMAR project included removal of the existing manual trash rakes and procurement and installation of six new automated trash rakes and the supporting frames. A specialized commercial diving team was brought in since a portion of the trash rakes were 30 feet underwater. Construction included a conveyor system, controls and an electrical system to support the trash rakes, and integration of the trash rake system with the existing pumping plant systems.

PRIOR TO JOINING PCL

CAP Water Treatment Plant Expansion

Scottsdale, Arizona

Role: Project Engineer

Josh was a Project Engineer responsible for the engineering coordination of the underground piping, construction of the blower facility, chemical facility, and multiple yard structures. This project was a 30 MGD expansion of an existing potable water treatment plant facility consisting of the addition of four major facilities, a pre-treatment contact basin, a six-million-gallon pre-stressed reservoir, a dissolved air flocculation basin and a pressurized membrane filtration facility. It also included multiple yard structures and underground utilities, including ductile iron and steel pipe ranging in size from 4 inches to 66 inches in diameter.



SETH RICHARDS

PROJECT MANAGER

Seth has 12 years of heavy civil construction and experience. Seth's expertise includes estimating, surveying, quality control, safety, assisting with installation of all scopes of work, RFIs, submittals, and coordination of subcontractor, vendor, and self-perform work.

YEARS WITH PCL

5

YEARS OF EXPERIENCE

12

EDUCATIONAL BACKGROUND

Bachelor of Science, Surveying Engineering Technology, State University of New York College of Technology at Alfred

TRAINING

FAA Remote Pilot Certified

RELEVANT PROJECT EXPERIENCE

Zone 3D and 4A Improvements Program Water Treatment Plant Booster Pump Stations - CMAR

Phoenix, Arizona

Delivery Method: CMAR | **Role:** Project Manager

Construction Value: \$48.6 million

PCL provided CMR services and carried out construction of a new 76 MGD pump and PRV station. This pump station was the linchpin project for the City of Phoenix's Water Redundancy Program to mitigate drought conditions and the effects cuts to Colorado River Water Allocations. Construction included consists of 8 pump cans, 6 vertical turbine pumps with 1150 HP motors, a surge suppression system consisting of two discharge and one suction surge tank, and large diameter piping ranging from 66" to 84" in diameter. The project also included significant electrical scope. Two new redundant electric feeds were provided to each area of the plant through a new 15 kV electrical building. A new 5kV electrical building to power the new pump station was also constructed. Another site improvement was an artist designed colored-masonry security wall that features a unique artist's design of monsoon poppy flowers to represent the precious resource of water in Arizona.

Gilbert Reservoir, Pump Station and Well

Gilbert, Arizona

Delivery Method: Design-Bid-Build | **Role:** Project Engineer

Construction Value: \$16.3 million

Construction of a 4-MG concrete reservoir, pump station, and ancillary components. The reservoir structure required over 6,000 cubic yards of conventional concrete, including 1,000 cubic yards of concrete for the reservoir's suspended slab roof. Inside the reservoir, an FRP baffle system was installed. The pump station connected four vertical turbine pumps powered by 150-HP motors to a 16-inch header feeding the Town of Gilbert. This header system included flow control and surge anticipator valves. Underground yard piping exceeded 3,000 linear feet. A new well site and well rehabilitation were also part of the scope as well as electrical, communication, and instrumentation.

Florence - Casa Grande Canal Reach 1, Rehabilitation and Lining Project

Florence, Arizona

Delivery Method: Design-Bid-Build | **Role:** Project Engineer

Construction Value: \$21.7 million

PCL lined the first 3.75 miles of a 35-mile, 800 CFS canal with shotcrete slopes and a conventional concrete bottom as part of a canal lining program for the San Carlos Irrigation and Drainage District. It is one of the first major canals in Arizona to be lined with shotcrete. Prior to the project, water loss through the unlined canal was more than 40%, and this



RELEVANT PROJECT EXPERIENCE

project, along with the remainder of the lining program, eliminated those losses to allow more efficient transport of irrigation water from the Coolidge Dam to one of Arizona's major cotton-growing areas. Construction included over 50,000 cubic yards of earthmoving, two 108-inch siphons; inlet/outlet structures; well rehabilitation; numerous turnouts and associated piping; a flow measurement flume; flow control gates; spillways; an access bridge; and O&M roads. The scope also included demolition of the existing China Wash aqueduct, associated canal transitions, and some abandoned turn-outs. PCL worked with the owner to deliver irrigation water via bypasses in order to place the newly-lined canal in service approximately one year early.

City of Chandler Reclaimed Water Conveyance Improvements

Chandler, Arizona

Delivery Method: CMAR | **Role:** Project Manager

This CMAR project consists of improvements to water production and conveyance facilities to serve Intel's expansion of its manufacturing facility. Construction includes new pumps, electrical improvements, piping improvements, and up to four aquifer storage and recovery wells.

Verrado Water Reclamation Facility Expansion

Tolleson, Arizona

Delivery Method: Progressive Design-Build | **Role:** Project Manager

Construction Value: \$4.7 million

This design-build project consists of expanding the existing conventional activated sludge plant from 1 MGD to 1.54 MGD to accommodate faster than expected population growth rates. Construction includes an additional equalization basin, anoxic basin, bioreactor, solids holding tank, post-anoxic basin, and odor scrubber.

Arkansas River Levee Improvements - Phase III*

Pueblo, Colorado

Role: Project Manager

This project consisted of the demolition and replacement of concrete levee facing panels. To perform the work along 3,300 LF of the levee, a cofferdam was installed to create a drier work site. Existing panels were removed and crushed using an on-site mobile crushing plant; the crushed concrete was later used for a surfacing material for the top of the levee. Once removed, the levee subgrade was prepared and key trenches were excavated. Conventional concrete was batched on-site using a mobile batch plant and was placed and finished using a slope paving operation. In addition, a concrete water intake structure was built which included four sluice gates.

Willow Creek Dam Rehabilitation*

Steamboat, Colorado

Role: Project Manager

This project included installation of 300 linear feet of 72-inch-diameter steel outlet pipe lining with grouted annulus in an existing outlet works and installation of a custom-fabricated grouted steel chamber at the base of the outlet tower. Work also included replacement of two 48-inch hydraulic sluice gates, one 72-inch sluice gate, and one 60-inch sluice gate, along with associated hydraulic, electrical, and communications lines. The site was dewatered and an earthen buttress was built at the downstream base of the dam. A concrete outlet structure and an outlet tower building were rebuilt. Construction required a deep dive team working off of barges at high altitude.

Green River Raw Water Reservoir*

Green River, Wyoming

This project involved installation of approximately 3,300 linear feet of exterior 30-inch and 36-inch PVC reservoir supply and discharge piping, including connections to the existing system. Work also included interior pump

*Project completed prior to joining PCL.



RELEVANT PROJECT EXPERIENCE

and 30-inch steel piping modifications to the existing river intake structure. Secondary project components included normal project administration, reservoir instrumentation, roadway and bridge construction, fencing and security, irrigation systems, and seeding and reclamation. Notable mechanical/electrical work included installation of four vertical turbine pumps, along with four 121 horsepower motors, and four 323-528 volt VFDs and installation of new 30-inch fabricated steel header to tie new pumps into plant system. Work also included installation of two 24-inch sluice gates, one 42 inch sluice gate, and one 24-inch canal gate and installation of two 30-inch flowmeters, and one 36-inch flowmeter, used to control flow to and from the reservoir and plant. The project also included 50,000 square yards of HDPE lining.

Frog Pond Reservoir - Chino Mine*

Grant County, New Mexico

This was one of the first construction projects under New Mexico's "Copper Rules" water regulations. The project was a small earthen water storage reservoir with a HDPE liner and leak detection system, a dual tank brine system, and approximately 2,500 feet of 16-inch to 36-inch-diameter HDPE pipe.



SHAWN LOHNES

SUPERINTENDENT

Shawn has 30 years of experience in the construction of large water and wastewater treatment infrastructure. Shawn specializes in the installation of large-diameter underground pipe and has served as a superintendent for 19 years. His responsibilities include management of multiple crews, subcontractor and supplier coordination, and quality control.

YEARS WITH PCL

9

YEARS OF EXPERIENCE

30

EDUCATIONAL BACKGROUND

Certificate, Pipe Fitting and Welding,
The Industrial Company Pipe Fitting
School

TRAINING

Safety Trained Supervisor
CPR/First Aid
Excavation and Trenching
HDPE Pipe Fusion Certification

RELEVANT PROJECT EXPERIENCE

Glendale Cholla Water Treatment Plant Process Improvements and Booster Pump Station Improvements CMAR

Glendale, Arizona

Delivery Method: CMAR | **Role:** Superintendent

Construction Value: \$30.9 million

PCL provided CMAR services for upgrades and improvements at the 30-MGD Cholla WTP to optimize treatment process efficiency, including replacing several vertical turbine pumps and rehabilitating two booster pump stations within Zones 1A, 1B, and 2. Construction included modifying the raw water flow meter, low-lift pump station, bypass pipeline, and splitter box; improving the chemical feed system, site/electrical systems, and communication; and upgrading UPS/PLC. Additionally, PCL upgraded two 10-MG reservoirs, including replacing a reservoir roof and installing new security vents and additional hatches and access points on the other reservoir. PCL also recoated and installed new drives in seven secondary clarifiers, replaced two flocculators, and replaced a chemical tank and piping and containment coatings.

Lift Station 85 Albert Whitted Master, Force Main Part E

St. Petersburg, Florida

Delivery Method: Bid-Build | **Role:** Superintendent

Construction Value: \$10.5 million

PCL constructed a new 36-MGD lift station within the existing Albert Whitted Water Reclamation Facility. Work included a 33-foot-below-grade concrete wet well and dry pit, climate-controlled electrical room, storage area and restroom, and six 330-HP pumps with valves/piping and related electrical instrumentation systems. Existing water, sewer, odor control, and power supply systems were relocated as part of the project. Work included storm drainage improvements and installation of 2,800 feet of 30-inch-diameter ductile iron pipe and RCW distribution pipelines, as well as "reward well" injection piping connections.

North Avondale Water Supply Project - CMAR

Avondale, Arizona

Delivery Method: CMAR | **Role:** Superintendent

Construction Value: \$7.8 million

This project included installation of over 9,000 LF of 10- to 18-inch DIP through the right-of-way on 107th Avenue, Indian School Road, and Thomas Road. PCL also installed fiber optic conduit in a joint trench with the water line. The project includes two jack-and-bore operations; a tie-in to a 24-inch City of Phoenix main; a Roosevelt Irrigation District canal crossing; and coordination with businesses, utility companies, residents, and a school.



RELEVANT PROJECT EXPERIENCE

Paradise Valley Phoenix Interconnect - CMAR

Paradise Valley, Arizona

Delivery Method: CMAR | **Role:** Superintendent

Construction Value: \$5.9 million

This project included installation of 11,400 LF of 24-inch DIP through the right-of-way of a highly travelled corridor. The installation required four jack-and-bore operations to cross under existing culverts and storm drains, an open trench crossing of a traffic intersection, and detailed traffic control coordination to maintain access to the numerous churches, resorts, businesses, and residents along the route.

Largo WWRF Influent Pumping Station and Headworks

Clearwater, Florida

Delivery Method: Bid-Build | **Role:** Superintendent

Construction Value: \$24.9 million

This project consisted of an 18-MGD influent pump station with six 100-HP submersible pumps, a new 5-MG open-top equalization tank, a headworks facility, a gravity sludge thickener, and an odor control system at an existing 15-MGD wastewater reclamation facility. PCL demolished one influent pump station and three headworks facilities, constructed modifications to a second influent pump station and the digester tanks, and converted the existing chlorine gas storage building to a new electrical building.

Hillsborough South County Wastewater Treatment Plant

Ruskin, Florida

Delivery Method: Bid-Build | **Role:** Superintendent

Construction Value: \$69.2 million

This project included construction of a new 10 MGD facility that incorporates features of the existing plant into the new plant, all while staying completely operational. The major new facilities included a new headworks, bioreactor basins, clarifiers and filters, UV disinfection facility, storage tanks and pump stations, chemical feed systems, and administration building. Construction also included complete electrical and instrumentation.

Gilbert Reservoir, Pump Station, & Well

Gilbert, Arizona

Delivery Method: Bid-Build | **Role:** Superintendent

Construction Value: \$16.2 million

This project consisted of a new 4-MG, in-ground, concrete, hopper-bottom reservoir; a 9-MGD pump station; connecting two wells to the reservoir; and all associated electrical and instrumentation. The project included an influent pipeline to the reservoir and discharge from the pump station.

Jomax Booster Pump Station Upgrades and Terramar Booster Pump Station Rehabilitation - CMAR

Peoria, Arizona

Delivery Method: CMAR | **Role:** Superintendent

Construction Value: \$9.4million

This project consisted of upgrades to the existing Jomax Booster Pump Station. PCL will install a new waterline and turnout structure from 67th Avenue to the Jomax Booster Pump Station site; construct a new Terramar Pressure Reducing.

Blacks Ford Water Reclamation Facility Phase 4 Expansion

St. Johns, Florida

Delivery Method: Bid-Build | **Role:** Superintendent

Construction Value: \$54.1 million

The project consisted of a variety of upgrades to expand the capacity of the wastewater treatment plant to 6 MGD to accommodate recent growth in the Jacksonville area. Construction included new treatment process equipment and chemical systems, , RAS/WAS pump stations, new equalization tank blowers, new submersible aerators, expansion of the existing filters and ultraviolet disinfection channels, and upgrades to electrical, instrumentation and control systems.

R127A and TARP Advanced Oxidation Process Improvements - CMAR

Tucson, Arizona

Delivery Method: CMAR | **Role:** Superintendent

Construction Value: \$32.6 million

*Experience prior to PCL.



RELEVANT PROJECT EXPERIENCE

This CMAR project for City of Tucson Water is a 1,400-GPM expansion to an existing groundwater treatment system that uses an ultraviolet advanced oxidation process (UV/AOP) and granular activated carbon (GAC), including a new 1,300-GPM well for groundwater treatment. Construction includes drilling and equipping a new off-site remediation well, new booster pumps, effluent re-lift pump station expansion, mechanical piping, and approximately 1,500 feet of well piping in a residential neighborhood with tie-in to existing underground pipe.

Gilbert Water & Wastewater Treatment & Remote Facilities Job Order Contract

Gilbert, Arizona

Delivery Method: Bid-Build | **Role:** Superintendent

Construction Value: \$16.2million

This job order contract consists of construction of new facilities and rehabilitation of existing facilities within water treatment plants, booster pump stations, potable water wells, reservoirs, water reclamation facilities, lift stations, and other water, wastewater, and reclaimed water facilities.

Phoenix Water Facilities General Construction Job Order Contract

Phoenix, Arizona

Delivery Method: CMAR | **Role:** Superintendent

Construction Value: \$24.4 million

Work performed under this contract included structural concrete placement and repairs, process pipe installation and replacement, underground utility installation.

Florence-Casa Grande Canal Reach 1, Rehabilitation and Lining Project

Florence, Arizona

Delivery Method: Bid-Build | **Role:** Superintendent

Construction Value: \$21.8 million

PCL lined the first 3.75 miles of a 35-mile canal with shotcrete as part of a canal lining program for the San Carlos Irrigation and Drainage District. Construction included two 108-inch siphons; inlet/outlet structures;

well rehabilitation; and numerous turnouts and associated piping.

Festival Ranch Water Reclamation Facility - CMAR*

Buckeye, Arizona

Shawn served as the superintendent for the project for the construction of the water reclamation facility that serves Pulte Homes.

Water Reclamation Facility Phase 3 Expansion*

Casa Grande, Arizona

Construction Value: \$48 million

\$48 million major expansion to the existing water reclamation facility, including new and expanded aeration basins with mixers, new blowers and solids handling facility, new odor-control and chlorination systems, and headworks modifications.

Johnny G. Martinez Water Treatment Plant - CMAR*

Tempe, Arizona

Delivery Method: CMAR

This was a six-year, multi-phase CMAR project for the construction of a 12-MG concrete reservoir and water pump station that included installation of 10,200 feet of underground water and sewer utilities, placement of 8,000 yards of structural concrete, and civil improvements. Shawn supervised the installation of 6,000 feet of 60-inch RCP water transmission line along Curry Road and Scottsdale Road

Water and Wastewater Lines - Design-Build*

Goodyear, Arizona

Delivery Method: Design-Build | **Role:** Superintendent
Design-build project for the replacement of 4,000 feet of existing influent sewer and installation of 60-inch pipe, 12- and 16-inch well water pipelines, 12- and 15-inch sewer lines, and 16- and 24-inch waterlines. Well transmission tie-ins, O&M pipe replacement, and right-of-way easement was also completed.

*Experience prior to PCL.



RELEVANT PROJECT EXPERIENCE

City of Mesa 30-inch Transmission Waterline on McKellips from Val Vista to Higley*

Mesa, Arizona

Delivery Method: Design-Bid-Build

Construction Value: \$2.3 million

\$2.3 million design-bid-build project consisted of Installation of 6,000 LF of 30-inch water transmission line and an additional 12-inch DIP waterline as well as removal and replacement of pavement, curb and gutter.

Ft. McDowell Sewer Collection*

Ft. McDowell Yavapai Nation, Arizona

Construction Value: \$5.3 million

\$5.3 million project for the construction of a sewer collection system, lift station and generator, residential hook-ups, septic system abandonment, water meter installation, telecommunication duct bank construction, and minor improvements.

Southeast Mesa Water Reclamation Plant Expansion*

Mesa, Arizona

Construction Value: \$23 million

\$23 million, expansion of an existing water reclamation plant. Work included furnishing and installing three blowers and aeration basins, SST piping, 15,000 cubic yards of concrete for construction of aeration basins, and underground piping.

Ft. McDowell Wastewater Treatment Plant*

Ft. McDowell Yavapai Nation, Arizona

Construction Value: \$10.7 million

\$10.7 million new 0.5 MGD wastewater treatment plant included 3,500 feet of 24-inch force main, influent pump station, SBR facility, administration building, backwash filters, headworks with screening facility, odor control facility, chemical feed facility, and an effluent pump station.

Central Arizona Project- Superstition Mountains South Recharge, Phase 1*

Queen Creek, Arizona

Construction Value: \$6 million

\$6 million construction of a bridge-mounted pump structure, installation of six vertical turbine pumps and pump station header assembly, control building, 54-inch transmission pipeline and 30-inch lateral pipes, recharge basins, access roadways, site fencing, electrical and communication installations, and monitoring wells and piezometers.

*Experience prior to PCL.



QUINTON SLACK

PROJECT ENGINEER

Quinton has 7 years of construction experience in water / wastewater and transportation infrastructure projects.

YEARS WITH PCL

7

YEARS OF EXPERIENCE

7

EDUCATIONAL BACKGROUND Civil Engineering, University of South Florida

LICENSES / ACCREDITATIONS

Florida Board of Professional Engineers

RELEVANT PROJECT EXPERIENCE

BPS 3D & 4D WTP Improvements

Phoenix, Arizona

Delivery Method: Construction Management- At Risk [CMR] | **Role:** Operations Team

Construction Value: \$49 million

PCL provided CMAR services at the 24th Street WTP for a 76-MGD booster pump station with pump cans and vertical turbine pumps, a supporting surge system consisting of one suction surge tank and two discharge tanks, 66- to 84-inch-diameter suction and discharge piping, and a PRV station with pressure-reducing valves and isolation valves. The pump station has control valves, isolation butterfly valves, and gate valves. Construction includes a 15 kV unified electrical building, a site wall, grading, drainage, and site paving.

Manatee SEWRF Grease Facility

Bradenton, Florida

Delivery Method: Traditional Delivery (Bid-Build) | **Role:** Operations Team

Construction Value: \$3 million

Upgrading grease receiving system at the 6-MGD Manatee County SEWRF. Construction includes demolition of existing screening system and replacement with an upgraded system, which includes landfill gas and hot water systems and retrofit of tank mixing systems.

Lake Manatee Upgrade

Bradenton, Florida

Delivery Method: Traditional Delivery (Bid-Build) | **Role:** Operations Team

Construction Value: \$52 million

This project will replace the existing water filtration system with more advanced filtration technology that will improve water filtration levels as required by the Florida Department of Environmental Protection for the 54-mgd WTP. PCL's scope of work included retrofitting the existing filter building with ultrafiltration membrane trains and associated equipment, including air scour blowers, a compressed air system, a clean-in-place system, and chemical storage. Construction includes electrical, instrumentation and controls, and relocation of fiber optic communication cables.



RELEVANT PROJECT EXPERIENCE

Bonner Bridge Replacement

Rodanthe, North Carolina

Delivery Method: Traditional Design Build | **Role:** Operations Team

Construction Value: \$296 million

The project scope included complete replacement of the 2.7-mile-long bridge, including 71 low-level approach spans and 11 spans with clearance for navigation. The low-level approach spans consist of 160-foot-long, 96-inch-wide concrete I-Beams, with a cast-in-place deck. The navigation spans are 3,550 feet in total length and consist of balanced cantilever, post-tensioned, precast, segmental box girder superstructure. Foundations are comprised of both 36-inch square and 54-inch cylinder pre-stressed concrete pilings. The bridge is the only access route across Oregon Inlet between Bodie Island and Hatteras Island. Innovations developed through the proposal phase of the project allowed our team to deliver a savings of \$60 million to the owner.

Brattleboro I91 Bridge Improvement

Brattleboro, Vermont

Delivery Method: Traditional Design Build | **Role:** Operations Team

Construction Value: \$60 million

This design-build project included the removal of two existing steel truss bridges over the West River in Brattleboro, VT and replacing them with a single segmental bridge using cast-in-place balanced cantilever form traveler construction. The bridge was built on 65-inch drilled shaft foundations with aesthetic piers replicating Vermont's iconic stone look. The new bridge is a signature bridge for the state of Vermont and replaced the original bridges that were built in 1956. The bridge has a minimum design life of 100 years with a 510-foot main span and each back span at 263 feet for a total bridge length of 1,036 feet. The project included a tie-in to an existing nature trail that ran beneath the bridge.



CLAY GUNZENHAUSER PROJECT ENGINEER

Clay has over 2 years of experience in water and wastewater treatment plants construction. His responsibilities include: field engineering, coordinating RFIs, pricing and managing change orders, managing subcontractors, reviewing and tracking submittals, reviewing and approving shop drawings, updating schedules, performing safety and environmental inspections.

YEARS WITH PCL

2

YEARS OF EXPERIENCE

5

EDUCATIONAL BACKGROUND

BS, Civil Engineering, Iowa State University

LICENSES / ACCREDITATIONS

Dust Control Certification

RELEVANT PROJECT EXPERIENCE

Tempe JOC - Underground Utility Construction

Tempe, Arizona

Delivery Method: CMAR | **Role:** Project Engineer

Construction Value: \$2.9million

Job order contract for underground utility construction.

Phoenix Wastewater Facilities General Construction Job order Contract

Tolleson, Arizona

Delivery Method: CMAR | **Role:** Operations Team

Construction Value: \$20million

PCL has been providing preconstruction and construction services on a job order basis for wastewater projects in multiple locations throughout Phoenix. Job orders have included upgrading and repairing treatment plants and facilities; installing new booster pump stations, lift stations, and pipelines; rehabilitating digesters and replacing digester domes; creating process improvements; performing site work; installing electrical and instrumentation controls; UCOS programming; installing wet/dry utilities, cast-in-place concrete, and CMU block walls; security improvements; and completing other minor jobs as needed. This JOC has continually been renewed since 2007 based upon successful performance.

North Avondale Water Supply Project Distribution Pressure Improvements

Avondale, Arizona

Delivery Method: CMAR | **Role:** Project Engineer

Construction Value: \$4.6million

PCL is constructing five Pressure Reducing Valve (PRV) Stations at various points along the Thomas Road alignment. The project includes construction of the vaulted PRV station equipment, including precast vault and buried piping to connect the PRV Stations to the City distribution system. The project also includes improvements to the existing Well #23, a 725-GPM well that discharges directly into the City water distribution system.

91st Ave. Wastewater Treatment Plant Digester Dome Replacement

Tolleson, Arizona

Delivery Method: CMAR | **Role:** Operations Team

Construction Value: \$2.2 million

PCL has been the on-site Job Order Contractor for the City of Phoenix at the 91st Ave. Wastewater Treatment Plant for more than five years. A recent inspection of the digesters revealed significant corrosion, material loss, and reduction in section geometry on the tension ring and members resulting in a 10% loss of structural capacity. PCL completed the scope of work necessary to replace the steel dome roof on digester No. 11. We





RELEVANT PROJECT EXPERIENCE

worked in the early stages of design to plan, schedule, and develop safety measures to ensure the project met the highest level of quality. We assisted in the design for the internal shoring and false work to enable the support of the center ring. Once supported in place, demolition and removal operations commenced allowing crews to safely eliminate sections of the existing dome and structure. After removal, PCL provided necessary structural improvements and modifications, replaced the dome using in-place welding operations, and replaced deteriorating manways and handrails, and applied finish coating.

Ludvik Boiler Building

Tolleson, Arizona

Delivery Method: Bid-Build | **Role:** Project Engineer

Construction Value: \$280 Thousand

Subcontract to Ludvik for misc mechanical work.

Water Facilities General Construction Job Order Contract

Phoenix, Arizona

Delivery Method: CMAR | **Role:** Operations Team

Construction Value: \$24.4million

Preconstruction and construction services on a job order basis for water projects throughout the City of Phoenix. PCL's work under this contract is mainly at the 24th Street and Val Vista Water Treatment Plants (WTPs), and occasionally includes other facilities such as the Deer Valley and Union Hills WTPs. Work performed under this contract includes structural concrete placement and repairs, process pipe installation and replacement, underground utility installation, electrical procurement and installation, instrumentation, and controls. As with our other JOCs, PCL manages multiple trade subcontractors, vendors, and suppliers throughout the contract. We have continuously received renewals based upon successful contractor performance.



JARED FAY

ASSISTANT SUPERINTENDENT

Jared has over 16 years of experience in the construction of large water and wastewater treatment infrastructure. As an assistant superintendent, his responsibilities include management of multiple crews, equipment and subcontractor coordination, and quality control. He completes quality projects in a safe work environment, within budget, and on schedule.

YEARS WITH PCL

16

YEARS OF EXPERIENCE

16

TRAINING

OSHA 30

RELEVANT PROJECT EXPERIENCE

Luke 303 Water Reclamation Facility Phase 1 Expansion - Design-Build *Litchfield Park, Arizona*

Delivery Method: Design-Build | **Role:** Assistant Superintendent

Construction Value: \$43 million

PCL is teaming with Stantec to design and build an expansion of the existing 0.18-MGD water reclamation facility, located next to the runway at Luke AFB, to a 1-MGD sequencing batch reactor (SBR) plant. The project also includes a 0.25-MGD packaged treatment plant to provide a total capacity of 1.75 MGD. Construction includes modifications to an existing lift station, SBR basins, a chlorine contact tank, disc filters, a chemical facility, a solids handling facility, a blower facility, recharge basins, and odor control. This expansion will allow the facility to treat wastewater from a new residential development and a new beverage manufacturing facility.

Wastewater Treatment and Reclaim Facility (WaTR) - Progressive Design-Build *Chandler, Arizona*

Delivery Method: Progressive Design-Build | **Role:** Assistant Superintendent

Construction Value: \$2.6 million

This project is a 12-MGD wastewater treatment and reclaim facility to treat industrial wastewater (IWW) for reuse for a large semiconductor manufacturing client. The facility uses multiple treatment processes, including chemical quenching of the IWW influent stream, biological nutrient removal, membrane bioreactor, biosolids dewatering treatment by screw presses, Hp reverse osmosis system, ion exchange system, thermal/brine treatment system, dewatering salt centrifuges, and multiple chemical systems to assist in the treatment processes.

Booster Pump Station Replacement 3SE-B1/2S-B3 - CMAR *Phoenix, Arizona*

Delivery Method: CMAR | **Role:** Assistant Superintendent

Construction Value: \$16.5 million

This CMAR project consists of replacement of two booster pump stations that help supply water to the Ahwatukee area of Phoenix. The 3SE-B1 BPS was replaced with a 44-MGD BPS, and the 2S-B3 BPS was replaced with a 20-MGD pressure-reducing valve station. The existing BPSs were kept in service during three large-diameter pipe (30-, 36-, and 48-inch) tie-ins. These tie-ins were performed simultaneously and in conjunction with work for the Scenario 3B Lining Project shutdown. The tie-ins were located in 42nd Place, the sole access point to a neighborhood, school, reservoir site, and fire station, requiring extensive public outreach and temporary provisions for vehicular access.



RELEVANT PROJECT EXPERIENCE

91st Ave Wastewater Treatment Plant Expansion UP01 Completion Project - CMAR

Tolleson, Arizona

Delivery Method: CMAR | **Role:** Laborer/Pipelifter

Construction Value: \$2.2 million

This CMAR project consisted of a 30-MGD expansion to the City's wastewater treatment plant. This expansion project consisted of upgrades and new construction throughout the plant, including: 84-inch interceptors, junction box, influent channels, influent junction structure and headworks facility, influent metering station, reuse water system, primary and secondary clarifiers, aeration basins, blower facility, centrate treatment, odor control, chemical handling building, chlorination building, and an electrical building.

Clifton Water District Microfiltration/Ultrafiltration Water Treatment Plant

Clifton, Colorado

Delivery Method: Progressive Design-Build | **Role:** Lead man/Pipefitter

Construction Value: \$13.1 million

PCL constructed a new ultrafiltration facility, including the conversion of the existing flocculation and sedimentation basins that were not currently in use to a wetwell for the membrane feed pumps. Construction included installation of membrane racks, a compressed air system, air scour blowers, a washwater recovery system, finished water wetwell, a clean-in-place system, a hot water system, a neutralization system, and bulk storage of chemicals, including citric acid and sodium bisulfite in the main process building.

Willcox Wastewater Treatment Plant

Willcox, Arizona

Delivery Method: Design-Bid-Build | **Role:** Foreman

Construction Value: \$14.2 million

PCL constructed a new 1.8-MGD plant to replace the existing lagoon treatment system to meet the City of Willcox's current and future wastewater treatment needs. Construction included an oxidation ditch, clarifiers, headworks, dewatering facility, disc filter system, RAS/WAS pump station, chlorine contact basin, sludge holding tank, and electrical and maintenance buildings.

San Jacinto Valley Regional Water Reclamation Facility Title 22 Tertiary Treatment Upgrade & Plant 2 Facilities

San Jacinto, California

Delivery Method: Design-Bid-Build | **Role:** Carpenter

Construction Value: \$122 million

This project was an expansion to the existing regional water reclamation facility to allow for a capacity of 14 MGD. Construction included retrofitting existing plant facilities; a new digester structures; sludge storage; additional chlorine contact structure; primary and secondary clarifiers; new headworks consisting of two bar screens, screenings conveyor, and a grit facility; two additional cloth disc filter trains; biofilter odor control; rotary drum thickeners; flocculation basin; new operations and administration buildings; new chemical storage facilities; main electrical building; minor electrical buildings throughout the project site; and a warehouse.

Jordan Basin Water Reclamation Facility

Riverton, Utah

Delivery Method: Design-Bid-Build | **Role:** Carpenter/
Pipefitter

Construction Value: \$97.7 million

PCL constructed a new 15-MGD membrane bioreactor water reclamation facility expandable to 30 MGD. Construction included an influent pump station, headworks building, aeration basins, membrane bioreactor (MBR) facility, UV disinfection building, and solids dewatering building. In addition, an administration building and a maintenance building were included, both of which achieved LEED gold certification.

Clifton Water Treatment Plant Piping Improvements

Clifton, Colorado

Delivery Method: Design-Bid-Build | **Role:** Foreman

Construction Value: \$1 million

Modifications to the water treatment plant effluent manifold included installation of new manifold piping, installation of 550 LF of above ground 24-inch PVC SDR 18-inch transmission pipe, 500 LF of above ground 30-inch welded steel pressure transmission pipe, two 30-inch butterfly valves, five 24-inch butterfly



RELEVANT PROJECT EXPERIENCE

valves, three 8-inch butterfly valves, a concrete valve vault, associated fittings and supports, and surface restoration. Minor bypass operations were required during the installation.

Southside Water Reclamation Plant Preliminary Treatment Facility

Albuquerque, New Mexico

Delivery Method: Design-Bid-Build | **Role:** Millwright

Construction Value: \$35 million

This new preliminary treatment facility included a 76-MGD headworks facility, a grit removal structure, a 21-MGD lift station with the associated 84-inch and 72-inch reinforced concrete pipe and junction boxes, removal of an abandoned ferrous chloride feed system, several buildings, a fire protection system, and biofilter odor control for all facilities. Through the use of 111 MGD of bypass pumping systems, no shutdowns occurred on this project. In addition, new electrical connections, controls and instrumentation were installed and tied into the existing system.

North Avondale Water Supply Project

Avondale, Arizona

Delivery Method: CMAR | **Role:** Assistant Superintendent

Construction Value: \$7.8 million

This project included installing more than 9,000 LF of 10-to 18-inch DIP through the right-of-way on 107th Avenue, Indian School Road, and Thomas Road. PCL also installed fiber optic conduit in a joint trench with the water line, GAC treatment, chemical system upgrades, and on-site utilities. Open cuts were performed instead of jack-and-bores, providing significant savings.

Phoenix Water JOC

Phoenix, Arizona

Delivery Method: CMAR | **Role:** Foreman

Construction Value: \$24.3million

Preconstruction and construction services on a job order basis for water projects throughout the City of Phoenix. PCL's work under this contract is mainly at the 24th Street and Val Vista Water Treatment Plants (WTPs), and occasionally includes other facilities such as the

Deer Valley and Union Hills WTPs. Work performed under this contract includes structural concrete placement and repairs, process pipe installation and replacement, underground utility installation, electrical procurement and installation, instrumentation, and controls. As with our other JOCs, PCL manages multiple trade subcontractors, vendors, and suppliers throughout the contract. We have continuously received renewals based upon successful contractor performance.

Phoenix Wastewater JOC

Tolleson, Arizona

Delivery Method: CMAR | **Role:** Foreman

Construction Value: \$20 million

PCL has been providing preconstruction and construction services on a job order basis for wastewater projects in multiple locations throughout Phoenix. Job orders have included upgrading and repairing treatment plants and facilities; installing new booster pump stations, lift stations, and pipelines; rehabilitating digesters and replacing digester domes; creating process improvements; performing site work; installing electrical and instrumentation controls; UCOS programming; installing wet/dry utilities, cast-in-place concrete, and CMU block walls; security improvements; and completing other minor jobs as needed. This JOC has continually been renewed since 2007 based upon successful performance.

Cholla Water Treatment Plant Process Improvements & Booster Pump Station Improvements

Glendale, Arizona

Delivery Method: CMAR | **Role:** Assistant Superintendent

Construction Value: \$12.8 million

Upgrades and improvements at the 30-MGD WTP, including raw water flow meter modifications, low lift pump station modifications, bypass pipeline and splitter box modifications, rehabilitation of two 10-MG reservoirs, chemical feed system improvements, and site and electrical improvements.



RELEVANT PROJECT EXPERIENCE

SRP NGS Unit 1, 2, & 3 Carbon Injection System

Foundation

Page, Arizona

Delivery Method: Bid-Build | **Role:** Foreman

Construction Value: \$207K

The PCL project team demolished existing pavement and installed concrete pads to hold a powdered activated carbon (PAC) silo, tank, and pump skid. PCL performed all demolition, reinforcing, grounding, and concrete work on this project. During construction, PCL conformed to SRP's strict safety policies while completing work in a high traffic area.

Avondale Water Reclamation Facility Improvements

Avondale, Arizona

Delivery Method: CMAR | **Role:** Pipefitter

Construction Value: \$19.5M

This CMAR water reclamation facility improvement project expanded the capacity from 4.2 MGD to 9 MGD. Project elements included upgrading the aeration equipment and constructing a new vector truck facility, digesters, primary clarifier, influent pump station, headworks structure, equalization basin, primary sludge pump station, odor control facility, chemical facility, chlorine contact basin, effluent pump station, thickener building, and a digester heat exchanger building. Structures that were obsolete were demolished. Start-up, testing, and commissioning were performed, without impacting the daily operations of the existing facility. PCL self-performed much of the work including installation of 800LF of process piping, a new blower, 7,000 CY of concrete, 27,000 feet of various sized underground piping and exposed piping, and all major equipment.



ZACH PIERSALL

ASSISTANT SUPERINTENDENT

Zach has 13 years of experience constructing water and wastewater projects, including five years operating equipment and three years as a pipe/labor foreman. As a superintendent, Zach managed crews, laid underground and above ground pipe, conducted large and small dirt operations, set and established grade, and operated heavy equipment.

YEARS WITH PCL

13

YEARS OF EXPERIENCE

13

EDUCATIONAL BACKGROUND

Civil Engineering Classes, Glendale Community College

LICENSES / ACCREDITATIONS

Operator Apprenticeship Program, Associated General Contractors (AGC) Swing Cab Crane Operator Certification, National Commission for the Certification of Crane Operator

TRAINING

First Aid/CPR/AED

RELEVANT PROJECT EXPERIENCE

San Luis Obispo Water Resource Recover Facility

San Luis Obispo, California

Role: Assistant Superintendent

Construction Value: \$115 million

PCL is constructing improvements throughout the facility that will expand the capacity to 5.4 MGD while meeting new waste discharge requirements, treat future flows, replace aging equipment, maximize the production of recycled water, and incorporate interpretive features and public amenities.

Glacier Club Wastewater Treatment Facility Improvements Project - CMAR

Durango, Colorado

Role: Assistant Superintendent

Construction Value: \$3 million

PCL replaced the clarifier at the existing 3.6-MGD wastewater treatment plant that serves the Glacier Club. Construction consists of replacing the effluent pump, blowers, mixers, HVAC system, and RAS/WAS pumps, in addition to repairing concrete and demolishing and rebuilding the sludge drying beds.

Clifton Middle Water Storage Tank - CMAR

Clifton, Colorado

Role: Assistant Superintendent

Construction Value: \$1.1 million

PCL Construction was selected as the CMAR by the Clifton Water District for this emergency project after a valve fractured on a segment of buried piping connecting two of the District's water storage tanks. PCL replaced the 16-inch buried butterfly valve and installed two 16-inch, one 20-inch, two 24-inch, and two 30-inch Flex-Tend double ball expansion joints.

Gilbert Reservoir, Pump Station, & Well

Gilbert, Arizona

Role: Assistant Superintendent

Construction Value: \$16 million

This project consists of a new 4-MG, in-ground, concrete, hopper-bottom reservoir; a 9-MGD pump station; connecting two wells to the reservoir; and all associated electrical and instrumentation. The project also included an influent pipeline to the reservoir and discharge from the pump station. This project will expand the town's water storage capacity to meet the increasing water demand as the town continues to grow.



RELEVANT PROJECT EXPERIENCE

Greeley WPCF Solids Processing Improvements

Greeley, Colorado

Role: Hourly Foreman

Construction Value: \$6.7 million

This project includes converting the existing sludge storage tank to a primary digester, two new digester covers, conversion of digester boiler to hot water heating, upgrades to allow the facility to burn digester gas for heat, and associated pump piping and electrical improvements.

PAR 1280 Nuisance Struvite and Dewaterability Improvements

Denver, Colorado

Role: General Foreman

Construction Value: \$11.4 million

This project entails installation and commissioning of the pre-dewatering phosphorus recovery equipment (PDPRE) at the wastewater treatment plant. Specific work elements include a new phosphorus recovery facility and reactor, improvements to the acid storage facility, new digester effluent pumps in the digester complex, a new magnesium chloride feed system in the solids processing building, improvements to the sludge holding tank complex, and civil improvements.

Gregory Hill Pump Station and Tanks

Westminster, Colorado

Role: General Foreman

Construction Value: \$13 million

This project includes demolition of two steel water tanks and a pump station, and construction of two new DYK type 3-MGD storage tanks and a 13.8-MGD expandable pump station containing three 300-HP pumps and two 100-HP pumps.

Longmont Wastewater Treatment Plant Ammonia Treatment and Biosolids Dewatering Improvements - Design-Build

Longmont, Colorado

Role: Hourly Foreman

Construction Value: \$33 million

PCL constructed improvements to the Longmont Wastewater Treatment Plant to meet new ammonia limits set by the Colorado Department of Public Health and

Environment. Construction includes a new secondary clarifier, a new aeration basin, new RAS/WAS pump station, improvements to the dewatering facility including odor control, cogeneration facility improvements, and a new maintenance building.

San Jacinto Valley Regional Water Reclamation Facility Title 22 Tertiary Treatment Upgrade and Plant 2 Facilities

San Jacinto, California

Role: Equipment Operator

Construction Value: \$122 million

This expansion project to the existing facility allows a maximum capacity of 14-MGD. Construction included a new effluent pump station with 10 vertical turbine pumps with a total operating capacity of 46-MGD, retrofitting existing plant facilities, new digester structures, sludge storage, additional chlorine contact structure, primary and secondary clarifiers, aerobic basin structure, new headworks, biofilters, flocculation basin, new operations and administration buildings, a main electrical building, minor electrical buildings throughout the project site, and a warehouse.

Southside Water Reclamation Plant Preliminary Treatment Facility

Albuquerque, New Mexico

Role: Equipment Operator

Construction Value: \$35.6 million

This project consisted of a new 72-MGD headworks facility, including grit removal, 21-MGD lift station, odor control facilities, and associated 72-inch and 84-inch RCP piping and junction boxes.

South Bay International Wastewater Treatment Plant

San Diego, California

Role: Laborer

Construction Value: \$93 million

This project consisted of a new secondary treatment system for this 25-MGD treatment plant, including civil site work (deep dynamic compaction), 31,000 yards of cast-in-place concrete, landscaping and irrigation, architectural, fire protection, plumbing, HVAC, mechanical, equipment installation, electrical, and instrumentation.



RELEVANT PROJECT EXPERIENCE

Riverside Regional Water Quality Control Plant Phase 1 Expansion

Riverside, California

Role: Equipment Operator

Construction Value: \$198 million

This project was a conversion of an existing traditional treatment facility to a 26-MGD membrane bioreactor facility. It included construction of a new stormwater equalization basin, clarifiers, conversion of secondary clarifiers to an MBR basin, and ancillary facilities. Work also included retrofitting an existing activated train, repairing and replacing clarifier mechanisms, and upgrading electrical generators.

Zone 4C Pump Station Project

Highlands Ranch, Colorado

Role: General Foreman

Construction Value: \$7.7 million

This project consists of a 16-MGD potable water pump station, including a new pump station building with electrical room, bathroom, PLC room, HVAC room, and main pump area.



JOSEF GARCIA

GENERAL FOREMAN

Josef has over 6 years of experience in water and wastewater treatment plants construction. His responsibilities include management of multiple crews, subcontractor and supplier coordination, quality control, and management of mechanical installations.

YEARS WITH PCL

6

YEARS OF EXPERIENCE

6

EDUCATIONAL BACKGROUND

Diploma, Hunter High School

RELEVANT PROJECT EXPERIENCE

Gilbert Reservoir, Pump Station and Well

Gilbert, Arizona

Delivery Method: Bid-Build | **Role:** Foreman

Construction Value: \$16.2 million

This project consisted of a new 4-MG, in-ground, concrete, hopper-bottom reservoir; a 9-MGD pump station; connecting two wells to the reservoir; and all associated electrical and instrumentation. The project included an influent pipeline to the reservoir and discharge from the pump station.

Zone 3D and 4A WTP Booster Pump Stations

Phoenix, Arizona

Delivery Method: CMAR | **Role:** General Foreman

Construction Value: \$48.6 million

PCL provided CMAR services and carried out construction of a new 76 MGD pump and PRV station. This pump station was the linchpin project for the City of Phoenix's Water Redundancy Program to mitigate drought conditions and the effects cuts to Colorado River Water Allocations. Construction included consists of 8 pump cans, 6 vertical turbine pumps with 1150 HP motors, a surge suppression system consisting of two discharge and one suction surge tank, and large diameter piping ranging from 66" to 84" in diameter. The project also included significant electrical scope. Two new redundant electric feeds were provided to each area of the plant through a new 15 kV electrical building. A new 5kV electrical building to power the new pump station was also constructed. Another site improvement was an artist designed colored-masonry security wall that features a unique artist's design of monsoon poppy flowers to represent the precious resource of water in Arizona.

Glendale Cholla Water Treatment Plant Process Improvements and Booster Pump Station Improvements CMAR

Glendale, Arizona

Delivery Method: CMAR | **Role:** Carpenter

Construction Value: \$30.9 million

PCL provided CMAR services for upgrades and improvements at the 30-MGD Cholla WTP to optimize treatment process efficiency, including replacing several vertical turbine pumps and rehabilitating two booster pump stations within Zones 1A, 1B, and 2. Construction included modifying the raw water flow meter, low-lift pump station, bypass pipeline, and splitter box; improving the chemical feed system, site/electrical systems, and communication; and upgrading UPS/PLC. Additionally, PCL upgraded two 10-MG reservoirs, including replacing a reservoir roof and installing new security vents and additional hatches and access points on the other reservoir. PCL also recoated and installed new drives in seven secondary clarifiers, replaced two flocculators, and replaced a chemical tank and piping and containment coatings.



RELEVANT PROJECT EXPERIENCE

Charles M. Wolf Water Reclamation Facility Upgrades

Avondale, Arizona

Delivery Method: CMAR | **Role:** Carpenter

Construction Value: \$11.9 million

The project consisted of installation of a primary and secondary clarifier, a RAS pumping vault for the secondary clarifier, installation of 4,286-linear- feet of pipe, and modifications to existing equipment.

APS Train 5 Clarifier Refurbishment

Tonopah, Arizona

Delivery Method: Design-Bid-Build | **Role:** Carpenter

Construction Value: \$5.6 million

This project is located at the Arizona Public Service Palo Verde Nuclear Generating Station. Work included structural concrete rebuild and structural steel maintenance of tanks; removal of effluent boxes; replacement of mechanical components such as the clarifier drive mechanisms, sludge pumps, associated electronics, launders, and piping systems; and re-coating of metallic components.

Equipment Plan & Reconciliation Report

Equipment Plan & Reconciliation Report			
Equip Code	Equipment Name	RENT OWN	TOTAL HOURLY RATE
Air Monitors	Air Monitors	OWN	0.97
Auger Attachment	Auger Attachment	RENT	6.68
Backhoe420	Bckho-Ldr Ct 420C 1.0cy	RENT	70.23
Backhoe450	Bckho-Ldr Ct 450 E-Stick BH/L 1.5cy -O	RENT	120.85
BCKHO 324DL Claw	BCKHO 324DL W/ Thumb	RENT	155.91
Cat 416F2 IL Skiploader-0	Cat 416F2 IL Skiploader-0	RENT	78.68
Cmpt CS Vib CAT 433C -O	Cmpt SP Vib CAT 433C	RENT	203.23
Cmpt Vib Pdft Ct CP-433 66"-O	Cmpt Vib Pdft Ct CP-433 66"-O	RENT	225.82
Comp 185 CFM Diesel	Comp 185 CFM Diesel	RENT	42.87
Conc Bucket 1-1.5 cy	Conc Bucket 1-1.5 cy	OWN	9.34
Dozer Cat D6	Trac D6N Dozr-Wnch 165hp -O	RENT	205.86
Ex Cat 316	Bckho 316EL .68cy -O	RENT	142.67
Ex Cat 321	Bckho 321DL 1.83cy -O	RENT	130.73
Ex Cat 324	Bckho 324DL 1.5CY -O	RENT	155.91
EX Cat 329	Bckho 329EL 2.5CY -O	RENT	165.45
Ex Cat 336	Ex Cat 336 (36mt)	RENT	175.32
Forklift, RT 10,000# Reach-O	Forklift, RT 10,000# Reach	RENT	127.36
Forklift,RT 10K IDLE	Forklift, RT 10,000# Reach (IDLE)	RENT	88.09
Gen Set 30 KW Diesel -O	Gen Set 30 KW Diesel	RENT	17.17
Ldr Cat 950	Ldr 950G RT w/GP-4.0cy	RENT	79.46
Ldr Cat 966	Ldr 966G RT w/GP-4.5cy -O	RENT	117.01
Light Plant 5-10 KW -O	Gen Fldlites 5-10 KW	RENT	6.53
Pump 4" Elec Submers -O	Pump 6" Elec Submers -O	RENT	17.52
Radio HandHeldHT600/200 -C	Radio HandHeldHT600/200	OWN	0.39
Rescue Tripod w/yo yo	Rescue Tripod w/yo yo	OWN	0.97
Skidsteer Ldr Cat 246C	Skidsteer Ldr Cat 246C	RENT	56.36
TCon Tool 8'x40' -O	TCon Tool 8'x40' -O	RENT	1.76
Total Station, Robotic	Total Station, Robotic	OWN	15.51
Trc Pickup 4x2 -C	Trc Pickup 4x2	OWN	42.07
Trc Water-TA 2000 Gal -O	Trc Water-TA 2000 Gal -O	RENT	47.18
Trench Compactor 24"-33"	Trench Compactor 24"-33"	RENT	145.51
Trk Cat,740B ADT 40T	Trk Cat,740B ADT 40T	RENT	197.91
Yo Yo Winch	Yo Yo Winch	OWN	0.97
6" Camlock x 2.5 MPT Adapter	6" Camlock x 2.5 MPT Adapter	RENT	0.52
6" vic 6" Female Camlock Adapter	6" vic 6" Female Camlock Adapter	RENT	0.06
6" Layflat Hose-Camlock	6" Layflat Hose-Camlock	RENT	1.69
Standpipe-6" J-Stand	Standpipe-6" J-Stand	RENT	3.5
Steel Skip Box (Concrete W/O)	Steel Skip Box (Concrete W/O)	OWN	0.43
20' Office Combo Unit	20' Office Combo Unit	RENT	1.99
Trailer Office-12'x60'-PCL	Trailer Office-12'x60'-PCL	RENT	7.94
Trailer Office-12'x60'-Wilson	Trailer Office-12'x60'-Wilson	RENT	7.94

Project Phasing & Site Logistics Plan

GMP Approach

PCL suggests a three GMP approach for this project. GMP-1 (already executed) is for the early procurement of long lead materials for the On-Site Improvements scope. This allows the preconstruction process to proceed without impacting schedule. GMP-2 will be for the remainder of the On-Site Improvements scope. GMP-3 will be for the development and equipping of the two well sites currently under design. Depending on schedule constraints for the completion of these well sites, it may be prudent to add another early procurement GMP for the well equipment.

Site Facilities Plan

PCL has attached a proposed site facilities plan for review. The plan should be updated throughout the project as needed.

AWRF On-Site Improvements

Construction work at the AWRF will interface with plant operations at multiple points in the project. PCL will work with City of Chandler staff to minimize the impacts to the plant. The following are the key areas of discussion:

- 1.) Chemical Storage: PCL will be installing new 15 kV Switchgears and ductbanks immediately adjacent to Chemical Unloading and Storage Facilities. City staff will notify PCL one week in advance of potential chemical deliveries. PCL will ensure delivery access is unobstructed on chemical delivery days. This will be done using road plates and for the short period of time that duct bank trenches are open excavations. Work on the switchgears should not cause long term interruptions and crews working on the switchgears can temporarily relocate while deliveries occur.
- 2.) Existing Pump Station Tie In: PCL will connect to the south end of the existing pump station header. In order to do this, an existing blind flange will be removed. PCL will have the new header completely assembled, and will connect with two new FLGxPE pieces, pre-cut to fit, and a coupling to complete the tie in. PCL will need a one-day shutdown for this work to occur.
- 3.) New Pump Installation: New pumps will be installed after verifying suction header laterals are properly isolated by closed valves. This will not require any shutdown of existing plant facilities.
- 4.) New RW Line Tie Ins: The new RW line will be tied into existing plant lines at three (3) locations. One at an existing tee west of the Reclaim Water Reservoir 3, one just south of that same existing TEE at an existing ninety-degree bend, and one at an existing lateral running south from the RW-36-DIP line in Queen Creek Road. The tie-in to the Queen Creek Road Lateral will occur first. This lateral can be isolated using an existing valve and will not impact plant operations. The tie-in to the existing tee west of the reservoir and ninety-degree bend will be completed once all

pipe is laid and connections have been made to the existing pump station discharge header and the Queen Creek lateral. This tie in will take approximately one day and will require a shutdown of the existing pump station for one day.

- 5.) Electrical MOPOs: PCL, in conjunction with Wilson Engineering, Ludvik Electric, and City of Chandler Personnel have developed a plan to install new 15 kV switchgears with minimal impact to the plant. Since the two existing switchgears are fully redundant, one switchgear will be taken down and replaced at a time. This leaves the other switchgear on-line, backed up by existing on site generator backup. A backup generator will also be on standby for extra redundancy and can be connected should it be needed. Further MOPOS will be required and coordinated with plant staff.

OWRF On-Site Improvements

Minimal MOPOs will be required at the OWRF site but are identified below:

- 1.) New Flow Control Structure Tie Ins: The new lines connecting the reclaim water distribution and intel through the flow control structure will be tied in using hot taps. This means that little impact to plant will occur. Coordination will take place for emergency planning and isolation and repair procedures will be in place.
- 2.) Electrical MOPOs: New facilities will need to be connected to existing power and controls panels for ASR Well 3. Periodic isolations will be required, and PCL will work with Ludvik and plant staff to plan and coordinate.

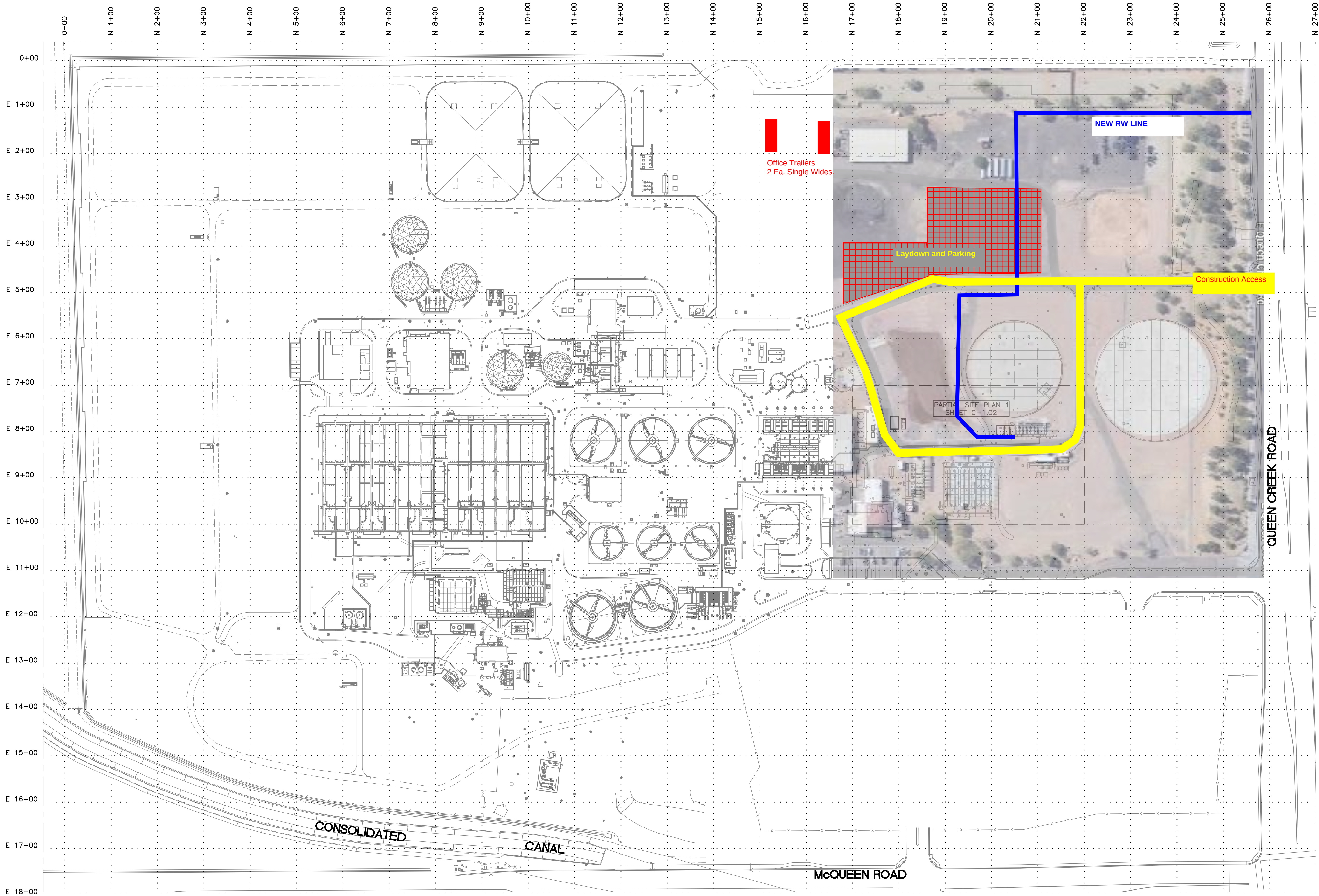
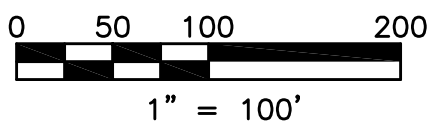
XREFS: TB=WE-D; XC=SITE; C=GRID; C-SITE; SEAL-SR; SEAL-CIVIL-SAL; SEAL-SEZ

NOTES:

1. SHADE CANOPIES NOT SHOWN FOR CLARITY.

SITE PLAN

SCALE = 1"=100'



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WILSON
ENGINEERS

CITY OF CHANDLER
RECLAIMED WATER
CONVEYANCE IMPROVEMENTS
AWRF - OVERALL SITE PLAN
CITY PROJECT NO. WW2206.201
WILSON PROJECT NO. 22016

Design: SZ	Drawn: JMJ	Checked: SR
Date: 07/2023	Wilson Project No.: 22016	
Rev#	Date	Description
		By

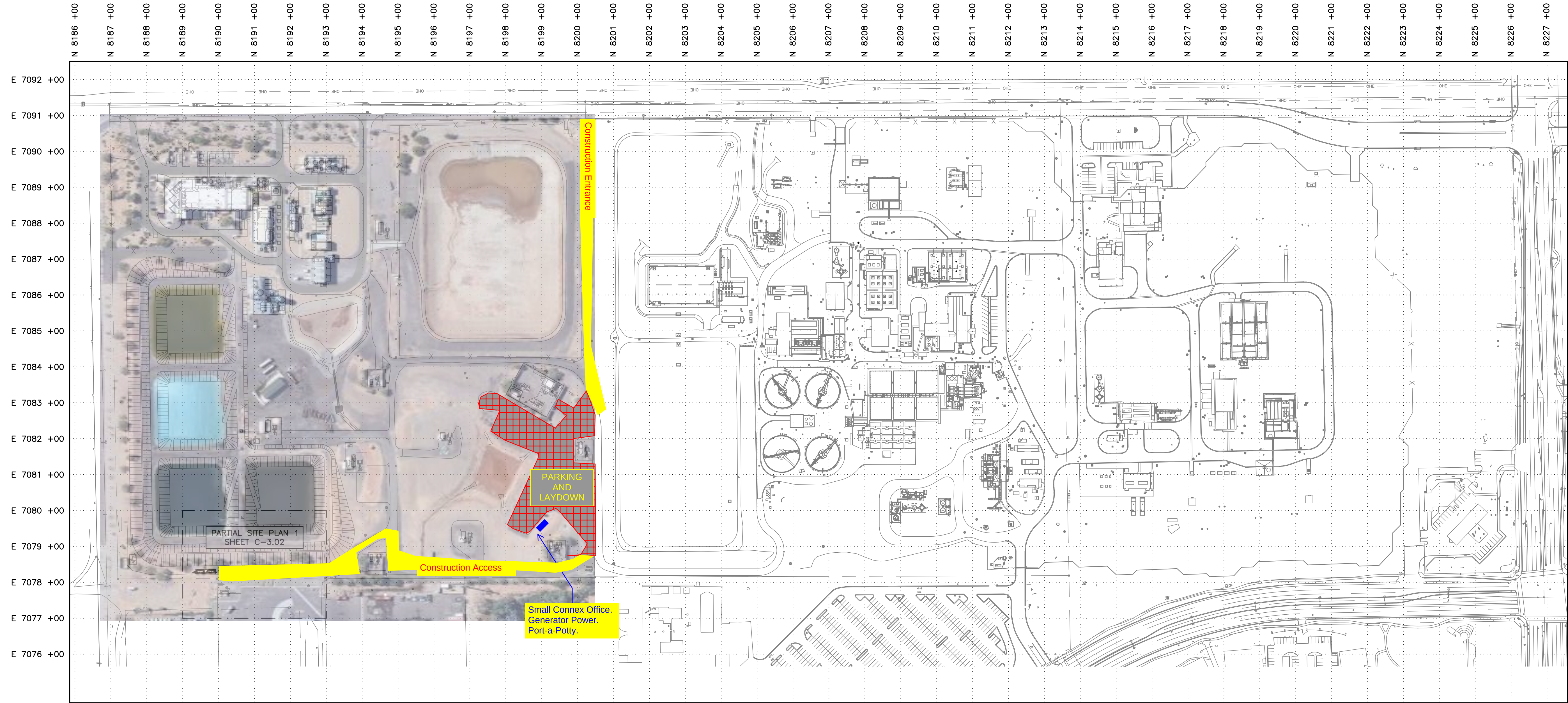
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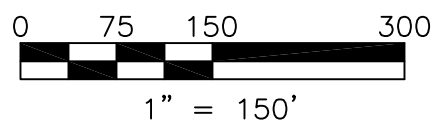
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AGENCY REVIEW

XREFS: TB=WE-D; SITE GRID; XC=SITE; SEAL-SR; SEAL-CVIL; SEAL-SEZ



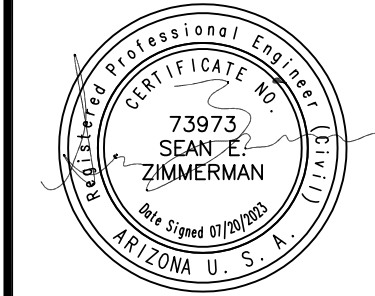
PLAN
SCALE: 1"=150'



CITY OF CHANDLER
RECLAIMED WATER
CONVEYANCE IMPROVEMENTS
OWRF – OVERALL SITE PLAN
CITY PROJECT NO. WW2206.201
WILSON PROJECT NO. 22016

Design: PM	Drawn: JMJ	Checked: SR
Date: 07/2023	Wilson Project No.: 22016	
Rev#	Date	Description
		By

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