25-0092

COUNTY OF FRESNO
CONSTRUCTION MANAGEMENT
CONTRACT CHANGE ORDER

FRESNO COUNTY WESTSIDE GROUNDWATER PROJECT
EL PORVENIR (CSA 30) & CANTUA CREEK (CSA 32)
PILOT HOLE TESTING AND PRODUCTION WELL CONSTRUCTION
DRINKING WATER STATE REVOLVING FUND
PROJECT NO: 1000359-005C
CONTRACT NO. 18-07-C

CHANGE ORDER NO. 9
JANUARY 30, 2025

TO: ZIM INDUSTRIES, INC.:

Make the following change(s) to the plans and specifications or do work not in the plans and specifications for this contract. Because of the proposed change(s), **ZERO (0) - WORKING DAYS** will be granted to the allotted contract time.

PERFORM VARIOUS EXTRA WORK

This extra work was request by the engineer and/or the contractor.

Perform the referenced below various extra work in accordance with Section 4-1.05, "Changes and Extra Work," of the Standard Specifications.

Upsize Pumps (Total Four) and Increase the Pumps' Setting Depths:

- Upsize two (2) pumps from 20 HP to 30 HP; increase the pumps setting depth from 756 feet to 1197 feet; and utilize 3-inch Schedule 80 mild steel with heavy couplings in lieu of the Schedule 40 steel with standard couplings at County Service Area (CSA) 30, El Porvenir.

- Upsize two (2) pumps from 40 HP to 50 HP; increase the pumps setting depth from 630 feet to 798 feet; and utilize 4-inch Schedule 80 mild steel with heavy couplings in lieu of the Schedule 40 steel with standard couplings at CSA 32, Cantua Creek.

- Contactor's proposed cost for this work is $96,787.00 (see attached Exhibits A and B).

Electrical Materials Cost Adjustment:

- Adjust compensation for electrical materials costs' increase due to delays caused by the Covid-19 pandemic and subsequent supply chain disruptions, and changes to the original project scope due to actual field conditions.

- Contactor's proposed cost for the increased materials' is $55,929.37 (see attached Exhibit C).

Electrical Design Modifications:

- Upsize wiring and soft starters to comply with the upsized pumps at CSA 30, El Porvenir, and CSA 32, Cantua Creek.

- Contactor's proposed cost for this work is $10,480.70 (see attached Exhibit D).

__ Contractor
__ Auditor Controller
__ Business Office
__ Board of Supervisors
__ Const. Management
__ RE/Arch.
__ Design

We, the above signed contractor, have given careful consideration to the change proposed and hereby agree, if this proposal is approved, that we will provide all equipment, furnish all materials, except as may otherwise be noted above, and perform all services necessary for the work above specified, and will accept as full payment therefore the prices shown above.

If the Contractor does not sign acceptance of this order, his attention is directed to the requirements of the specifications as to proceeding with the ordered work and filing a written protest within the time therein specified.

Install Level Probes for Each Pump:

- Install a total of four (4) low level cutout probes and relays (one (1) for each pump) to automatically shut off the pump if the water level drops to 50 feet above the pump bowls and to trigger a warning if the water level rises to 350 feet above the pump bowls.

- Contactor's proposed cost for this work is $8,120 (see attached Exhibit E).

Install Future Pressure Switch Conduits:

- Install at total of four (4) ¾-inch PVC conduits from the controller to the well head with the steel reinforcement support post, one at each well for the future pressure switches.

- Contactor's proposed cost for this work is $5,065.87 (see attached Exhibit F).

Perform all work according to the applicable sections of the *Standard Specifications*, Special Provisions, and/or any other Specifications included in the contract documents

Sum of contractor's proposals = $176,382.94.

The negotiated lump-sum price for all above referenced extra work is $125,000. This negotiated price includes the offset of the liquidated damages caused by contractor's delays.

Compensation for all above referenced extra work will be made at a lumpsum agreed price of $125,000 according to Section 9-1.03, "Payment Scope," of the Special Provisions. This agreed lumpsum price includes compensation for all labor, equipment, materials, tools, incidentals, markups, and profit. No additional compensation will be made. This amount will be paid as extra work.

Time extensions were addressed in Contract Change Order No. 8, and no further time extensions will be granted.

We, the above signed contractor, have given careful consideration to the change proposed and hereby agree, if this proposal is approved, that we will provide all equipment, furnish all materials, except as may otherwise be noted above, and perform all services necessary for the work above specified, and will accept as full payment therefore the prices shown above.

If the Contractor does not sign acceptance of this order, his attention is directed to the requirements of the specifications as to proceeding with the ordered work and filing a written protest within the time therein specified.

COUNTY OF FRESNO
CONSTRUCTION MANAGEMENT
CONTRACT CHANGE ORDER

FRESNO COUNTY WESTSIDE GROUNDWATER PROJECT
EL PORVENIR (CSA 30) & CANTUA CREEK (CSA 32)
PILOT HOLE TESTING AND PRODUCTION WELL CONSTRUCTION
DRINKING WATER STATE REVOLVING FUND
PROJECT NO: 1000359-005C
CONTRACT NO. 18-07-C

NET COST THIS CHANGE ORDER: $125,000 INCREASE
NET TIME EXTENSION THIS CHANGE ORDER: ZERO (0) - WORKING DAYS

Manley S. Sekhon

Jason Ahumada, Resident Engineer

APPROVAL RECOMMENDED:

Manley S. Sekhon

Mandeep S. Sekhon, PE
Construction Engineer

Zim Industries, Inc.
Contractor

By Wesley Zimmerman

Title Estimator/PM

Jan 31, 2025

Accepted Date: _____

APPROVED BY:

Steve White Digitally signed by Steve White Date: 2025.02.03 09:35:09 -08'00'

Steven E. White, Director
Public Works and Planning

Date: _____

Ernest Buddy Mendes, Chairman
Board of Supervisors

Date: _____

__ Contractor
__ Auditor Controller
__ Business Office
__ Board of Supervisors
__ Const. Management
__ RE/Arch.
__ Design

We, the above signed contractor, have given careful consideration to the change proposed and hereby agree, if this proposal is approved, that we will provide all equipment, furnish all materials, except as may otherwise be noted above, and perform all services necessary for the work above specified, and will accept as full payment therefore the prices shown above.

If the Contractor does not sign acceptance of this order, his attention is directed to the requirements of the specifications as to proceeding with the ordered work and filing a written protest within the time therein specified.

FOR ACCOUNTING PURPOSES

ORG: 9172

FUND: 0820

SUBCLASS: 16000

ACCOUNT: 8400

PROGRAM: 91293

Exhibit A

Sekhon, Mandeep

From: Wes Zimmerer <wes@zimindustries.com>
Sent: Friday, December 13, 2024 3:29 PM
To: Sekhon, Mandeep; Curt Zimmerer; Robert Zimmerer
Cc: Ahumada, Jason; Artal, Sebastian; Singleton, Richard; Evy Irlas-Mucino; Boyd
Subject: RE: 1807C Fresno County Westside Ground Water Project - All Change Orders
Attachments: Pump column submittals and request for pump change order.pdf; Exhibit 9.pdf; 1807C Fresno County Westside Groundwater Project - Extra Work WCDs 1, 2, and 3; PCO Electrical Material Cost Adjustments.pdf; PCO Electrical Design Modifications.pdf; PCO Level Probes.pdf; PCO Future Pressure Switch Conduit.pdf

Mandeep,

Please find attached the proposed change orders related to pump equipment design updates (submitted March 20, 2023), additional water pipe fittings (agreed to $6,000 subcontractor price August 15, 2023), and various electrical adjustments, including larger HP soft starters and wire sizes, material cost adjustments, level probes, and future pressure switch conduit (submitted July 23, 2024). These proposals reflect adjustments necessitated by changes in project conditions and design.

Below is a summary of the proposed change orders:

Description	*Date*	*Amount*	
Pump equipment design changes	3/20/2023	$96,787.00	
~~Additional water pipe fittings~~	~~8/15/2023~~	~~$6,900.00~~	Paid in CCO 06
Electrical material cost adjustments	7/23/2024	$55,929.37	
Electrical design modifications	7/23/2024	$10,480.70	
Level probes	7/23/2024	$8,120.00	
Future pressure switch conduit	7/23/2024	$5,065.87	
Total		~~**$183,282.94**~~	

Revised total = $176,382.94

Negotiated lump-sum for all PCOs = $125,000

Regards,

Wes Zimmerer
Estimator/P.M.
Zim Industries, Inc.
4532 E Jefferson Ave.
Fresno, CA 93725
Phone (559) 834-1551
Fax (559) 834-5156

From: Sekhon, Mandeep <msekhon@fresnocountyca.gov>
Sent: Tuesday, December 10, 2024 8:58 AM
To: Wes Zimmerer <wes@zimindustries.com>; Curt Zimmerer <curt@zimindustries.com>; Robert Zimmerer <bob@zimindustries.com>
Cc: Ahumada, Jason <jahumada@fresnocountyca.gov>; Artal, Sebastian <sartal@fresnocountyca.gov>; Singleton, Richard <risingleton@fresnocountyca.gov>
Subject: 1807C Fresno County Westside Ground Water Project - All Change Orders

Wes,

As we discussed over the phone a couple of days ago, please submit all proposed change orders for us to consider for payment. Please note that this will be the final change order, which requires Board's approval. Originally, we were scheduled to take this item to the Board on January 7, 2025, however, we have surpassed the time to submit documents in advance and will have to push this date further back. Please submit all proposed change orders to us asap.

Thanks

Mandeep S. Sekhon, PE| Construction Engineer
Department of Public Works and Planning | Construction
2220 Tulare Street, 7th Floor, Fresno, CA 93721
Office: (559) 600-7883 Cell: (559) 250-7967
Your input matters! Customer Service Survey

Exhibit B

ZIM INDUSTRIES, INC.

4532 E. Jefferson Ave. • Fresno, CA 93725
Ph. (559) 834-1551 • FAX (559) 834-5156
www.zimindustries.com

March 16, 2023

County of Fresno
Department of Public Works and Planning / Construction
2220 Tulare Street, 7th Floor
Fresno, California 93723

Subject: Contract 18-07-C Fresno County Westside Groundwater Project
2 – pumps & motors with 4-inch schedule80 steel column pipe x 798 feet located at CSA32 Cantua Creek
2 – pumps & motors with 3-inch schedule80 steel column pipe x 1197 feet located at CSA30 El Porvenir

Dear AJ / Mandeep,

Below are Zim Industries, Inc.'s responses and answers to your follow-up questions regarding the above referenced pumps.

1) The County of Fresno is looking for a guarantee that the threaded coupler will not fail.

Over the past several weeks we have been researching the recommended hang weights for 3-inch and 4-inch schedule 80 drop pipe equipped with the largest weight capacity couplings that are available in the pipe industry. We have requested from all of our pump suppliers their recommended maximum pump setting and hang weights utilizing both 3-inch and 4-inch schedule 80 mild steel pipe and 3K full heavy couplings and none of them were able to provide us with this data.

There has been a substantial change in both the depth of these four pump settings and the weight of these four pumps located at El Porvenir and Cantua Creek. There are several conditions that have changed since this project was originally bid including: 1) deeper pump settings on all four pumps; 2) different larger capacity and longer submersible pump bowls; 3) different larger capacity submersible motors; 4) thicker drop pipe /column pipe changing from schedule 40 to schedule 80 mild steel piping; 5) thicker couplings on both the 3-inch and 4-inch schedule 80 steel pipe; and 6) heavier total pump, motor and column water weights due to these required changes to meet these changes in the pumping conditions.

The first chart (Exhibit 1) included in the attachments is a chart displaying the maximum suggested pump setting from Grundfos utilizing schedule 40 standard T & C Steel Pipe with standard couplings is 1250 feet for 3-inch I.D. pipe and 1100 feet for 4-inch I.D. pipe. A second chart (Exhibit 2) included in this attachment is from the Grundfos Engineering Manual displaying the pipe data for both 3-inch I.D. and 4-inch I.D. schedule 40 and schedule 80 pipe, but does not display a maximum suggested pump setting. The third thru fifth attached PDF files contains a summary of the calculated weights of both the 3-inch and 4-inch pumps including the water weight of the pumps with pump column pipe full of water

for the following three pump designs: 1) the four pumps as originally specified and set to the originally contracted depths of 756 feet at El Porvenir and 630 feet at Cantua Creek utilizing schedule 40 mild steel column pipe and standard couplings as originally contracted (Exhibit 3); 2) the four pumps that would be required to be set at the new required depths of 1197 feet at El Porvenir and 798 feet at Cantua Creek in order to meet the changes in the pumping conditions utilizing schedule 40 mild steel pipe and standard couplings (Exhibit 4); and 3)) the four pumps currently proposed to be set at the required depths of 1197 feet at El Porvenir and 798 feet at Cantua Creek in order to meet the changes in the pumping conditions utilizing schedule 80 mild steel pipe and heavy couplings (Exhibit 5).

As stated above, we have had several conversations over the past several weeks with all of our pump suppliers regarding the maximum recommended pump settings utilizing both schedule 40 black mild steel pipe with standard couplings for the 3-inch and 4-inch column pipe for these four pumps; and schedule 80 black mild steel pipe with heavy couplings for the 3-inch and 4-inch column pipe for these four pumps. Because no manufacturer or supplier was able to provide us with a recommended maximum hang weight or recommended maximum pump setting utilizing 3-inch and 4-inch schedule 80 mild steel pipe with heavy couplings to set these four pumps, we have calculated the estimated pump weights and compared these weights to the calculated joint strength of the 3-inch and 4-inch schedule 80 mild steel pipe with heavy couplings.

In Exhibit #3, we have calculated the estimated pump weights of these four originally specified and contracted pumps full of water in order to display the total pump weights of the originally specified schedule 40 steel pipe pump settings. The estimated pump weight of each of the two 3-inch pumps full of water at CSA 30 set to a depth of 756 feet and specified utilizing 3-inch schedule 40 steel pipe and standard couplings is 11,118 pounds; and the estimated pump weight of each of the two 4-inch pumps full of water at CSA 32 set at 630 feet and specified utilizing 4-inch schedule 40 steel pipe and standard couplings is 13,606 pounds. The Grundfos chart (Exhibit #1) recommends that the maximum 3-inch pump setting utilizing schedule 40 mild steel pipe and standard couplings is 1250 feet or approximately 18,387 pounds (14.71 pounds / foot x 1250 feet). The Grundfos chart also recommends that the maximum 4-inch pump setting utilizing schedule 40 mild steel pipe and standard couplings is 1100 feet or approximately 23,760 pounds (21.60 pounds / foot x 1100 feet). Based upon these calculated pump weights and Grundfos chart recommendations, all four originally specified and contracted pumps being set at their originally specified settings could be installed without any concern of their respective pump weights. All four pump total weights set at these originally contracted pump settings are less than 60% of the maximum recommended hang weights utilizing schedule 40 mild steel pipe and standard couplings.

Additionally, (in Exhibit #4) we have calculated the estimated pump weights of these four pumps full of water to assess whether the originally specified schedule 40 steel pipe with standard couplings will still work for these required new deeper required actual pump settings. The estimated pump weight of each of the two 3-inch mild steel pipe pumps full of water at CSA 30 set at 1197 feet and specified utilizing 3-inch schedule 40 steel pipe and standard couplings is 17,325 pounds; and the estimated pump weight of each of the two 4-inch schedule 40 mild steel pipe pumps full of water at CSA 32 set at 798 feet and specified utilizing 4-inch schedule 40 steel pipe and standard couplings is 16,736 pounds. The maximum setting utilizing 3-inch schedule 40 steel pipe and standard couplings is 1250 feet; and the maximum setting utilizing 4-inch schedule 40 steel pipe and standard couplings is 1100 feet. The two 3-inch schedule 40 mild steel pipe pumps at CSA 30 with settings of 1197 feet weigh 17,325 pounds and are at 95% of the maximum weight limits of 18,387 pounds for utilizing schedule 40 steel pipe with standard couplings; and the two 4-inch schedule 40 mild steel pipe pumps at CSA 32 with settings of 798 feet

weigh 16,736 pounds and are at 71% of the maximum weight limits of 23,760 pounds for utilizing schedule 40 steel pipe and standard couplings. Despite the fact that the total pump weights of these specified pumps utilizing schedule 40 pipe with standard couplings will stay below their respective maximum setting thresholds, we do not recommend utilizing schedule 40 mild steel pipe with standard couplings on these deep pump settings because both the schedule 40 pipe and the thinner wall standard couplings tend to flex and egg shape when these amounts of weight are hung from them. When the pipe and / or couplings flex and become egg shaped, there is a good chance that the threads won't hold, the pipe will slip out of the coupling, and the pump will be dropped. This potential joint failure could occur during both our initial installation or in the future when the pump is pulled for maintenance, rehabilitation or repair of either the well or the pump.

Instead, on these four deep pump settings, we recommend that Fresno County utilizes schedule 80 mild steel pipe with heavy couplings because both the schedule 80 mild steel pipe and the heavy couplings are thicker and will not flex or become egg shaped when holding the pump weights of these deep pump settings. Furthermore, as discussed during our meeting on November 16, 2022, the thicker material of the schedule 80 steel pipe and heavy couplings will provide additional expected longevity for these four pumps.

Finally, (in Exhibit #5) we have calculated the estimated pump weights of these four pumps full of water to display the weights of the required pumps set at the required deeper pump settings utilizing schedule 80 mild steel pipe with heavy couplings. The estimated pump weight of each of the two 3-inch pumps full of water at CSA 30 set at 1197 feet and specified utilizing 3-inch schedule 80 steel pipe and heavy couplings is 20,118 pounds; and the estimated pump weight of each of the two 4-inch pumps full of water at CSA 32 set at 798 feet and specified utilizing 4-inch schedule 80 steel pipe and heavy couplings is 19,655 pounds.

We then calculated the joint strengths of 4-inch ID and 3-inch ID schedule 80 mild steel pipe with heavy couplings utilizing a safety factor of 3. Exhibit #6 displays the recommended maximum weight setting utilizing 3-inch schedule 80 steel pipe and heavy couplings is 23,138 pounds or 1376 feet (23,138 pounds / 16.81 pounds per foot); and Exhibit #7 displays the recommended maximum weight setting utilizing 4-inch schedule 80 steel pipe and heavy couplings is 23,273 pounds or 944 feet (23,272 pounds / 24.63 pounds per foot). The two 3-inch schedule 80 mild steel pipe pumps at CSA 30 with settings of 1197 feet weigh 20,118 pounds and are at 87% of the maximum weight limits of 23,138 pounds for utilizing schedule 80 steel pipe and heavy couplings; and the two 4-inch schedule 80 mild steel pipe pumps at CSA 32 with settings of 798 feet weigh 19,655 pounds and are at 85% of the maximum weight limits of 23,273 pounds for utilizing schedule 80 steel pipe and heavy couplings. We recommend that the schedule 80 mild steel pipe with the heavy couplings be utilized on all four pumps because all four pumps have total pump weights well under the maximum recommended weight capacity of schedule 80 mild steel pipe with heavy couplings of approximately 23,000 pounds for all pumps utilizing either 3-inch or 4-inch mild steel pipe with heavy couplings. Because the maximum recommended weight capacity of schedule 80 mild steel pipe with heavy couplings has been calculated using a safety factor of 3, the actual maximum hang weight of schedule 80 mild steel pipe with heavy couplings utilizing either 3-inch or 4-inch mild steel pipe is approximately 69,000 pounds. In addition, because both the pipe thickness and the coupling thickness of schedule 80 mild steel pipe with heavy couplings is greater than the pipe thickness and coupling thickness of schedule 40 mild steel pipe with standard couplings, there is little to no chance that the schedule 80 mild steel pipe or heavy couplings will flex or become egg shaped during the pump installation at these new deeper settings.

While we are confident that utilizing the schedule 80 mild steel pipe with heavy couplings to set these new deeper and larger required pumps and motors, Zim Industries, Inc. recommends that the County of Fresno have their engineering team review this data included in this email the attached PDF files. While Zim Industries, Inc. is the general contractor, we are not the design engineer and we have not been contracted to perform the duties of the design engineer for the County of Fresno on this project. With that being said, based on the above stated pump weights and calculated joint strengths of the 3-inch and 4-inch schedule 80 mild steel pipe with heavy couplings, we recommend that 3-inch and 4-inch schedule 80 mild steel pipe with heavy couplings be utilized to set these four pumps on this project.

2) The County of Fresno is looking for proof of AIS certification

See the attached Exhibit 8 containing the proof of American Iron and Steek Certification of the 3-inch ID and 4-inch ID schedule 80 mild steel pipe materials from our pump supplier.

3) The County of Fresno is asking that Zim Industries will split the cost of the purposed change order 50/50.

The revised pricing of Zim Industries, Inc.'s cost proposal to furnish and install the four pumps utilizing 3-inch and 4-inch schedule 80 mild steel pipe with heavy couplings at the deeper pump settings required for CSA 30 and CSA 32 to meet the changes in pump, motor and pumping conditions is attached as Exhibit 9. Below is a summary of our revised proposals.

Description of Work	Original Bid	Revised Bid	Change Order Request
CSA 32 – Cantua Creek Well 1	$73,750.00	$112,218.16	$38,468.16
CSA 32 – Cantua Creek Well 2	$73,750.00	$112,218.16	$38,468.16
CSA 30 – El Porvenir Well 1	$78,720.00	$ 88,645.34	$ 9,925.34
CSA 30 – El Porvenir Well 2	$78,720.00	$ 88,645.34	$ 9,925.34
Total revised Change Order Request Amount			$96,787.00

The change in conditions of the required pump, motor, column pipe and pump setting has required nearly every component of these four pumps to both change and increase in quantity from when we contracted this work. Zim Industries, Inc. disagrees with the County of Fresno's request to split these cost increases equally between Zim Industries, Inc. and the County of Fresno. All of these proposed pump cost increases are due to the fact that pumps are being set deeper, and the pump components are being increased in size, weight and footages to meet the change in the pumping conditions of these four wells. These proposed cost increases are summarized below because of these following pump component changes and quantity increases: 1) the pump settings went from 756 feet to 1197 feet on the two pumps located at CSA 30; and 2) the pump settings went from 630 feet to 798 feet on the two pumps located at CSA 32; 3) the submersible pump bowl changed from 15 stages to 25 stages on the two pumps located at CSA 30; 4) the submersible pump bowl changed from 11 stages to 23 stages on the two pumps located at CSA 32; 5) the submersible motor changed from 20 HP to 30 HP on the two pumps located at CSA 30; 6) the submersible motor changed from 40 HP to 50 HP on the two pumps located at CSA 32; 7) the column pipe changed from 756 feet of 3-inch coated schedule 40 mild steel pipe with standard couplings to 1197 feet of 3-inch schedule 80 mild steel pipe with heavy couplings on the two pumps located at CSA 30; 8) the column pipe changed from 630 feet of 4-inch coated schedule 40 mild steel pipe standard couplings to 798 feet of 4-inch schedule 80 mild steel pipe with heavy couplings on the two pumps located at CSA 32; 9) the number of 3-inch diameter check valves changed

from 4 each to 6 each on the two pumps located at CSA 30; 10) the number of 4-inch diameter check valves changed from 3 each to 4 each on the two pumps located at CSA 32; 11) the submersible cable changed from 1000 feet of 6/3 Flat Jacket Cable to 1500 feet of 2/3 Flat Jacket Cable on the two pumps located at CSA 30; 12) the submersible cable changed from 1000 feet of 4/3 Flat Jacket Cable to 1000 feet of 2/3 Flat Jacket Cable on the two pumps located at CSA 32; 13) the footage of #14 wire changed from 2000 feet to 3000 feet on the two pumps located at CSA 30; 14) the pump airline changed from 756 feet of 1 ¼" schedule 80 PVC airline to 1200 feet of ¼" stainless steel airline on the two pumps located at CSA 30; and 15) the pump airline changed from 630 feet of 1 ¼" schedule 80 PVC airline to 800 feet of ¼" stainless steel airline on the two pumps located at CSA 32.

We respectfully request that the County of Fresno approve our request for this contract price increase to compensate Zim Industries, Inc. for the pump changes, motor changes and pump setting changes required to meet the change in pumping conditions of the two wells at CSA 30 and the two wells at CSA 32.

We have contacted our pump supplier for lead times on the remaining 3-inch and 4-inch mild steel schedule 80 drop pipe with heavy couplings for these four pumps (two pumps at CSA 32 and two pumps at CSA 30) and the lead times for manufacturing and delivery is 10 to 12 weeks. We have ordered all of the other pump components included in our proposal except for the 3-inch and 4-inch schedule 80 mild steel drop pipe with heavy couplings. Once we have the County of Fresno's approval for utilizing this schedule 80 mild steel material with heavy couplings for both the 3-inch and 4-inch pump settings, we will proceed with ordering it from our supplier and finalize our work schedule. We look forward to finalizing the pump designs of these four pumps, ordering the 3-inch and 4-inch schedule 80 mild steel column pipe with heavy couplings and completing this project as soon as possible.

Sincerely,

Curt B. Zimmerer
President

Exhibit C

ZIM INDUSTRIES, INC.

4532 E. Jefferson Ave. • Fresno, CA 93725
Ph. (559) 834-1551 • FAX (559) 834-5156
www.zimindustries.com

July 23, 2024

County of Fresno
Department of Public Works and Planning / Construction
2220 Tulare Street, 7th Floor
Fresno, CA 93723

RE: Fresno County Westside Groundwater Project (1807C) Electrical Material Cost Adjustments

Dear AJ / Mandeep,

Zim Industries, Inc. proposes a change order to address the unforeseen escalation in electrical material costs incurred between 2020 and 2022. The Covid-19 pandemic and subsequent supply chain disruptions resulted in significant delays and increases in material costs, which have had a profound impact on our operations. The delays in finalizing the pump equipment designs, combined with these industry-wide challenges, resulted in significantly higher costs for electrical conduit and wire by the time final designs were confirmed.

Extended lead times and fluctuating prices due to the pandemic disrupted our procurement and planning. Suppliers could not offer reliable delivery schedules or pricing, and challenges in retaining and training our workforce further complicated our operations. These disruptions severely affected our ability to manage costs and schedules, contributing to increased electrical material costs.

After the pump tests, it was evident that new pump equipment designs were required. This resulted in new pump designs with larger horsepower motors and, in turn, electrical design modifications, consisting of larger horsepower soft starters and larger wire sizes. Delays in finalizing these modifications, combined with ongoing industry-wide issues, resulted in a significant increase in electrical material costs.

Attached, please find the documentation from our electrical subcontractor and their supplier outlining the additional costs for conduit and wire incurred during this period. Components with minimal cost increases have been excluded. Our proposed adjustment, with a 15% markup and bond cost, amounts to $55,929.37.

If you have any questions or need further information, please do not hesitate to contact Bob Zimmerer or me at (559) 834-1551. We appreciate your consideration and look forward to your response.

Sincerely,

Wes Zimmerer
Zim Industries, Inc.

EL PORVENIR CSA - 30

PVC CONDUIT

CONDUIT CALL OUT	CONDUIT SIZE	CONDUIT TYPE	CONDUIT QUANTITY	QUANTITY IN FEET PER RUN	ORIGINAL CONDUIT COST PER FOOT	ORIGINAL EXTENDED COST	PRESENT COST PER FOOT	PRESENT EXTENDED COST
H 3000 A	1-1/2"	PVC	1	110	$0.81	$89.10	$3.25	$357.50
H 3000 B	1-1/2"	PVC	1	115	$0.81	$93.15	$3.25	$373.75
H 3000 C	3/4"	PVC	1	25	$0.31	$7.75	$1.33	$33.25
H 3000 D	3/4"	PVC	1	5	$0.31	$1.55	$1.33	$6.65
H 3001 A	1-1/2"	PVC	1	110	$0.81	$89.10	$3.25	$357.50
H 3001 B	1-1/2"	PVC	1	115	$0.81	$93.15	$3.25	$373.75
H 3001 C	3/4"	PVC	1	25	$0.31	$7.75	$1.33	$33.25
L 3000 A	3/4"	PVC	1	20	$0.31	$6.20	$1.33	$26.60
L 3000 B	3/4"	PVC	1	5	$0.31	$1.55	$1.33	$6.65
L 3000 C	3/4"	PVC	1	40	$0.31	$12.40	$1.33	$53.20
L 3001 A	3/4"	PVC	1	95	$0.31	$29.45	$1.33	$126.35
L 3001 B	3/4"	PVC	1	120	$0.31	$37.20	$1.33	$159.60
L 3001 C	3/4"	PVC	1	150	$0.31	$46.50	$1.33	$199.50
L 3001 D	3/4"	PVC	1	25	$0.31	$7.75	$1.33	$33.25
C 3000 A	2"	PVC	1	115	$1.00	$115.00	$4.00	$460.00
C 3000 B	3/4"	PVC	1	25	$0.31	$7.75	$1.33	$33.25
C 3000 C	1"	PVC	1	105	$0.44	$46.20	$2.13	$223.65
C 3001 A	2"	PVC	1	115	$1.00	$115.00	$4.00	$460.00
C 3001 B	3/4"	PVC	1	25	$0.31	$7.75	$1.33	$33.25
C 3001 C	1"	PVC	1	115	$0.44	$50.60	$2.13	$244.95
C 3001 D	1"	PVC	1	50	$0.44	$22.00	$2.13	$106.50
C 3001 E	1"	PVC	1	5	$0.44	$2.20	$2.13	$10.65
XC 3000 A	1"	PVC	1	100	$0.44	$44.00	$2.13	$213.00
XC 3000 B	2"	PVC	1	115	$1.00	$115.00	$4.00	$460.00
XC 3001 B	2"	PVC	1	115	$1.00	$115.00	$4.00	$460.00

ORIGINALLY QUOTED TOTAL OF CONDUIT: $1,163.10
ORIGINALLY QUOTED TOTAL OF WIRE: $2,409.90
ORIGINALLY QUOTED TOTAL OF GND. WIRE: $297.05

TOTAL OF ORIGINALLY QUOTED MATERIAL: $3,870.05

PRESENT TOTAL COST OF CONDUIT: $4,846.05
PRESENT TOTAL COST OF WIRE: $5,085.00
PRESENT TOTAL COST OF GND. WIRE: $618.10

PRESENT TOTAL COST OF MATERIAL: $10,549.15

CONDUCTORS

WIRE SIZE	WIRE TYPE	NUMBER OF WIRES OR ROPE	TOTAL FEET OF CONDUCTORS	ORIGINAL WIRE COST PER FOOT	ORIGINAL EXTENDED COST	PRESENT COST PER FOOT	PRESENT EXTENDED COST
2	THHN	3	360	$1.37	$493.20	$2.90	$1,044.00
2	THHN	3	376	$1.37	$513.75	$2.90	$1,087.50
8	THHN	3	90	$0.36	$32.40	$0.79	$71.10
12	THHN	2	20	$0.15	$3.00	$0.30	$6.00
2	THHN	3	360	$1.37	$493.20	$2.90	$1,044.00
2	THHN	3	375	$1.37	$513.75	$2.90	$1,087.50
8	THHN	3	90	$0.36	$32.40	$0.79	$71.10
12	THHN	2	50	$0.15	$7.50	$0.30	$15.00
12	THHN	2	15	$0.15	$2.25	$0.30	$4.50
12	THHN	2	90	$0.15	$13.50	$0.30	$27.00
12	THHN	2	215	$0.15	$32.25	$0.30	$64.50
12	THHN	4	500	$0.15	$75.00	$0.30	$150.00
12	THHN	4	620	$0.15	$93.00	$0.30	$186.00
12	THHN	2	60	$0.15	$9.00	$0.30	$18.00
14	THHN	2	240	$0.11	$26.40	$0.24	$57.60
14	THHN	2	60	$0.11	$6.60	$0.24	$14.40
	ROPE	1	105				
14	THHN	2	240	$0.11	$26.40	$0.24	$57.60
14	THHN	2	60	$0.11	$6.60	$0.24	$14.40
	ROPE	1	115				
14	THHN	4	220	$0.11	$24.20	$0.24	$52.80
14	THHN	8	50	$0.11	$5.50	$0.24	$12.00
	ROPE	1	100				
	ROPE	1	115				
	ROPE	1	115				

ORIGINALLY QUOTED $2,409.90 | PRESENT COST $5,085.00

GROUND CONDUCTORS

GND SIZE	QUANTITY IN FEET PER RUN	ORIGINAL WIRE COST PER FOOT	ORIGINAL EXTENDED COST	PRESENT COST PER FOOT	PRESENT EXTENDED COST
8	120	$0.36	$43.20	$0.79	$94.80
8	125	$0.36	$45.00	$0.79	$98.75
12	35	$0.15	$5.25	$0.30	$10.50
12	10	$0.15	$1.50	$0.30	$3.00
8	120	$0.36	$43.20	$0.79	$94.80
10	120	$0.22	$26.40	$0.43	$51.60
10	35	$0.22	$7.70	$0.43	$15.05
12	30	$0.15	$4.50	$0.30	$9.00
12	10	$0.15	$1.50	$0.30	$3.00
12	50	$0.15	$7.50	$0.30	$15.00
12	105	$0.15	$15.75	$0.30	$31.50
12	130	$0.15	$19.50	$0.30	$39.00
12	160	$0.15	$24.00	$0.30	$48.00
12	35	$0.15	$5.25	$0.30	$10.50
14	125	$0.12	$15.00	$0.24	$30.00
14	35	$0.12	$4.20	$0.24	$8.40
14	125	$0.12	$15.00	$0.24	$30.00
14	35	$0.12	$4.20	$0.24	$8.40
14	60	$0.12	$7.20	$0.24	$14.40
14	10	$0.12	$1.20	$0.24	$2.40
			6		
			2		

ORIGINALLY QUOTED $297.05 | PRESENT COST $618.10

TOTAL COST DIFFERENCE FOR CANTUA CREEK PROJECT: $ 6,679.10

CANTUA CREEK CSA - 32

PVC CONDUIT

CONDUIT CALL OUT	CONDUIT SIZE	CONDUIT TYPE	CONDUIT QUANTITY	QUANTITY IN FEET PER RUN	ORIGINAL COST PER FOOT	ORIGINAL EXTENDED COST	PRESENT COST PER FOOT	PRESENT EXTENDED COST
H 3200 A	2"	PVC	1	80	$1.00	$80.00	$4.00	$320.00
H 3200 B	2"	PVC	1	440	$1.00	$440.00	$4.00	$1,760.00
H 3200 C	2"	PVC	1	440	$1.00	$440.00	$4.00	$1,760.00
H 3200 D	2"	PVC	1	500	$1.00	$500.00	$4.00	$2,000.00
H 3200 E	2"	PVC	1	110	$1.00	$110.00	$4.00	$440.00
H 3200 F	1-1/4	PVC	1	110	$0.74	$81.40	$2.80	$227.92
H 3201 A	2"	PVC	1	80	$1.00	$80.00	$4.00	$320.00
H 3201 B	2"	PVC	1	440	$1.00	$440.00	$4.00	$1,760.00
H 3201 C	2"	PVC	1	440	$1.00	$440.00	$4.00	$1,760.00
H 3201 D	2"	PVC	1	120	$1.00	$120.00	$4.00	$480.00
H 3201 E	1-1/4	PVC	1	40	$0.74	$29.60	$2.80	$82.88
H 3201 F	3/4"	PVC	1	25	$0.31	$7.75	$1.33	$10.31
L 3201 A	3/4"	PVC	1	40	$0.31	$12.40	$1.33	$16.49
L 3201 B	3/4"	PVC	1	5	$0.31	$1.55	$1.33	$2.06
L 3201 C	3/4"	PVC	1	40	$0.31	$12.40	$1.33	$16.49
L 3200 A	1"	PVC	1	30	$0.44	$13.20	$2.13	$28.12
L 3200 B	1"	PVC	1	110	$0.44	$48.40	$2.13	$103.09
L 3200 C	3/4"	PVC	1	130	$0.31	$40.30	$1.33	$53.60
L 3200 D	3/4"	PVC	1	25	$0.31	$7.75	$1.33	$10.31
L 3200 E	3/4"	PVC	1	35	$0.31	$10.85	$1.33	$14.43
L 3202 A	1"	PVC	1	120	$0.44	$52.80	$2.13	$112.46
L 3202 B	1"	PVC	1	440	$0.44	$193.60	$2.13	$412.37
L 3202 C	1"	PVC	1	440	$0.44	$193.60	$2.13	$412.37
L 3202 D	1"	PVC	1	80	$0.44	$35.20	$2.13	$74.98
C 3200 A	2	PVC	1	440	$1.00	$440.00	$4.00	$1,760.00
C 3200 B	2	PVC	1	500	$1.00	$500.00	$4.00	$2,000.00
C 3200 C	1-1/2	PVC	1	110	$0.81	$89.10	$3.25	$289.58
C 3200 D	3/4"	PVC	1	110	$0.31	$34.10	$1.33	$45.35
C 3200 E	1"	PVC	1	110	$0.44	$48.40	$2.13	$103.09
C 3200 F	1"	PVC	1	130	$0.44	$57.20	$2.13	$121.84
C 3201 A	2"	PVC	1	440	$1.00	$440.00	$4.00	$1,760.00
C 3201 B	1-1/2	PVC	1	120	$0.81	$97.20	$3.25	$315.90
C 3201 C	3/4"	PVC	1	30	$0.31	$9.30	$1.33	$12.37
C 3201 D	1"	PVC	1	140	$0.44	$61.60	$2.13	$131.21
C 3202 A	1"	PVC	1	10	$0.44	$4.40	$2.13	$9.37
C 3202 B	1"	PVC	1	30	$0.44	$13.20	$2.13	$28.12
C 3202 C	1"	PVC	1	30	$0.44	$13.20	$2.13	$28.12
C 3202 D	1"	PVC	1	440	$0.44	$193.60	$2.13	$412.37
XH 3200 A	2"	PVC	1	440	$1.00	$440.00	$4.00	$1,760.00
XH 3200 B	2"	PVC	1	500	$1.00	$500.00	$4.00	$2,000.00
XC 3200 A	2"	PVC	1	440	$1.00	$440.00	$4.00	$1,760.00
XC 3200 B	2"	PVC	1	500	$1.00	$500.00	$4.00	$2,000.00
XC 3201 A	2"	PVC	1	440	$1.00	$440.00	$4.00	$1,760.00

ORIGINALLY QUOTED TOTAL OF CONDUIT: $7,712.10 | ORIGINALLY QUOTED $7,712.10 | PRESENT COST $28,475.18

CONDUCTORS

WIRE SIZE	WIRE TYPE	NUMBER OF WIRES OR ROPE	TOTAL FEET OF CONDUCTORS	ORIGINAL COST	ORIGINAL EXTENDED COST	PRESENT COST PER FOOT	PRESENT EXTENDED COST
1/0	THHN	3	270	$1.79	$483.30	$3.98	$1,074.60
1/0	THHN	3	1350	$1.79	$2,416.50	$3.98	$5,373.00
1/0	THHN	3	1350	$1.79	$2,416.50	$3.98	$5,373.00
1/0	THHN	3	1530	$1.79	$2,738.70	$3.98	$6,089.40
1/0	THHN	3	360	$1.79	$644.40	$3.98	$1,432.80
2	THHN	3	360	$1.38	$496.80	$2.90	$1,044.00
1/0	THHN	3	270	$1.79	$483.30	$3.98	$1,074.60
1/0	THHN	3	1350	$1.79	$2,416.50	$3.98	$5,373.00
1/0	THHN	3	1350	$1.79	$2,416.50	$3.98	$5,373.00
1/0	THHN	3	390	$1.79	$698.10	$3.98	$1,552.20
2	THHN	3	150	$1.38	$207.00	$2.90	$435.00
12	THHN	2	100	$0.15	$15.00	$0.30	$30.00
12	THHN	2	100	$0.15	$15.00	$0.30	$30.00
12	THHN	2	20	$0.15	$3.00	$0.30	$6.00
12	THHN	2	100	$0.15	$15.00	$0.30	$30.00
6	THHN	8	320	$0.61	$195.20	$1.20	$384.00
6	THHN	8	960	$0.61	$585.60	$1.20	$1,152.00
12	THHN	6	840	$0.15	$126.00	$0.30	$252.00
12	THHN	4	140	$0.15	$21.00	$0.30	$42.00
12	THHN	2	90	$0.15	$13.50	$0.30	$27.00
10	THHN	2	260	$0.22	$57.20	$0.43	$111.80
10	THHN	2	900	$0.22	$198.00	$0.43	$387.00
10	THHN	2	900	$0.22	$198.00	$0.43	$387.00
10	THHN	2	180	$0.22	$39.60	$0.43	$77.40
ROPE	NONE	1	440				
ROPE	NONE	1	500				
14	THHN	2	240	$0.11	$26.40	$0.24	$57.60
14	THHN	2	240	$0.11	$26.40	$0.24	$57.60
ROPE	NONE	1	110				
ROPE	NONE	1	130				
ROPE	NONE	1	440				
14	THHN	2	260	$0.11	$28.60	$0.24	$62.40
14	THHN	2	80	$0.11	$8.80	$0.24	$19.20
ROPE	NONE	1	140				
14	THHN	4	80	$0.11	$8.80	$0.24	$19.20
14	THHN	4	200	$0.11	$22.00	$0.24	$48.00
14	THHN	6	200	$0.11	$22.00	$0.24	$48.00
14	THHN	4	1800	$0.11	$198.00	$0.24	$432.00
ROPE	NONE	1	440				
ROPE	NONE	1	500				
ROPE	NONE	1	440				
ROPE	NONE	1	500				
ROPE	NONE	1	440				

ORIGINALLY QUOTED TOTAL OF WIRE: $17,240.70 | ORIGINALLY QUOTED $17,240.70 | PRESENT COST $37,854.80

GROUND CONDUCTORS

GND SIZE	QUANTITY IN FEET PER RUN	ORIGINAL COST PER FOOT	ORIGINAL EXTENDED COST	PRESENT COST PER FOOT	PRESENT EXTENDED COST
6	100	$0.61	$61.00	$1.20	$73.20
6	450	$0.61	$274.50	$1.20	$329.40
6	450	$0.61	$274.50	$1.20	$329.40
6	510	$0.61	$311.10	$1.20	$373.32
6	120	$0.61	$73.20	$1.20	$87.84
8	120	$0.37	$44.40	$0.79	$35.08
6	90	$0.61	$54.90	$1.20	$65.88
6	450	$0.61	$274.50	$1.20	$329.40
6	450	$0.61	$274.50	$1.20	$329.40
6	130	$0.61	$79.30	$1.20	$95.16
8	50	$0.37	$18.50	$0.79	$14.62
12	35	$0.15	$5.25	$0.28	$1.47
12	50	$0.15	$7.50	$0.28	$2.10
12	10	$0.15	$1.50	$0.28	$0.42
12	50	$0.15	$7.50	$0.28	$2.10
6	40	$0.61	$24.40	$1.20	$29.28
6	120	$0.61	$73.20	$1.20	$87.84
12	140	$0.15	$21.00	$0.28	$5.88
12	35	$0.15	$5.25	$0.28	$1.47
12	45	$0.15	$6.75	$0.28	$1.89
10	130	$0.22	$28.60	$0.43	$12.30
10	450	$0.22	$99.00	$0.43	$42.57
10	450	$0.22	$99.00	$0.43	$42.57
10	90	$0.22	$19.80	$0.43	$8.51
14	120	$0.11	$13.20	$0.24	$28.80
14	120	$0.11	$13.20	$0.24	$28.80
14	130	$0.11	$14.30	$0.24	$31.20
14	40	$0.11	$4.40	$0.24	$9.60
14	20	$0.11	$2.20	$0.24	$4.80
14	40	$0.11	$4.40	$0.24	$9.60
14	40	$0.11	$4.40	$0.24	$9.60
14	450	$0.11	$49.50	$0.24	$108.00

ORIGINALLY QUOTED TOTAL OF GND. WIRE: $2,244.75 | ORIGINALLY QUOTED $2,244.75 | PRESENT COST $2,531.49

TOTAL OF ORIGINALLY QUOTED MATERIAL: $27,197.55

PRESENT TOTAL COST OF CONDUIT: $28,475.18
PRESENT TOTAL COST OF WIRE: $37,854.80
PRESENT TOTAL COST OF GND. WIRE: $2,531.49

PRESENT TOTAL COST OF MATERIAL: $68,861.47

TOTAL COST DIFFERENCE FOR CANTUA CREEK PROJECT: $ 41,663.92

INDEPENDENT electric
A Sonepar Company

INDEPENDENT ELECTRIC SUPPLY, INC
698 N LAVERNE AVE
FRESNO, CA 93727-6819
559-486-7070
Fax 559-486-7081

Revised Conduit Prices (2022)

Quotation

QUOTE DATE	QUOTE NUMBER
03/31/2022	S105539329

INDEPENDENT ELECTRIC SUPPLY, INC
698 N LAVERNE AVE
FRESNO, CA 93727-6819
559-486-7070
Fax 559-486-7081

QUOTE TO:

INDUSTRIAL ELECTRIC - BARRY HALAJAI
4974 N. FRESNO STREET #290
FRESNO, CA 93726

SHIP TO:

RE-BID PUMP STATIONS 117 & 284
C/O 09 INDUSTRIAL ELECTRIC
6027 NORTH GLENN AVENUE
FRESNO, CA 93704-1732

CUSTOMER NUMBER	CUSTOMER PO NUMBER	JOB NAME / RELEASE NUMBER	ORDERED BY
169709		RE-BID PUMP STATIONS	

WRITER	SHIP VIA	TERMS	SHIP DATE	FREIGHT ALLOWED
Chris Salvo		ND 30 Days	03/31/2022	No

ORDER QTY	DESCRIPTION	UNIT PRICE	EXT PRICE
100ft	PVC .50 1/2-PVC-SCHED-40 CONDUIT on 3/21 this was 75.00 per hundred	100.545/c $1.01/LF	100.55
100ft	PVC .75 3/4-PVC-SCHED-40 CONDUIT on 3/21 90.00 per hundred	119.693/c $1.19/LF	119.69
100ft	PVC 1.0 1-IN-PVC-SCHED-40 CONDUIT 3/2021 146.00/c	193.097/c $1.93/LF	193.10
100ft	PVC 1.25 1-1/4-PVC-SCHED-40 CONDUIT 3/2021 161.20/c	252.949/c $2.53/LF	252.95
100ft	PVC 1.5 1-1/2-PVC-SCHED-40 CONDUIT 3/2021 220.55/c	293.031/c $2.93/LF	293.03
100ft	PVC 2.0 2-IN-PVC-SCHED-40 CONDUIT 3/2021 195.03/c	365.695/c $3.65/LF	365.70
100ft	PVC 2.5 2-1/2-PVC-SCHED-40 CONDUIT 3/2021 378.00/c	573.825/c $5.74/LF	573.83
100ft	PVC 3.0 3-IN-PVC-SCHED-40 CONDUIT 3/2021 475.75/c	700.076/c $7.00/LF	700.08

** Continued on Next Page *

Subtotal	
S&H Charges	
Amount Due	

INDEPENDENT electric
A Sonepar Company

INDEPENDENT ELECTRIC SUPPLY, INC
698 N LAVERNE AVE
FRESNO, CA 93727-6819
559-486-7070
Fax 559-486-7081

Revised Wire Prices (2022)

Quotation

QUOTE DATE	QUOTE NUMBER

INDEPENDENT ELECTRIC SUPPLY, INC
698 N LAVERNE AVE
FRESNO, CA 93727-6819
559-486-7070
Fax 559-486-7081

QUOTE TO:

INDUSTRIAL ELECTRIC - BARRY HALAJAI
4974 N. FRESNO STREET #290
FRESNO, CA 93726

SHIP TO:

09 INDUSTRIAL ELECTRIC - SHOP
C/O 09 INDUSTRIAL ELECTRIC
4974 N. FRESNO STREET #290
FRESNO, CA 93726

CUSTOMER NUMBER	CUSTOMER PO NUMBER	JOB NAME / RELEASE NUMBER	ORDERED BY
166510		INDUSTRIAL ELEC SHOP	

WRITER	SHIP VIA	TERMS	SHIP DATE	FREIGHT ALLOWED
Chris Salvo		ND 30 Days	04/08/2022	No

ORDER QTY	DESCRIPTION	UNIT PRICE	EXT PRICE
500ft	WIC. THHN 12 STR BLK 500R COPPER BUILDING WIRE 120.00/m 6/2020	218.294/m $0.22/LF	109.15
500ft	WIC. THHN 10 STR BLK 500R COPPER BUILDING WIRE 6/2020 155.00/m	333.840/m $0.33/LF	166.92
100ft	WIC. THHN 8 STR BLK MR COPPER BUILDING WIRE 6/2020 280.00/m	606.026/m $0.61/LF	60.60
100ft	WIC. THHN 6 STR BLK MR COPPER BUILDING WIRE 6/2020 475.00/m	932.407/m $0.93/LF	93.24
100ft	WIC. THHN 4 STR BLK MR COPPER BUILDING WIRE 6/2020 695.00/m	1426.869/m $1.43/LF	142.69
100ft	WIC. THHN 2 STR BLK MR COPPER BUILDING WIRE 6/2020 955.75/m	2252.676/m $2.25/LF	225.27
100ft	WIC. THHN 1 STR BLK MR COPPER BUILDING WIRE 6/2020 1213.54/m	2518.998/m $2.52/LF	251.90
100ft	WIC. THHN 1/0 STR BLK MR COPPER BUILDING WIRE 6/2020 1457.14/m	3084.073/m $3.08/LF	308.41

** Continued on Next Page *

Subtotal	
S&H Charges	
Amount Due	

INDEPENDENT electric
A Sonepar Company

Original Conduit and Wire Prices (2020)

8/17/2023

Re: 2020 Commodities Pricing

Dear, Industrial Electric

Per your request we have compiled 2020 commodities prices which are in the table below. Since 2020 the average material cost has increased significantly. Independent Electric Supply has experienced unprecedented pricing increases and lead time due to the impacts of Covid-19 and the resulting global supply chain crises our vendors are experiencing, which has affected many projects. We estimated on average the cost of material has increased from 25-30% since the beginning of 2022 and will continue to rise through 2023.

	n/a	$/100 LF		$/1000 LF
Size	EMT	PVC	Size	Wire
1/2	42	30.5	12	120.806
3/4	73	40.421	10	185
1	114.928	33.098	8	247.483
1-1/4	227.53	43.831	6	381.22
1-1/2	235.104	55.833	4	577.716
2	299.5	79.25	2	1425.579
2.5	485.33	105	1/0	1632.041
3	587.766	120.46	2/0	2057.241
4	894.85	163.83	3/0	2972.862
			4/0	3350.86
			250mcm	3714.201
			400mcm	5645.504
			500mcm	8486.19

	$/LF		$/LF
Size	PVC	Size	Wire
1/2	0.31	12	0.12
3/4	0.40	10	0.19
1	0.33	8	0.25
1-1/4	0.44	6	0.38
1-1/2	0.56	4	0.58
2	0.79	2	1.43
2.5	1.05	1/0	1.63
3	1.20	2/0	2.06
4	1.64	3/0	2.97
		4/0	3.35
		250mcm	3.74
		400mcm	5.65
		500mcm	8.49

Sincerely

Gayne Alexander
Branch Manager

Exhibit D

ZIM INDUSTRIES, INC.

4532 E. Jefferson Ave. • Fresno, CA 93725
Ph. (559) 834-1551 • FAX (559) 834-5156
www.zimindustries.com

July 23, 2024

County of Fresno
Department of Public Works and Planning / Construction
2220 Tulare Street, 7th Floor
Fresno, CA 93723

RE: Fresno County Westside Groundwater Project (1807C) Electrical Design Modifications

Dear AJ / Mandeep,

Zim Industries, Inc. proposes a change order for electrical design modifications, consisting of larger horsepower soft starters and larger wire sizes. These modifications were required to suite the new pump equipment designs and are reflected in the following updates:

- 4/26/2022: CSA 32 pump specifications revised, upgrading motors from 40 HP to 50 HP.
- 9/1/2022: CSA 30 pump specifications revised, upgrading motors from 20 HP to 30 HP.
- 6/29/2023: CSA 30 wire sizes increased from #4 to #1, per response to the pump submittals.
- 1/28/2024: CSA 30 wire size increases confirmed, per response to RFI #4.
- 2/28/2024: CSA 32 wire sizes increased from #1/0 to #2/0 and CSA 30 wire sizes confirmed, per RFI #5 response.
- 3/25/2024: No further wire size changes, per response to RFI #6.

Attached is documentation from our electrical subcontractor and their supplier outlining the cost implications, as well as the updates provided above and the revised plan and specification sheets reflecting these modifications. Including bond cost and a 15% markup, our proposal for these modifications amounts to $10,480.70.

For questions or further clarification, please contact Bob Zimmerer or me at (559) 834-1551.

Sincerely,

Wes Zimmerer
Zim Industries, Inc.

Industrial Electric Company
4974 North Fresno Street # 290
Fresno, California 93726
Ph 559 347-0644 Fax 559 347-0646

CONTRACTOR'S LICENSE No.: 417084

Feburuary 9, 2024

PROPOSAL

COUNTY SERVICES AREA 30 AND 32
COUNTY OF FRESNO
UP SIZING OF CSA 30 (30 HORSEPOWER)
WELL PUMP MOTORS

Zim Industries, Inc.
4532 E Jefferson Av
Fresno, Ca. 93725
Phone (559) 834-1551
Fax (559) 834-5156
Cell: (559) 351-3427
email: bob@zimindustries.com

THANK YOU FOR THE OPPORTUNITY TO QUOTE THIS PROJECT
WE WILL SUPPLY AND INSTALL THE FOLLOWING:

EL PORVENIR CSA 30

This proposal is related to the submittal review dated October 31, 2022, directing us to up size the the conductors and the Soft Starters from 20 Horsepower as per original plans to 30 Horsepower for each of the two well pump motors located on the site.

2 30 HORSEPOWER SOFT STARTERS DIFFERENCE IN COST:	**$755.00** ea.	**$1,510.00**

CSA 30 (WEST WELL)

720 (3 x 240) APPROX. LINEAL FEET ORIGINAL # 4 CONDUCTOR SIZE X 3	**-$2.25 per ft.**	**-$1,620.00**
This price is being based on revised cost schedule		
720 (3 x 240) APPROX. LINEAL FEET ORIGINAL # 1 CONDUCTOR SIZE X 3	**$3.61 per ft.**	**$2,599.20**
240 APPROX. LINEAL FEET ORIGINAL # 8 CONDUCTOR SIZE X 1	**-$0.79 per ft.**	**-$189.60**
This price is being based on revised cost schedule		
240 APPROX. LINEAL FEET ORIGINAL # 6 CONDUCTOR SIZE X 1	**$1.01 per ft.**	**$242.40**

CSA 30 (EAST WELL)

840 (3 x 280) APPROX. LINEAL FEET ORIGINAL # 4 CONDUCTOR SIZE X 3	**-$2.25 per ft.**	**-$1,890.00**
This price is being based on revised cost schedule		
840 (3 x 280) APPROX. LINEAL FEET ORIGINAL # 1 CONDUCTOR SIZE X 3	**$3.61 per ft.**	**$3,032.40**
280 APPROX. LINEAL FEET ORIGINAL # 8 CONDUCTOR SIZE X 1	**-$0.79 per ft.**	**-$221.20**
This price is being based on revised cost schedule		
280 APPROX. LINEAL FEET ORIGINAL # 6 CONDUCTOR SIZE X 1	**$1.01 per ft.**	**$282.80**

ADDITIONAL COST:	**$3,746.00**
MARK UP: 15%	**$561.90**
TOTAL ADDITIONAL COST:	**$4,307.90**

[illegible]

CONTRACTOR'S LICENSE No.: 417084

[illegible] Industries, Inc.

[illegible]

[illegible]

This proposal is related to the submittal review dated October 31, 2022, directing us to up size the the conductors and the Soft Starters from 40 Horsepower as per original plans to 50 Horsepower for each of the two well pump motors located on the site.

[illegible] ea [illegible]

(Difference in cost from original 40 Horse Power to 50 Horse Power)

[illegible]

This price is being based on revised cost schedule

[illegible]

Received [illegible]

[illegible] All materials and coatings in contact with potable water shall be NSF [illegible] certified and comply with California [illegible]

PART 2 PRODUCTS

2.1 PUMP BASE

A. Work shall be in conformance with Section [illegible] Cast-in-Place Concrete and with the details shown on the plans.

B. Vent piping and fittings shall be constructed as shown on the plans and in conformance with Section [illegible] – Pipe and Fittings.

2.2 WELL PUMP AND COLUMN PIPE

A. Pump shall be of the submersible type including motor and power cable, discharge column and well seal.

B. Pump manufacturer shall supply [illegible] complete sets of drawings, pump curves, installation and operating instructions, and parts lists to [illegible] the pump as applicable in compliance with Section [illegible] Submittals. These documents shall become the property of the Owner and shall be delivered to the Owner [illegible] upon completion of pump installation.

C. Pump shall conform with all local and State sanitary and safety regulations. Pump and motor shall be capable of continuous operation. Pump and motor shall meet the following conditions:

Pump Type	[illegible]	Cantua Creek [illegible]
	Well [illegible]	Well [illegible]
	Grundfos, Goulds or Engineer approved equal	Franklin Electric, Grundfos, Goulds or Engineer approved equal
Maximum Speed [illegible]	[illegible]	[illegible]
Design Flow [illegible]	[illegible]	[illegible]
Design Head [illegible]	[illegible]	[illegible]
Minimum Pump Efficiency at Design Capacity [illegible]	[illegible]	[illegible]

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2.1 PUMP BASE

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2.2 WELL PUMP AND COLUMN PIPE

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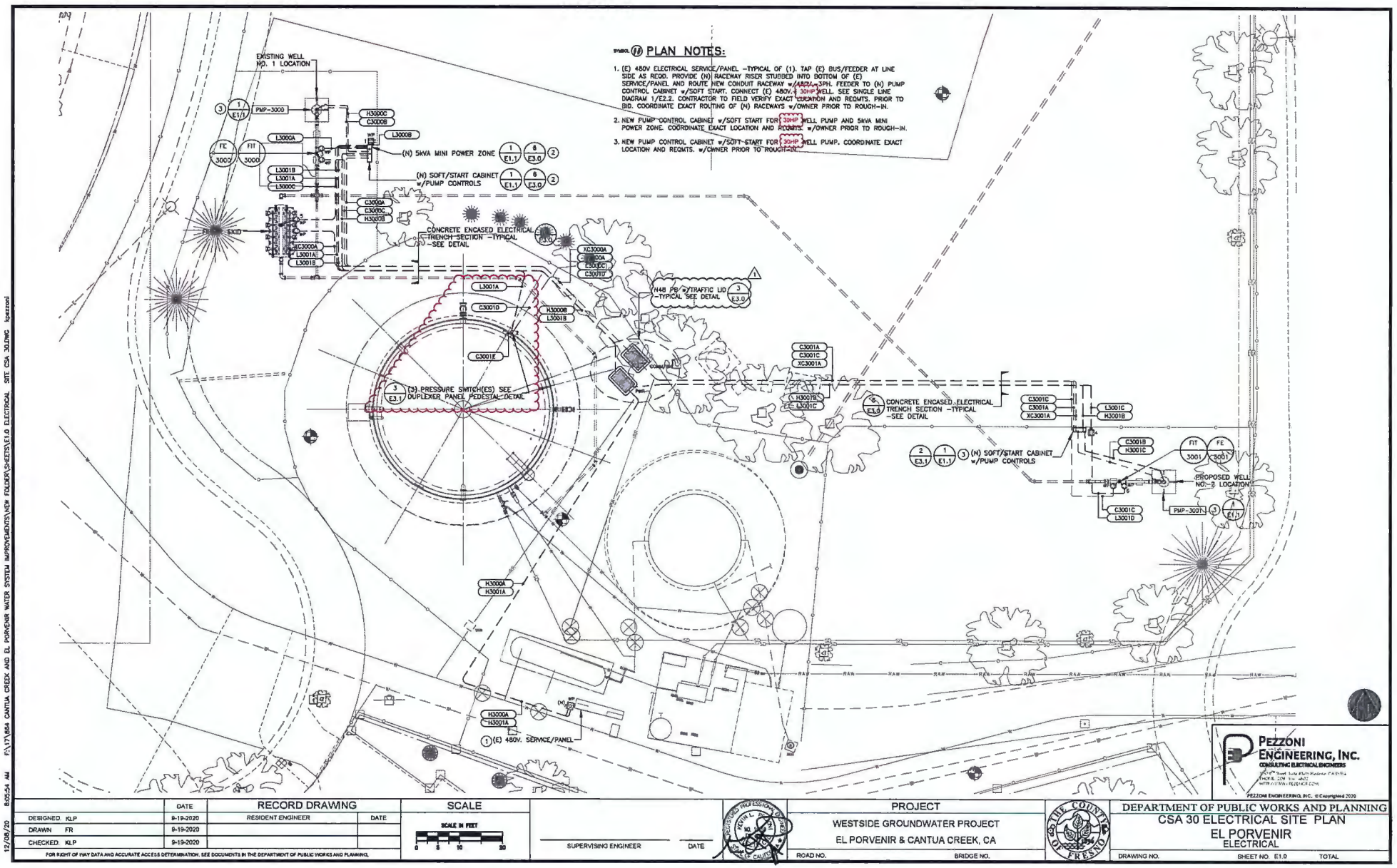


PLAN NOTES:

1. (E) 480V ELECTRICAL SERVICE/PANEL -TYPICAL OF (1). TAP (E) BUS/FEEDER AT LINE SIDE AS REQD. PROVIDE (N) RACEWAY RISER STUBBED INTO BOTTOM OF (E) SERVICE/PANEL AND ROUTE NEW CONDUIT RACEWAY w/#4/0-3PH. FEEDER TO (N) PUMP CONTROL CABINET w/SOFT START. CONNECT (E) 480V. 3 30HP WELL. SEE SINGLE LINE DIAGRAM 1/E2.2. CONTRACTOR TO FIELD VERIFY EXACT LOCATION AND REQMTS. PRIOR TO BID. COORDINATE EXACT ROUTING OF (N) RACEWAYS w/OWNER PRIOR TO ROUGH-IN.
2. NEW PUMP CONTROL CABINET w/SOFT START FOR 30HP WELL PUMP AND 5KVA MINI POWER ZONE. COORDINATE EXACT LOCATION AND REQMTS. w/OWNER PRIOR TO ROUGH-IN.
3. NEW PUMP CONTROL CABINET w/SOFT START FOR 30HP WELL PUMP. COORDINATE EXACT LOCATION AND REQMTS. w/OWNER PRIOR TO ROUGH-IN.

PEZZONI ENGINEERING, INC.
CONSULTING ELECTRICAL ENGINEERS
PEZZONI ENGINEERING, INC. ©Copyrighted 2020

	DATE	RECORD DRAWING	DATE
DESIGNED KLP	9-19-2020	RESIDENT ENGINEER	
DRAWN FR	9-19-2020		
CHECKED KLP	9-19-2020		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE

SCALE IN FEET
0 5 10 20

SUPERVISING ENGINEER DATE

PROJECT
WESTSIDE GROUNDWATER PROJECT
EL PORVENIR & CANTUA CREEK, CA
ROAD NO. BRIDGE NO.

DEPARTMENT OF PUBLIC WORKS AND PLANNING
CSA 30 ELECTRICAL SITE PLAN
EL PORVENIR
ELECTRICAL
DRAWING NO. SHEET NO. E1.0 TOTAL

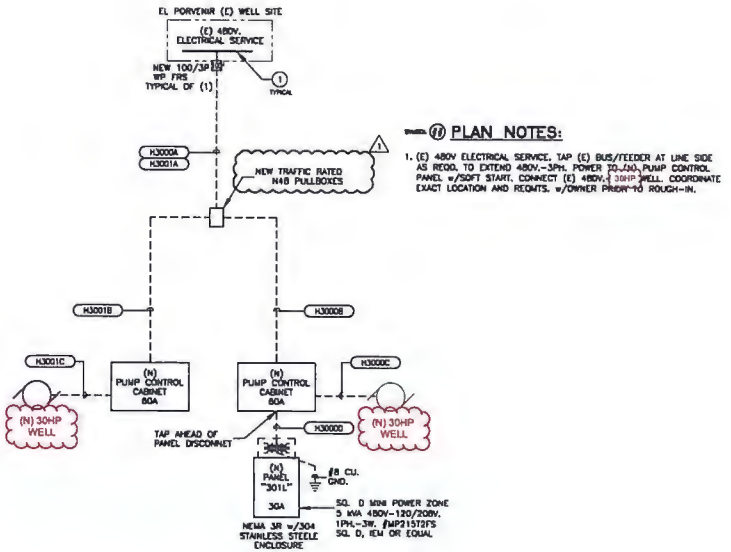
12/08/20 8:05:54 AM F:\17\854 CANTUA CREEK AND EL PORVENIR WATER SYSTEM IMPROVEMENTS\NEW FOLDER\SHEETS\E1.0 ELECTRICAL SITE CSA 30.DWG kpezzoni

EL PORVENIR CSA-30 CONDUIT & CABLE SCHEDULE

CONDUIT ID#	FROM	TO	CONDUIT QNTY	CONDUIT SIZE	CONDUIT TYPE	CONDUCTOR QNTY	CONDUCTOR SIZE	CONDUCTOR (Cu) GND	CABLE QNTY	CABLE TYPE	NOTES
H 3000 A	EXIST 480V SERVICE	NEW 3'x5' VAULT	1	1 1/2"	RMC	3					100A FEEDER [2]
H 3000 B	NEW 3'x5' VAULT	PUMP CONTROL CABINET	1	1 1/2"	RMC	3					[2]
H 3000 C	PUMP CONTROL PANEL	PMP-3000	1	3/4"	RMC	3	#8	#10			[1][2][4]
H 3000 D	PUMP CONTROL PANEL	5kVA MINI POWER ZONE	1	3/4"	RMC	2	#12	#12			480V-1PH.-20A[2]
H 3001 A	EXIST 480V SERVICE	NEW 3'x5' VAULT	1	1 1/2"	RMC	3					100A FEEDER [2]
H 3001 B	NEW 3'x5' VAULT	PUMP CONTROL CABINET	1	1 1/2"	RMC	3					[2]
H 3001 C	PUMP CONTROL PANEL	PMP-3001	1	3/4"	RMC	3	#8	#10			[1][2][4]
L 3000 A	5kVA MINI POWER ZONE	J BOX AT FIT/FE-3000	1	3/4"	RMC	2	#12	#12			120V. POWER CKT 3 [2][4]
L 3000 B	5kVA MINI POWER ZONE	RECP. WP/GFCI	1	3/4"	RMC	2	#12	#12			120V. POWER CKT 1
L 3000 C	5kVA MINI POWER ZONE	J BOX AT FILTER SKID	1	3/4"	RMC	2	#12	#12			120V. POWER CKT 5 [2][4]
L 3001 A	5kVA MINI POWER ZONE	DUPLEXER PANEL AT TANK	1	3/4"	RMC	2	#12	#12			120V. POWER CKT 2
L 3001 B	5kVA MINI POWER ZONE	NEW 3'x5'VAULT	1	3/4"	RMC	4	#12	#12			120V. POWER CKTS 4,6
L 3001 C	NEW 3'x5'VAULT	RECP. WP/GFCI	1	3/4"	RMC	4	#12	#12			120V POWER CKTS 4,6 [2][4]
L 3001 D	RECP. WP/GFCI	J BOX AT FIT/FE-3001	1	3/4"	RMC	2	#12	#12			120V. POWER CKT 6 [2][4]
C 3000 A	NEW 3'x5' VAULT	PUMP CONTOL PANEL	1	2"	RMC	2	#14				[2] DUPLEXER CALL
C 3000 B	PUMP CONTROL PANEL	PMP-3000	1	3/4"	RMC	2	#14				[2][4] MOTOR TEMP
C 3000 C	3'x5'VAULT	J BOX AT FIT/FE-3000	1	1"	RMC				1	PULLROPE	[2][4]
C 3001 A	NEW 3'x5' VAULT	PUMP CONTOL PANEL	1	2"	RMC	2	#14				[2] DUPLEXER CALL
C 3001 B	PUMP CONTROL PANEL	PMP-3001	1	3/4"	RMC	2	#14				[2][4] MOTOR TEMP
C 3001 C	3'x5'VAULT	J BOX AT FIT/FE-3001	1	1"	RMC				1	PULLROPE	[2][4]
C 3001 D	NEW 3'x5'VAULT	DUPLEXER PANEL AT TANK	1	1"	RMC	4	#14				[2]
C 3001 E	DUPLEXER PANEL AT TANK	PRESSURE SWITCHES	1	1"	LFMC	6	#14				DUPLEXER PANEL [2][4]
XC 3000 A	NEW 3'x5' VAULT	J BOX AT FILTER SKID	1	1"	RMC				1	PULLROPE	[2]
XC 3000 B	PUMP CONTROL PANEL	NEW 3'x5' VAULT	1	2"	RMC				1	PULLROPE	[2]
XC 3001 A	PUMP CONTROL PANEL	NEW 3'x5' VAULT	1	2"	RMC				1	PULLROPE	[2]

P MEDIUM VOLTAGE 12kV
H 277/480V
L 120/208V
XH SPARE POWER
C COMM./SIGNAL
XC SPARE COMM

NOTES:
[1] = PROVIDE CONDUCTOR/CABLES IN ALL CONDUITS
[2] = CONDUIT BELOW GRADE MAY BE PVC SCH40
[3] = WHEN TERMINATING OUT OF SLAB PROVIDE A MIN OF 8" OF SS316
[4]= FLEX TO EQUIPMENT



PLAN NOTES:

1. (E) 480V ELECTRICAL SERVICE, TAP (E) BUS/FEEDER AT LINE SIDE AS REQD. TO EXTEND 480V.-3PH. POWER TO JAO, PUMP CONTROL PANEL w/SOFT START. CONNECT (E) 480V.-3 30HP WELL. COORDINATE EXACT LOCATION AND REQMTS. w/OWNER PRIOR TO ROUGH-IN.

1 SINGLE LINE DIAGRAM

SCALE: NONE

PANELBOARD SCHEDULE

PANEL: 301L
BUS RATING: 20 A.
VOLTAGE: 120/240 V.
PHASE: 1ø
WIRE: 3
SCCR: 22k
BUSSING: Cu
LOCATION: AT WELL
MEMA TYPE: 3R
MOUNTING: MINI PWR CTR

CKT	DESCRIPTION	BKR/R	TYPE	LOAD	A (va)		B (va)	LOAD	TYPE	BKR/R	DESCRIPTION	CKT
1	RECP WP/GFCI	20/1	R	180	360			180	R	20/1	FIT/FE-3001	2
3	FIT/FE-3000	20/1	R	180			360	180	R	20/1	RECP WP/GFCI	4
5	FILTER SKID	20/1	R	180	360			540	R	20/1	DUPLEX CNTRL AT TANK	6
7												8
9												10
					540		360					

CONTINUOUS (C):	375 VA
NON-CONTINUOUS (N):	0 VA
RECEP. (R):	900 VA
MOTOR (M) OR (MI):	0 VA
LIGHTING (L):	0 VA
KITCHEN >17'BOW (K):	0 VA

MCB: 20/2
MLO: –

DEMAND CALC. PER ART 220

MAX. PHASE @125% = 6.0 A.
DEMAND TOTAL = 0.9 kVA
= 3.9 A.
@125% = 4.9 A.

PEZZONI ENGINEERING, INC.
CONSULTING ELECTRICAL ENGINEERS

	DATE	RECORD DRAWING	DATE
DESIGNED: KLP	9-19-2020	RESIDENT ENGINEER	
DRAWN: FR	9-19-2020		
CHECKED: KLP	9-19-2020		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

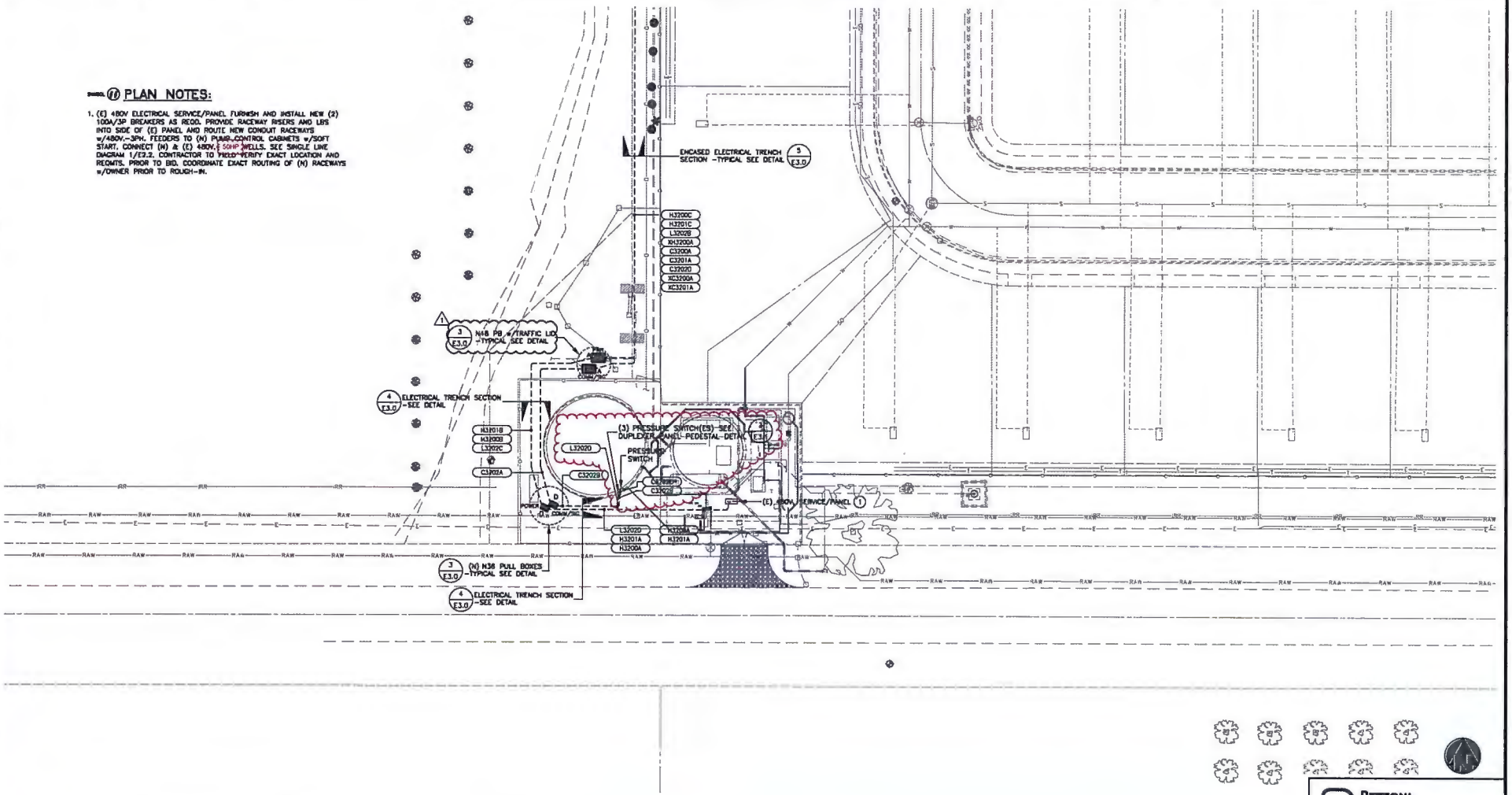
SCALE: AS NOTED

SUPERVISING ENGINEER — DATE

PROJECT
WESTSIDE GROUNDWATER PROJECT
EL PORVENIR & CANTUA CREEK, CA
ROAD NO. — BRIDGE NO.

DEPARTMENT OF PUBLIC WORKS AND PLANNING
ELECTRICAL DETAILS
EL PORVENIR
ELECTRICAL
DRAWING NO. — SHEET NO. E1.1 — TOTAL

12/09/20 8:06:01 AM F:\17\364 CANTUA CREEK AND EL PORVENIR WATER SYSTEM IMPROVEMENTS\NEW FOLDER\SHEETS\E1.1 CSA 30 DETAILS.DWG kpezzoni



1 CSA 32 ELECTRICAL SITE PLAN – CANTUA CREEK (SOUTH)

SCALE: 1"=20'-0"

PEZZONI ENGINEERING, INC.
CONSULTING ELECTRICAL ENGINEERS
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	DATE	RECORD DRAWING	DATE
DESIGNED KLP	9-19-2020	RESIDENT ENGINEER	
DRAWN FR	9-19-2020		
CHECKED KLP	9-19-2020		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

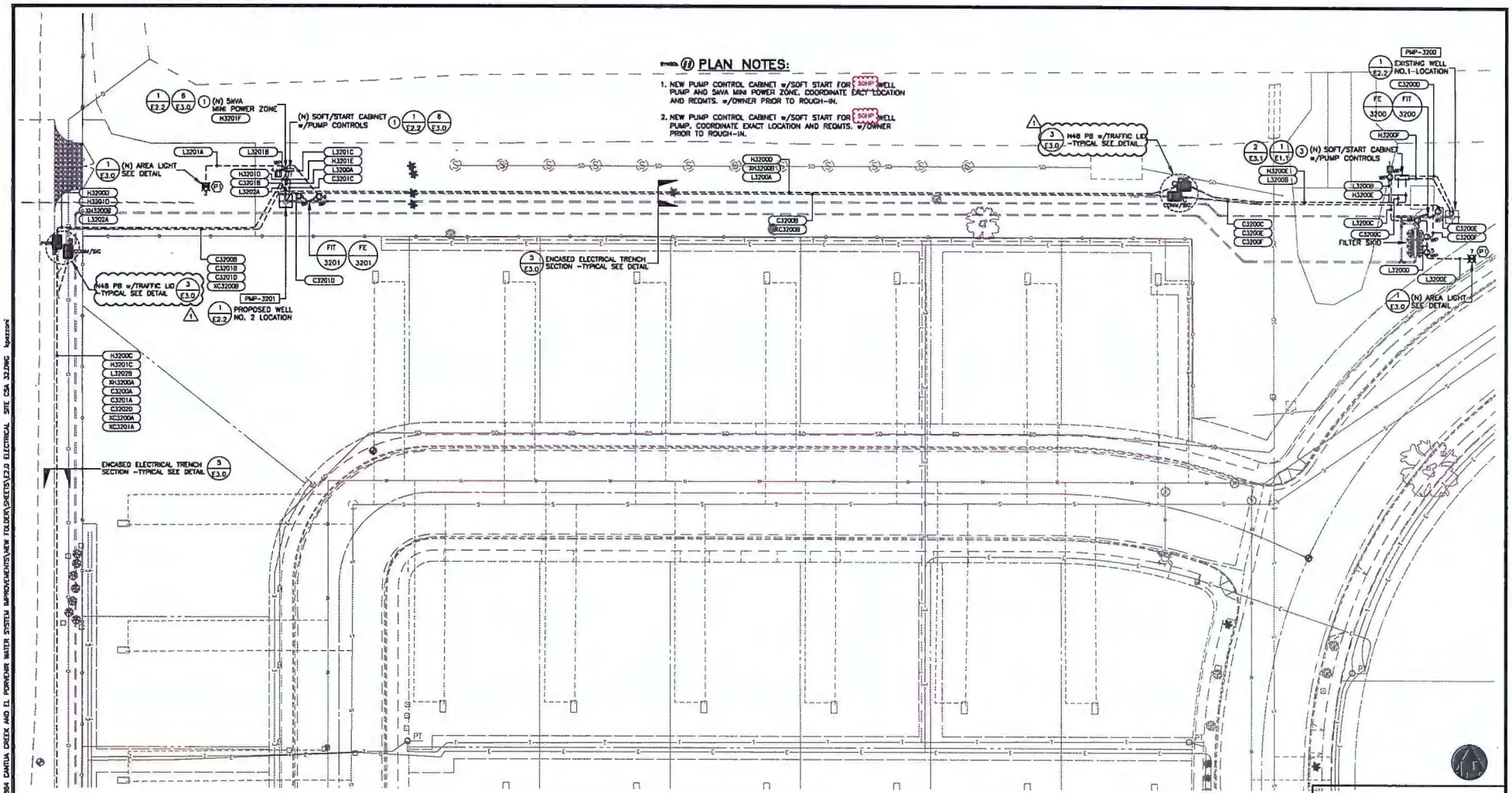
SCALE
SCALE IN FEET
0 10 20 40

SUPERVISING ENGINEER DATE

PROJECT
WESTSIDE GROUNDWATER PROJECT
EL PORVENIR & CANTUA CREEK, CA
ROAD NO. BRIDGE NO.

DEPARTMENT OF PUBLIC WORKS AND PLANNING
CSA 32 ELECTRICAL SITE PLAN
CANTUA CREEK (SOUTH)
ELECTRICAL
DRAWING NO. SHEET NO. E2.0 TOTAL

12/08/20 8:06:21 AM F:\17\064 CANTUA CREEK AND EL PORVENIR WATER SYSTEM IMPROVEMENTS\NEW FOLDER\SHEETS\E2.0 ELECTRICAL SITE CSA 32.DWG kpezzoni



1 CSA 32 ELECTRICAL SITE PLAN – CANTUA CREEK (NORTH)

SCALE: 1"=20'-0"

PEZZONI ENGINEERING, INC.
CONSULTING ELECTRICAL ENGINEERS
PEZZONI ENGINEERING, INC. © Copyright 2020

	DATE	RECORD DRAWING	DATE
DESIGNED KLP	9-19-2020	RESIDENT ENGINEER	
DRAWN FR	9-19-2020		
CHECKED KLP	9-19-2020		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SCALE

SUPERVISING ENGINEER DATE

PROJECT
WESTSIDE GROUNDWATER PROJECT
EL PORVENIR & CANTUA CREEK, CA
ROAD NO. BRIDGE NO.

DEPARTMENT OF PUBLIC WORKS AND PLANNING
CSA 32 ELECTRICAL SITE PLAN
CANTUA CREEK (NORTH)
ELECTRICAL
DRAWING NO. SHEET NO. E2.1 TOTAL

12/05/20 8:56:28 AM F:\17\064 CANTUA CREEK AND EL PORVENIR WATER SYSTEM IMPROVEMENTS\NEW FOLDER\SHEETS\E2.0 ELECTRICAL SITE CSA 32.DWG kpezzoni

CANTUA CREEK CSA-32 CONDUIT & CABLE SCHEDULE

CONDUIT ID#	FROM	TO	CONDUIT QNTY	CONDUIT SIZE	CONDUIT TYPE	CONDUCTOR QNTY	CONDUCTOR SIZE	(Cu) GND	CABLE QNTY	CABLE TYPE	NOTES
H 3200 A	EXIST 480V SERVICE	NEW N36 PULL BOX D	1	2"	RMC	3	#2/0	#6			100A FEEDER
H 3200 B	NEW N36 PULL BOX D	NEW 3'x5' VAULT A	1	2"	RMC	3	#2/0	#6			
H 3200 C	NEW 3'x5' VAULT A	NEW 3'x5' VAULT B	1	2"	RMC	3	#2/0	#6			
H 3200 D	NEW 3'x5' VAULT B	NEW 3'x5' VAULT C	1	2"	RMC	3	#2/0	#6			
H 3200 E	NEW 3'x5' VAULT C	PUMP CONTROL CABINET	1	2"	RMC	3	#2/0	#6			
H 3200 F	PUMP CONTROL PANEL	PMP-3200	1	1 1/4"	RMC	3	#2	#8			[1][2][3][4]
H 3201 A	EXIST 480V SERVICE	NEW N36 PULL BOX D	1	2"	RMC	3	#1/0	#6			100A FEEDER
H 3201 B	NEW N36 PULL BOX D	NEW 3'x5' VAULT A	1	2"	RMC	3	#1/0	#6			
H 3201 C	NEW 3'x5' VAULT A	NEW 3'x5' VAULT B	1	2"	RMC	3	#1/0	#6			
H 3201 D	NEW 3'x5' VAULT B	PUMP CONTROL PANEL	1	2"	RMC	3	#1/0	#6			
H 3201 E	PUMP CONTROL PANEL	PMP-3201	1	1 1/4"	RMC	3	#2	#8			[2][3][4]
H 3201 F	PUMP CONTROL PANEL	5kVA MINI POWER ZONE	1	3/4"	RMC	2	#12	#12			480V-1PH.-20A [2][3][4]
L 3201 A	5kVA MINI POWER ZONE	POLE LIGHT	1	3/4"	RMC	2	#12	#12			321L-2 [2]
L 3201 B	5kVA MINI POWER ZONE	RECP WP/GFCI	1	3/4"	RMC	2	#12	#12			321L-4 [2]
L 3201 C	5kVA MINI POWER ZONE	FIT/FE-3201	1	3/4"	RMC	2	#12	#12			321L-6 [2]
L 3200 A	5kVA MINI POWER ZONE	NEW 3'x5' VAULT	1	1"	RMC	8	#6	#6			321L-1,3,5,7 [2]
L 3000 B	NEW 3'x5' VAULT	J BOX AT RECP WP/GFCI	1	1"	RMC	8	#6	#6			321L-1,3,5,7 [2]
L 3200 C	J BOX AT RECP WP/GFCI	J BOX AT FIT/FE-3200	1	3/4"	RMC	6	#12	#12			321L-3,5,7 [1][2][4]
L 3200 D	J BOX AT FIT/FE-3200	J BOX AT FILTER SKID	1	3/4"	RMC	4	#12	#12			321L-5,7 [1][2][4]
L 3200 E	J BOX AT FILTER SKID	POLE LIGHT	1	3/4"	RMC	2	#12	#12			321L-7
L 3202 A	5kVA MINI POWER ZONE	NEW 3'x5' VAULT B	1	1"	RMC	2	#10	#10			321L-9 [2]
L 3202 B	NEW 3'x5' VAULT B	NEW 3'x5' VAULT A	1	1"	PVC40	2	#10	#10			321L-9 [2]
L 3202 C	NEW 3'x5' VAULT A	NEW N36 PULL BOX D	1	1"	PVC40	2	#10	#10			321L-9 [2]
L 3202 D	NEW N36 PULL BOX D	DUPLEXER PANEL AT TANK	1	1"	RMC	2	#10	#10			321L-9 [2]
C 3200 A	NEW 3'x5' VAULT A	NEW 3'x5' VAULT B	1	2"	RMC				1	PULL ROPE	[2]
C 3200 B	NEW 3'x5' VAULT B	NEW 3'x5' VAULT C	1	2"	RMC				1	PULL ROPE	[2]
C 3200 C	NEW 3'x5' VAULT C	PUMP CONTROL PANEL	1	1 1/2"	RMC	2	#14				[2][4] DUPLEXER CALL
C 3200 D	PUMP CONTROL PANEL	PMP-3200	1	3/4"	RMC	2	#14				[2][4] MOTOR TEMP
C 3200 E	NEW 3'x5' VAULT C	J BOX AT FIT/FE-3200	1	1"	RMC				1	PULLROPE	[2][4]
C 3200 F	NEW 3'x5' VAULT C	FILTER SKID	1	1"	RMC				1	PULLROPE	[2]
C 3201 A	NEW 3'x5' VAULT A	NEW 3'x5' VAULT B	1	2"	RMC				1	PULL ROPE	[2]
C 3201 B	NEW 3'x5'VAULT B	PUMP CONTROL CABINET	1	1 1/2"	RMC	2	#14				[2] DUPLEXER CALL
C 3201 C	PUMP CONTROL CABINET	PMP-3201	1	3/4"	RMC	2	#14				[2][4] MOTOR TEMP
C 3201 D	3'x5'VAULT B	J BOX AT FIT/FE-3201	1	1"	RMC				1	PULLROPE	[2][4]
C 3202 A	NEW 3'x5' VAULT A	NEW N36 PULL BOX D	1	1"	PVC40	4	#14				[2] DUPLEXER CALL
C 3202 B	NEW N36 PULL BOX D	DUPLEXER PANEL AT TANK	1	1"	RMC	4	#14				[2] DUPLEXER CALL
C 3202 C	DUPLEXER PANEL AT TANK	PRESSURE SWITCH(ES)	1	1"	LFMC	6	#14				DUPLEXER PANEL[2][4]
C 3202 D	NEW 3'x5' VAULT A	NEW 3'x5' VAULT B	1	1"	PVC40	4	#14				[2] DUPLEXER CALL
XH 3200 A	NEW 3'x5' VAULT A	NEW 3'x5' VAULT B	2	2"	RMC				1	PULLROPE	[2]
XH 3200 B	NEW 3'x5' VAULT B	NEW 3'x5' VAULT C	2	2"	RMC				1	PULLROPE	[2]
XC 3200 A	NEW 3'x5' VAULT A	NEW 3'x5' VAULT B	2	2"	RMC				1	PULLROPE	[2]
XC 3200 B	NEW 3'x5' VAULT B	NEW 3'x5' VAULT C	2	2"	RMC				1	PULLROPE	[2]
XC 3201 A	NEW 3'x5' VAULT A	NEW 3'x5' VAULT B	2	2"	RMC				1	PULLROPE	[2]

P MEDIUM VOLTAGE 12kV
H 277/480V
L 120/208V
XH SPARE POWER
C COMM./SIGNAL
XC SPARE COMM

NOTES:
[1] = PROVIDE CONDUCTOR/CABLES IN ALL CONDUITS
[2] = CONDUIT BELOW GRADE MAY BE PVC SCH40
[3] = WHEN TERMINATING OUT OF SLAB PROVIDE A MIN OF 8" OF SS316
[4]= FLEX TO EQUIPMENT

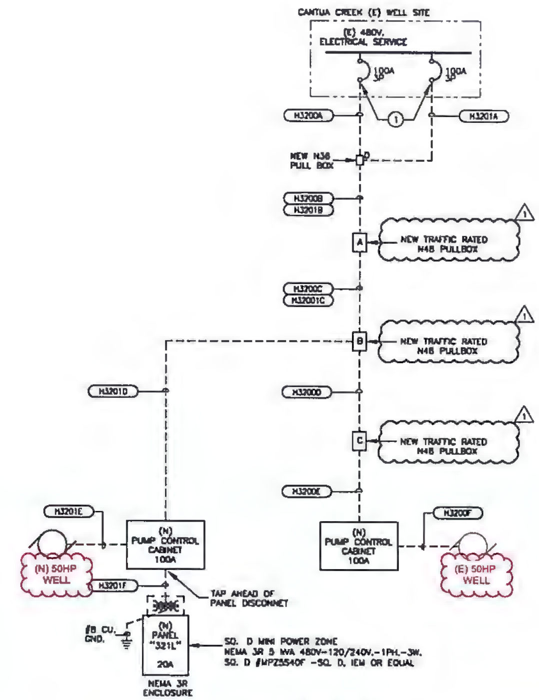
PANELBOARD SCHEDULE

PANEL: 321L
BUS RATING: 20 A.
VOLTAGE: 120/240 V.
PHASE: 1Ø
WIRE: 3
AICR: 22k
BUSSING: Cu
LOCATION: AT EXIST WELL
NEMA TYPE: 3R
MOUNTING: MINI PWR CTR

CKT	DESCRIPTION	BRKR	TYPE	LOAD	A (va)	B (va)	LOAD	TYPE	BRKR	DESCRIPTION	CKT
1	RECP WP/GFCI	20/1	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	20/1	POLE LIGHT	2
3	FIT/FE-3200	20/1	[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	20/1	RECP WP/GFCI	4
5	FILTER SKID	20/1	[illegible]	[illegible]	[illegible]		[illegible]	[illegible]	20/1	FIT/FE-3201	6
7	POLE LIGHT	20/1	[illegible]	[illegible]		[illegible]			20/1	SPARE	8
9	DUPLEXER PANEL	20/1	[illegible]	[illegible]	[illegible]				20/1	SPARE	10

CONTINUOUS (C):	[illegible]
NON-CONTINUOUS (N):	[illegible]
RECP. (R):	[illegible]
MOTOR (M) OR (M1):	[illegible]
LIGHTING (L):	[illegible]
KITCHEN >1750W (K):	[illegible]

MCB: 20/2
MLO: –
DEMAND CALC. PER ART 220
MAX. PHASE @125% = 8.0 A.
DEMAND TOTAL = 1.3 kVA
= 5.5 A.
@125% = 6.8 A.



PLAN NOTES:

1. (E) 480V ELECTRICAL SERVICE/PANEL FURNISH AND INSTALL NEW 100A/3P BREAKER AS REQD. AND ROUTE NEW 2"C. w/480V.-3PH. FEEDER TO (N) PUMP CONTROL PANEL w/SOFT START. CONNECT (E) 480V. 50HP WELL. COORDINATE EXACT LOCATION AND REQMTS. w/OWNER PRIOR TO ROUGH-IN.

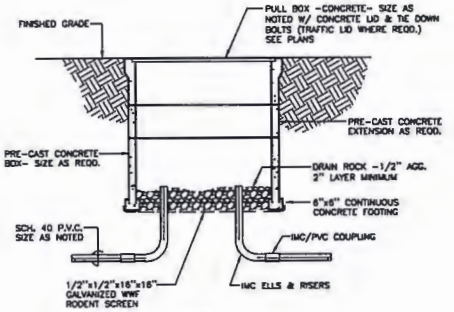
1 SINGLE LINE DIAGRAM

SCALE: NONE

PEZZONI ENGINEERING, INC.
CONSULTING ELECTRICAL ENGINEERS

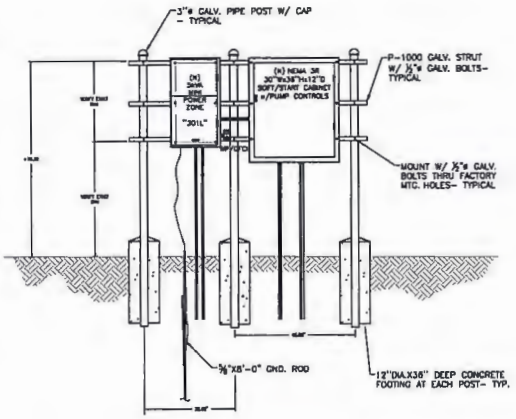
	DATE	RECORD DRAWING		SCALE		PROJECT	DEPARTMENT OF PUBLIC WORKS AND PLANNING
DESIGNED KLP	9-19-2020	RESIDENT ENGINEER	DATE	AS NOTED	SUPERVISING ENGINEER / DATE	WESTSIDE GROUNDWATER PROJECT	ELECTRICAL DETAILS
DRAWN FR	9-19-2020					EL PORVENIR & CANTUA CREEK, CA	CANTUA CREEK
CHECKED KLP	9-19-2020					ROAD NO. / BRIDGE NO.	ELECTRICAL
							DRAWING NO. / SHEET NO. E2.2 / TOTAL

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.



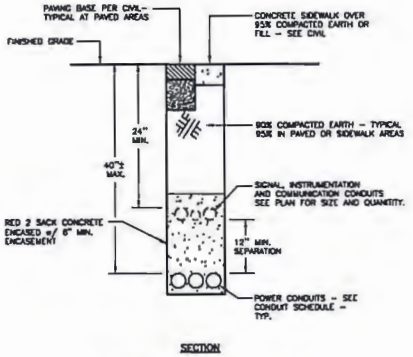
3 PULL BOX – TYPICAL

SCALE: N.T.S.



6 NEW ELECTRICAL EQUIPMENT MOUNTING DETAIL

SCALE: N.T.S.

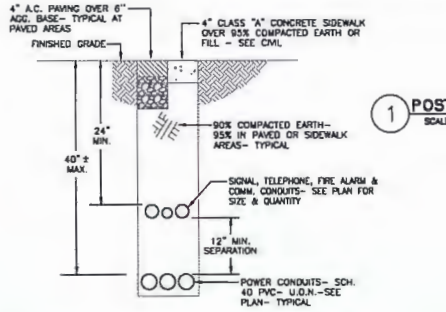


NOTES:

1. PLACE CONDUIT RUNS OF 4 CONDUITS OR GREATER IN PLASTIC SPACERS (RATED FOR DIRECT BURIAL) EVERY 5' ALONG LENGTH OF RUN.
2. PROVIDE 1" OR 2X TRADE DIAMETER OF CONDUIT, WHICHEVER IS GREATER, BETWEEN BUNDLED CONDUITS.
3. WHEN PARALLEL OR CROSSING OTHER UTILITIES MAINTAIN 12" SEPARATION – IF NOT POSSIBLE THEN ROUTE ELECTRICAL DEEPER.

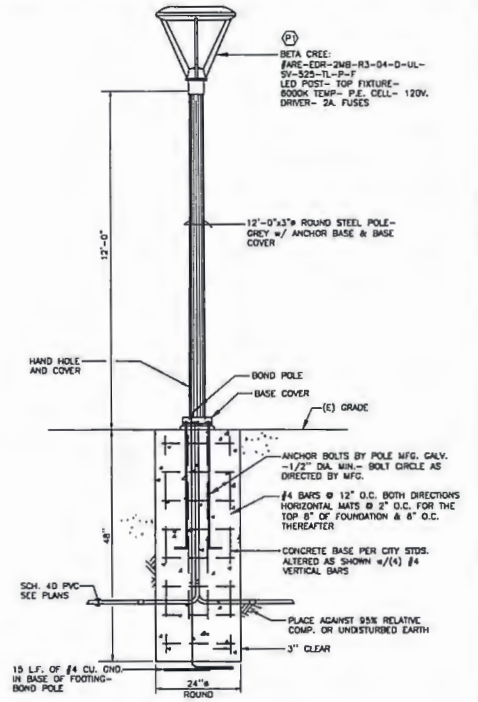
5 CONCRETE ENCASED CONDUITS

SCALE: N.T.S.



4 ELECTRICAL TRENCH SECTION –TYPICAL

SCALE: N.T.S.



1 POST TOP ELECTROLIER, POLE & BASE– TYPICAL

SCALE: NONE

PEZZONI ENGINEERING, INC.
CONSULTING ELECTRICAL ENGINEERS

	DATE	RECORD DRAWING	DATE
DESIGNED KLP	9-19-2020	RESIDENT ENGINEER	
DRAWN FR	9-19-2020		
CHECKED KLP	9-19-2020		

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

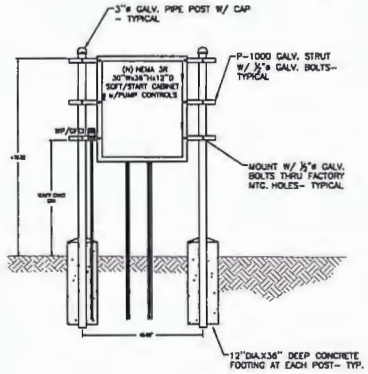
SCALE: AS NOTED

SUPERVISING ENGINEER DATE

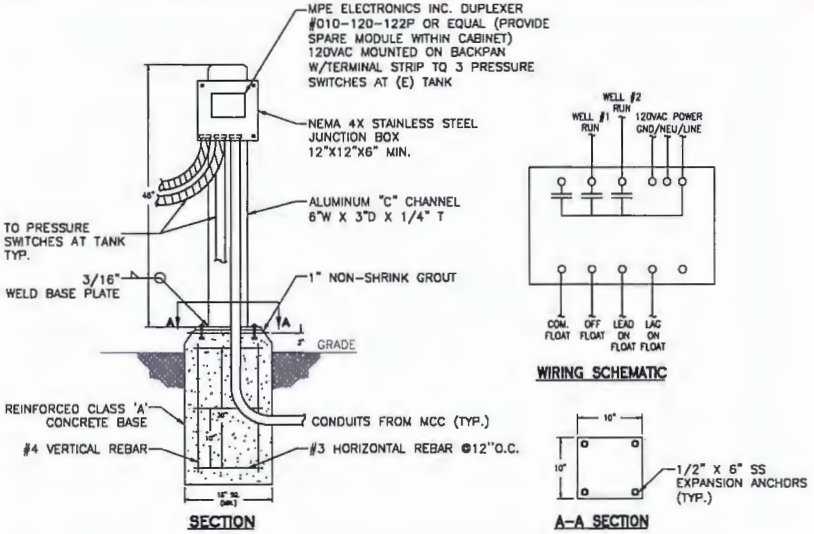
PROJECT: WESTSIDE GROUNDWATER PROJECT
EL PORVENIR & CANTUA CREEK, CA
ROAD NO. BRIDGE NO.

DEPARTMENT OF PUBLIC WORKS AND PLANNING
ELECTRICAL DETAILS
EL PORVENIR AND CANTUA CREEK
ELECTRICAL
DRAWING NO. SHEET NO. E3.0 TOTAL

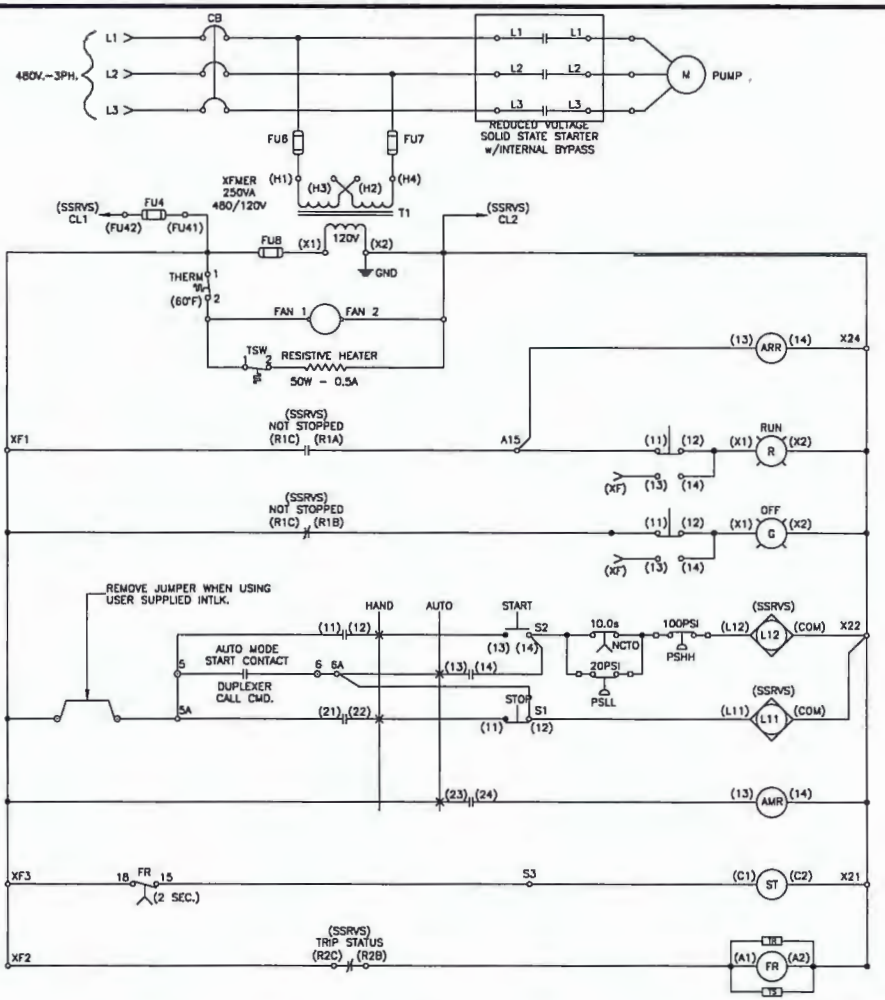
12/08/20 8:08:44 AM F:\17\064 CANTUA CREEK AND EL PORVENIR WATER SYSTEM IMPROVEMENTS\VIEW FOLDER\SHEETS\E3.0 ELECTRICAL DETAILS.DWG kpezzoni



2 NEW ELECTRICAL EQUIPMENT MOUNTING DETAIL
SCALE: N.T.S.



3 DUPLEXER PANEL PEDESTAL DETAIL
SCALE: N.T.S.



1 WELL PUMP CONTROL WIRING DIAGRAM
SCALE: NONE

PEZZONI ENGINEERING, INC.
CONSULTING ELECTRICAL ENGINEERS

	DATE	RECORD DRAWING		SCALE
DESIGNED KLP	9-19-2020	RESIDENT ENGINEER	DATE	AS NOTED
DRAWN FR	9-19-2020			
CHECKED KLP	9-19-2020			

FOR RIGHT OF WAY DATA AND ACCURATE ACCESS DETERMINATION, SEE DOCUMENTS IN THE DEPARTMENT OF PUBLIC WORKS AND PLANNING.

SUPERVISING ENGINEER DATE

PROJECT
WESTSIDE GROUNDWATER PROJECT
EL PORVENIR & CANTUA CREEK, CA
ROAD NO. BRIDGE NO.

DEPARTMENT OF PUBLIC WORKS AND PLANNING
ELECTRICAL DETAILS
EL PORVENIR AND CANTUA CREEK
ELECTRICAL
DRAWING NO SHEET NO. E3.1 TOTAL

12/09/20 8:06:48 AM F:\17\864 CANTUA CREEK AND EL PORVENIR WATER SYSTEM IMPROVEMENTS\NEW FOLDER\SHEETS\E3.1D ELECTRICAL DETAILS.DWG kpezzoni

Exhibit E

ZIM INDUSTRIES, INC.

4532 E. Jefferson Ave. • Fresno, CA 93725
Ph. (559) 834-1551 • FAX (559) 834-5156
www.zimindustries.com

July 23, 2024

County of Fresno
Department of Public Works and Planning / Construction
2220 Tulare Street, 7th Floor
Fresno, CA 93723

RE: Fresno County Westside Groundwater Project (1807C) Level Probes

Dear AJ / Mandeep,

Zim Industries, Inc. proposes equipping each pump with level probes to enhance protection against running dry during low water levels, which can cause major damage or failure. During pump installation, we proactively included these level probes, attaching them to the column pipe; however, installation of a relay is still required.

Implementing these level probes will provide the following benefits:

- Automatically shut off the pump if the water level drops to 50 feet above the pump bowls.
- Trigger a warning if the water level rises to 350 feet above the pump bowls, allowing for early intervention.

These probes offer a direct and reliable method for monitoring water levels and can be combined with other protective measures, such as float switches or pressure sensors, ensuring comprehensive system protection.

Attached is our subcontractor's proposal for these upgrades. Including bond cost and a 15% markup, our proposal amounts to $8,120.00.

If you have any questions or need further clarification, please contact Bob Zimmerer or me at (559) 834-1551.

Sincerely,

Wes Zimmerer
Zim Industries, Inc.

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CONTRACTOR'S LICENSE No.: 417084

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Exhibit F

ZIM INDUSTRIES, INC.

4532 E. Jefferson Ave. • Fresno, CA 93725
Ph. (559) 834-1551 • FAX (559) 834-5156
www.zimindustries.com

July 23, 2024

County of Fresno
Department of Public Works and Planning / Construction
2220 Tulare Street, 7th Floor
Fresno, CA 93723

RE: Fresno County Westside Groundwater Project (1807C) Future Pressure Switch Conduit

Dear AJ / Mandeep,

Zim Industries, Inc. requests a change order to install conduit for future pressure switches at CSA 30 and CSA 30. While pouring concrete to encase conduit, our subcontractor installed 3/4-inch conduit with steel reinforcement support post at the control box and well head manifold for future use.

Attached is our subcontractor's proposal for the future pressure switch conduits and supports. Including bond cost and a 15% markup, our proposal amounts to $5,065.87.

For any questions or further clarification, please contact Bob Zimmerer or me at (559) 834-1551.

Sincerely,

Wes Zimmerer
Zim Industries, Inc.

[illegible]

CONTRACTOR'S LICENSE No.: 417084

[illegible]

This proposal is for the cost of adding a 3/4 inch conduit system with steel reinforcement support post to be encased in concrete at the control box and at well head manifold.

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