



**SOUTH VALLEY WATER RECLAMATION FACILITY
WEST JORDAN, UTAH**

PROJECT 5

CLIENT PROJECT NO. 10548A10

**ADDENDUM NO. 2
TO THE
CONTRACT DOCUMENTS**

APRIL 1, 2019



Bidders on the above-named project are hereby notified that the Bidding Documents are modified as indicated below. Bidders are required to acknowledge receipt of this Addendum in the space provided on the Document 00300 - Bid Form.

This Addendum shall become part of the Contract and provisions of the Contract apply.

SPECIFICATIONS

The following sections are modified as indicated below.

1. SECTION 00310 - BID SCHEDULES
 - a. Replace this section in its entirety with the attached section.
 - b. Please note that sales tax is included in the pricing of pre-negotiated equipment.
2. SECTION 01110 - SUMMARY OF WORK
 - a. Paragraph 1.06.A: add Items 2 through 4 as follows:
 - 2) Clarifier Rehabilitation Project.
 - 3) Laboratory Expansion Project.
 - 4) Diffuser Replacement Project.
3. SECTION 02300 - EARTHWORK
 - a. Paragraph 3.01 A.1.a: add after 95 percent "...maximum dry density per ASTM D1557 minimum."
4. SECTION 16990.16A - CONDUIT SCHEDULE AREA 16
 - a. Add the following changes to the conduit schedule:
 - 1) Remove 2 - #12 conductors designated for NJB-16.200 POWER from conduits L-16-232, C-16-235, C-16-238, C-16-240, and C-16-244.
 - 2) Add the 2 - #12 conductors for NJB-16.200 POWER to conduits N-16-213, N-16-215, and N-16-220.
 - 3) Add 2 - #14 conductors for NJB-16.200 CONTROL to conduits N-16-213, N-16-215, and N-16-220.
 - 4) Add 2 - #14 conductors for BR-MCC-3 ETHERNET SWITCH CONTROL to conduit N-16-004.
 - 5) Add 2 - #14 conductors for BR-MCC-4 ETHERNET SWITCH CONTROL to conduit N-16-005.
 - 6) Add 2 - #14 conductors for BR-MCC-2 ETHERNET SWITCH CONTROL to conduit N-16-007.
 - 7) Add 2 - #14 conductors for BR-MCC-4A ETHERNET SWITCH CONTROL to conduit N-16-009.
 - 8) Add 2 - #14 conductors for BR-MCC-2A ETHERNET SWITCH CONTROL to conduit N-16-011.
 - 9) Add 2 - #14 conductors for BR-MCC-3A ETHERNET SWITCH CONTROL to conduit N-16-013.

5. SECTION 16990.16B - CONDUIT SCHEDULE AREA 16
 - a. Add the following changes to the conduit schedule:
 - 1) Remove 2 - #12 conductors designated for NJB-16.300 POWER from conduits L-16-332, C-16-335, C-16-338, C-16-340, and C-16-344.
 - 2) Add the 2 - #12 conductors for NJB-16.300 POWER to conduits N-16-313, N-16-315, and N-16-320.
 - 3) Add 2 - #14 for NJB-16.300 CONTROL to conduits N-16-313, N-16-315, and N-16-320.
6. SECTION 16990.16C - CONDUIT SCHEDULE AREA 16
 - a. Add the following changes to the conduit schedule:
 - 1) Remove 2 - #12 conductors designated for NJB-16.400 POWER from conduits L16-432, C-16-435, C-16-438, C-16-440, and C-16-444.
 - 2) Add the 2 - #12 conductors for NJB-16.400 POWER to conduits N-16-413, N-16-415, and N-16-420.
 - 3) Add 2 - #14 for NJB-16.400 CONTROL to conduits N-16-413, N-16-415, and N-16-420.
7. SECTION 16690.21 - CONDUIT SCHEDULE AREA 21
 - a. Add the following changes to the conduit schedule:
 - 1) Add 2 - #12 conductors for GRB-MCC-1 ETHERNET SWITCH 24VDC and 2 - #14 for GRB-MCC-1 ETHERNET SWITCH CONTROL to conduit N-21-100.
8. SECTION 17903 - SCHEDULE: I/O LIST
 - a. Replace the I/O List in its entirety with the attached I/O List.
9. SECTION 17710 - CONTROL SYSTEMS: ENCLOSURES, AND PANEL COMPONENTS
 - a. Paragraph 2.06 A: Add the following paragraph:

"8. Humidity:

 - a) Provide humidity mitigation for panels as shown on the Drawings.
 - b) Power supply: 24 VDC, 4.5 Amperes maximum.
 - c) Capable of removing 8 oz. of moisture in 24 hours.
 - d) Manufacturers: One of the following or equal:
 - (1) Pentair H2OMIT Thermolectric Dehumidifier with NEMA Type 4X H2OMIT vent drain."

DRAWINGS

The following drawings are modified, as indicated below:

1. DRAWING G-03
 - a. Replace the title for sheet 64, drawing E16-12 with "BIOREACTOR CONDUIT INSTALLATION DETAIL."

2. DRAWING GC-01
 - a. Under earthwork notes, add the following note:
 - 1) "8. See Section 02300 Paragraph 3.01 A. for testing compacted soils underneath the Grit Removal Building."
3. DRAWING D16-03
 - a. Replace Keynote 1 with the following:

COMPLETELY REMOVE DIFFUSER GRIDS FROM ZONES AX-2 AND AX-3. DROPLEGS SHALL BE TERMINATED PER DETAIL 10/D16-04. ALL SUPPORTS SHALL BE REMOVED AND ANCHORS SHALL BE CUT DOWN TO THE FLOOR AND SEALED WITH SIKAFLEX OR EQUAL MATERIAL. CONTRACTOR SHALL SALVAGE ALL PVC AIR PIPING FROM A SINGLE ZONE, ALL DIFFUSER MEMBRANES FROM BIOREACTOR 4 ZONES AX-2 AND AX-3, AND ALL STAINLESS STEEL AIR PIPING BY DISASSEMBLING. CUTTING OF SALVAGE PIPE IS NOT ALLOWED. PROVIDE ALL SALVAGE TO THE OWNER AND DISPOSE OF REMAINING DEMO.
4. DRAWING GA-05: Remove Typical Detail A252 from this sheet.
5. ADD Drawing GA-05A (new drawing with additional typical details).
6. DRAWING A21-01
 - a. Change the two exterior concrete pan stairs to aluminum stairs by changing referenced keynote #17 to keynote #25.
7. DRAWING A21-02
 - a. Change the two exterior concrete pan stairs to aluminum stairs by changing referenced keynote #17 to keynote #25.
8. DRAWING A21-04
 - a. Change the exterior concrete pan stairs to aluminum stairs by changing referenced keynote #17 to keynote #25.
9. DRAWING A21-05
 - a. Change the exterior concrete pan stairs to aluminum stairs by changing referenced keynote #17 to keynote #25.
10. DRAWING GM-10
 - a. On typical detail P851, remove language to "chip back mortar lining and coating before welding."
11. DRAWING M21-02
 - a. Section C: Add bid alternate shading around west grit chute with note labeled "ABI #3."
12. DRAWING S16-08
 - a. Change drawing reference of Section K from "16S-02" to "S16-02."

13. DRAWING E16-3

a. Add the following keynote #6:

“Mount conduits to guard rails along bioreactor, then transition to new supports to bring conduits to prefabricated electrical enclosures. Contractor to design supports for electrical conduits. Refer to detail 18 on drawing S16-07 for basic concept. Install structural supports in accordance with electrical and structural specification sections. Conduit span lengths between supports shall comply with NEC requirements.”

14. DRAWING E16-4

Add the following keynote #5:

“Mount conduits to guard rails along bioreactor, then transition to new supports to bring conduits to prefabricated electrical enclosures. Contractor to design supports for electrical conduits. Refer to detail 18 on drawing S16-07 for basic concept. Install structural supports in accordance with electrical and structural specification sections. Conduit span lengths between supports shall comply with NEC requirements.”

15. DRAWING E16-5

Add the following keynote #5:

“Mount conduits to guard rails along bioreactor, then transition to new supports to bring conduits to prefabricated electrical enclosures. Contractor to design supports for electrical conduits. Refer to detail 18 on drawing S16-07 for basic concept. Install structural supports in accordance with electrical and structural specification sections. Conduit span lengths between supports shall comply with NEC requirements.”

16. DRAWING E16-7

Add the following keynote #5:

“Mount conduits to guard rails along bioreactor, then transition to new supports to bring conduits to prefabricated electrical enclosures. Contractor to design supports for electrical conduits. Refer to detail 18 on drawing S16-07 for basic concept. Install structural supports in accordance with electrical and structural specification sections. Conduit span lengths between supports shall comply with NEC requirements.”

17. DRAWING E16-8

Add the following keynote #4:

“Mount conduits to guard rails along bioreactor, then transition to new supports to bring conduits to prefabricated electrical enclosures. Contractor to design supports for electrical conduits. Refer to detail 18 on drawing S16-07 for basic concept. Install structural supports in accordance with electrical and structural specification sections. Conduit span lengths between supports shall comply with NEC requirements.”

18. DRAWING E16-9

Add the following keynote #4:

“Mount conduits to guard rails along bioreactor, then transition to new supports to bring conduits to prefabricated electrical enclosures. Contractor to design supports for electrical conduits. Refer to detail 18 on drawing S16-07 for basic concept. Install structural supports in accordance with electrical and structural specification sections. Conduit span lengths between supports shall comply with NEC requirements.”

19. DRAWING E16-10

Add the following keynote #6:

“Contractor to design supports for electrical conduits. Refer to detail 18 on Drawing S16-07 for basic concept. Install structural supports in accordance with electrical and structural specification sections. Conduit span lengths between supports shall comply with NEC requirements.”

The following drawings are replaced with attached revisions, as indicated below:

1. Drawing G-11
2. Drawing GC-SC-19
3. Drawing C-07
4. Drawing C-08
5. Drawing S16-01
6. Drawing S16-06
7. Drawing S16-07
8. Drawing S16-12
9. Drawing S21-01
10. Drawing S21-02
11. Drawing S21-03
12. Drawing S21-07
13. Drawing S21-09
14. Drawing S21-14
15. Drawing GM-04
16. Drawing GM-07
17. Drawing M16-03
18. Drawing M21-07
19. Drawing M21-16
20. Drawing GI-13
21. Drawing IS-04
22. Drawing IS-05
23. Drawing PI16-40
24. Drawing PI21-14

ATTACHMENTS

- Section 00310 - Bid Schedules
- I/O List
- Drawing G-11
- Drawing GC-SC-19
- Drawing C-07
- Drawing C-08
- Drawing GA-05A
- Drawing S16-01
- Drawing S16-06
- Drawing S16-07
- Drawing S16-12
- Drawing S21-01
- Drawing S21-02
- Drawing S21-03
- Drawing S21-07
- Drawing S21-09
- Drawing S21-14
- Drawing GM-04
- Drawing GM-07
- Drawing M16-03
- Drawing M21-07
- Drawing M21-16
- Drawing GI-13
- Drawing IS-04
- Drawing IS-05
- Drawing PI16-40
- Drawing PI21-14

SECTION 00310 - BID SCHEDULES

PART 1 - GENERAL

1.01 CONSTRUCTION CONTRACT

- A. This Bid is submitted to:

South Valley Water Reclamation Facility (Owner)
7495 South 1300 West
West Jordan, Utah 84084

- B. Name of Project: SOUTH VALLEY WATER RECLAMATION FACILITY - PROJECT 5

1.02 SCHEDULES TO BE ADDED TO THE AGREEMENT

- A. This Bid Schedules contain the schedules of prices which will be incorporated into the Agreement by reference.

1.03 TAXES

- A. The Bidder agrees that all sales, consumer, use, and other similar taxes are included in the stated bid prices for the Work, unless provision is made herein for the Bidder to separately itemize the estimated amount of tax.

1.04 SCHEDULES OF PRICES

- A. Lump Sum Bid & Basis of Award: Schedule of Prices for South Valley Water Reclamation Facility - Project 5 as specified and shown on the Drawings. Bidder shall complete Schedule A, Schedule B, and Additive Schedule C in their entirety. Award of the contract shall be based on the total combined amount of the bid that is within available funds. Bids shall be evaluated in the following manner for determination of the lowest, responsible, responsive bidder:

- a. Schedule A only
- b. Schedule A plus Schedule B

However, the OWNER reserves the right to award Schedule A or Schedule A plus Schedule B with any combination of Line Items from Additive Schedule C which results in a sum total within available funds, which in the OWNER's sole discretion, is in the OWNER's best interest. An award is anticipated to be made to a single Bidder. If bids exceed available funds, the OWNER reserves the right to reject all bids.

- B. Schedule A contains prices for the WORK on Bioreactors 2, 3, & 4 related to the improvements shown in South Valley Water Reclamation Facility Project 5 Contract Documents including, but not limited to, mechanical mixing, pumping, piping, valves, structural modifications, aeration system modifications, controls integration, and electrical improvements. It includes pre-selected equipment & pre-negotiated pricing for such equipment for this project for which the CONTRACTOR shall be assigned the existing Memorandum of Agreement between the OWNER and the suppliers. The CONTRACTOR shall fulfill the Agreements according to the terms and conditions specified therein, obtain

Purchase Orders and install the respective equipment and materials, and make payment to the suppliers as provided. VENDOR shall include sales taxes in price as indicated in respective Memorandums of Agreement (MOA). Bidder shall include its cost for administering and accomplishing intent of the Memorandums of Agreement in its Lump Sum Bid. Such costs shall include but not be limited to administration, handling, bonds and insurance, profit, offloading, storage, installation, startup and all other costs required to complete the WORK.

Schedule A excludes WORK on the Grit Handling Facility and site piping and improvement related to the Grit Handling Facility. In addition Schedule A excludes the WORK in Additive Schedule C for bioreactor trench drains, online water quality analyzers, grit removal/dewatering train #3 equipment and piping, and the biofilter odor control system.

- C. Schedule B contains prices for the WORK on the Grit Handling Facility including all site piping and site improvements related thereto shown in South Valley Water Reclamation Facility Project 5 Contract Documents including, but not limited to, earthwork, underground piping, structural components, piping, architectural components, HVAC, pumps, valves, controls, controls integration, and electrical improvements. It includes pre-selected equipment & pre-negotiated pricing for such equipment for this project for which the CONTRACTOR shall be assigned the existing Memorandum of Agreement between the OWNER and the suppliers. The CONTRACTOR shall fulfill the Agreements according to the terms and conditions specified therein, obtain Purchase Orders and install the respective equipment and materials, and make payment to the suppliers as provided. VENDOR shall include sales taxes in price as indicated in respective Memorandums of Agreement. Bidder shall include its cost for administering and accomplishing intent of the Memorandums of Agreement in its Lump Sum Bid. Such costs shall include but not be limited to administration, handling, bonds and insurance, profit, off-loading, storage, installation, startup and all other costs required to complete the WORK.

Schedule B excludes WORK on Bioreactors 2, 3, & 4, which is to be included in Schedule A. In addition Schedule B excludes the WORK in Additive Schedule C for bioreactor trench drains, online water quality analyzers, grit removal/dewatering train #3 equipment and piping, and the biofilter odor control system.

- D. Additive Schedule C contains prices for line items of specific portions of the WORK shown in South Valley Water Reclamation Facility Project 5 Contract Documents related to both Bioreactors 2, 3, & 4 and the Grit Handling Facility. Line Item 3 includes pre-selected equipment & pre-negotiated pricing for such equipment for this project for which the CONTRACTOR shall be assigned the existing Memorandum of Agreement between the OWNER and the suppliers for equipment to provide a third train of grit capturing, removal and dewatering. The CONTRACTOR shall fulfill the Agreements according to the terms and conditions specified therein, obtain Purchase Orders and install the respective equipment and materials, and make payment to the suppliers as provided. VENDOR shall include sales taxes in price as indicated in respective Memorandums of Agreement. Bidder shall include its cost for administering and accomplishing intent of the Memorandums of Agreement in its Lump Sum Bid. Such costs shall include but not be limited to administration, handling, bonds and insurance, profit, off-loading, storage, installation, startup and all other costs required to complete the WORK.

E. Bid Prices: Bidder will complete the WORK in accordance with the Contract Documents for the Lump Sum Bid Prices indicated in the Bid Schedules hereafter.

F. BID SCHEDULES

SCHEDULE A - BIOREACTOR IMPROVEMENTS

Line Item No.	Description	Amount
1.	Contractor Administration	
2.	Mobilization and Demobilization	
3.	Purchase Order Agreement Price for OWNER pre-selected equipment and pre-negotiated price for six Aqua Aerobics DDM surface floating mixers	\$103,974
4.	Purchase Order Agreement Price for OWNER pre-selected equipment and pre-negotiated price for six 99" replacement impellers for existing Enviropax vertical shaft mixers	\$43,261
5.	Removal and disposal of grit residuals from Bioreactors 2 & 4 <i>(Contractor not responsible for removal of residuals from Bioreactor 3)</i>	\$ _____ (insert amount from unit price table below)
6.	LUMP SUM PRICE - WORK on Bioreactors 2, 3, & 4 for construction of South Valley Water Reclamation Facility Project 5, not including Line Items 3 & 4 above and excepting the WORK contained in Schedule B and Additive Schedule C.	
Schedule A TOTAL for all Line Items (Sum of Line Items 1-6)		
(Schedule A Total in Words)		

Unit Price Table for Schedule A

Line Item No.	Description	Quantity ⁽¹⁾	Unit Price (\$/ton)	Amount
1.	Removal and disposal of grit residuals from Bioreactors 2 & 4 <i>(Contractor not responsible for removal of residuals from Bioreactor 3)</i>	1,000 Tons (total)		\$ _____ (To be inserted in Schedule A above)

1. See 00100, Item 7.

SCHEDULE B - GRIT HANDLING FACILITY

Line Item No.	Description	Amount
1.	Contractor Administration	
2.	Mobilization and Demobilization	
3.	Purchase Order Agreement Price for OWNER pre-selected equipment and pre-negotiated price for two trains of Hydro International Headcell Grit Removal Systems excluding Additive Schedule C Line Item 3.	\$481,342
4.	Purchase Order Agreement Price for OWNER pre-selected equipment and pre-negotiated price for two trains of Huber Coanda Fine Grit Washer/Dewatering Units excluding Additive Schedule C Line Item 3.	\$531,418
5.	LUMP SUM PRICE - WORK on Grit Handling Facility including all site piping and site improvements related thereto for construction of South Valley Water Reclamation Facility Project 5, not including Line Items 3 & 4 above and excepting the WORK contained in Schedule A and Additive Schedule C.	
Schedule B TOTAL for all Line Items (Sum of Line Items 1-5)		
(Schedule B Total in Words)		

BASE BID TOTAL

Schedule A plus Schedule B TOTAL	
(Schedule A plus Schedule B Total in Words)	

SCHEDULE C - ADDITIVE BID ITEMS

Line Item No.	Description	Amount
1.	<p>Additive Bid Item #1 - Bioreactor Trench Drains for Bioreactors 2, 3, & 4: Construct bioreactor trench drains within Bioreactors 2, 3, & 4. Construct trench drain collection boxes for Bioreactors 2, 3, & 4, including all associated valves and yard piping related to trench drains and the collection boxes to existing sewer interceptors as shown in the Contract Drawings. Remove residual solids from Bioreactors as needed to accommodate work.</p>	
2.	<p>Additive Bid Item #2 - Online Water Quality Analyzers for Bioreactors 2, 3, & 4: Single online ammonia/nitrate probe per bioreactor as specified in Section 17519 - Analyzers: Ammonia Single MLSS probe per bioreactor as specified in Section 17518 - Analyzers: Mixed Liquor Suspended Solids (MLSS) 2 ORP probes per bioreactor as specified in Section 17502 - Analyzers: ORP Installation of above equipment and all appurtenant controls, wiring, and control panels required for the equipment specified for Additive Bid Item #2 as indicated in the Contract Drawings and Specifications.</p>	
3.	<p>Additive Bid Item #3 - Grit Removal/Dewatering Train # 3: Grit Basin #3 equipment as specified in Section 11323 - Grit Removal System for the pre-negotiated bid alternate price listed in Appendix A (\$219,244). Grit Pumps #5 and #6 as specified in Section 11312C - Horizontal Recess Impeller Centrifugal Pumps. Grit Washer/Dewatering Train #3 equipment as specified in Section 11324 - Grit Washer/Dewatering Units for the bid alternate price listed in Appendix A (\$240,279). Grit chutes and diverter gate for Grit Washer/Dewatering Unit #3 as specified in Section 14592 - Grit Chutes and Storage Bins. Installation of above equipment and all appurtenant piping, fittings, controls, valves, wiring, instruments, and control panels required for the equipment specified for Additive Bid Item #3 as indicated in the Contract Drawings and Specifications.</p>	
4.	<p>Additive Bid Item #4 - Biofilter Odor Control System: Biofilter Odor Control System as specified in Section 13251 - Biofilter Odor Control System and as indicated on the Contract Drawings. All Foul Air (FA) discharge piping related to the Biofilter Odor Control System and other yard piping as indicated on the Contract Drawings. Installation of above equipment and all appurtenant piping, fittings, controls, valves, wiring, instruments, and control panels required for the equipment specified for Additive Bid Item #4 as indicated in the Contract Drawings and</p>	

Line Item No.	Description	Amount
	Specifications.	
	Additive Schedule C TOTAL for all Line Items (Sum of Line Items 1-4)	
(Additive Schedule C Total in Words)		

G. ATTACHMENTS TO THIS BID

- a. The following documents are attached to and made a condition of this Bid:
 - i. Required Bid security in the form of a certified or cashier's check, or a Bid Bond as specified in Document 00300 - Bid Forms.
 - ii. Document 00300 - Bid Forms, and other individuals and entities required to be identified in this Bid.
 - iii. Document 00436 - List of Equipment Manufacturers.
 - iv. Document 00444 - Experience Modification Rate.
 - v. Document 00453 - Bid Preference.
 - vi. Document 00454 - Bid Certification of the Payment of State and Local Taxes.
 - vii. Document 00458 - Certification of Drug-Free Workplace Requirements

- END OF BID SCHEDULES -

REPLACE I/O LIST IN ITS ENTIRETY

DRAWING	FUNCTION_	LOOP	LOCATION	I/O TYPE	EQUIPMENT	I/O DESCRIPTION	RACK	SLOT	POINT	NOTES
PI16-40	AUX1	600A	PLC-600A	DI	PCM-600A	ON UPS POWER	1	04	01	
PI16-40	JS1	600A	PLC-600A	DI	PCM-600A	PWR SUP OK	1	04	02	
PI16-40	JS2	600A	PLC-600A	DI	PCM-600A	PWR SUP OK	1	04	03	
PI16-40	JS3	600A	PLC-600A	DI	PCM-600A	REDUNDANCY ALERT	1	04	04	
PI16-40	JS4	600A	PLC-600A	DI	PCM-600A	ACB ALERT	1	04	05	
PI16-40	SPD	600A	PLC-600A	DI	PCM-600A	SPD FAIL	1	04	06	
PI16-40	TSH	600A	PLC-600A	DI	PCM-600A	HIGH TEMP	1	04	07	
PI16-40	XA1	600A	PLC-600A	DI	PCM-600A	LO BATT	1	04	08	
PI16-40	XA2	600A	PLC-600A	DI	PCM-600A	UPS FAIL	1	04	09	
PI16-40	XA3	600A	PLC-600A	DI	PCM-600A	SWITCH FAIL	1	04	10	
PI16-40	XA1	16.901	PLC-600A	DI	BR-MCC-2	SWITCH FAIL	1	04	11	
PI16-40	XA1	16.902	PLC-600A	DI	BR-MCC-3	SWITCH FAIL	1	04	12	
PI16-40	XA1	16.903	PLC-600A	DI	BR-MCC-4	SWITCH FAIL	1	04	13	
PI16-40	XA1	16.904	PLC-600A	DI	BR-MCC-2A	SWITCH FAIL	1	04	14	
PI16-40	XA1	16.905	PLC-600A	DI	BR-MCC-3A	SWITCH FAIL	1	04	15	
PI16-40	XA1	16.906	PLC-600A	DI	BR-MCC-4A	SWITCH FAIL	1	04	16	
PI16-40	XA1	16.200	PLC-600A	DI	ES-16.200	SWITCH FAIL	1	05	01	
PI16-40	XA1	16.300	PLC-600A	DI	ES-16.300	SWITCH FAIL	1	05	02	
PI16-40	XA1	16.400	PLC-600A	DI	ES-16.400	SWITCH FAIL	1	05	03	
PI21-01	L	21.112	PLC-2100	AI	GRIT BASIN NO. 1	LEVEL	1	10	01	
PI21-04	F	21.215	PLC-2100	AI	GRIT WASHER NO. 1	FLOW	1	10	02	
PI21-10	P	21.511	PLC-2100	AI	GRIT BASIN NO. 1 FOUL AIR	PRESSURE	1	10	03	
PI21-13	A	21.931	PLC-2100	AI	ODOR CONTROL FAN ROOM	CGD	1	10	04	
PI21-13	A	21.932	PLC-2100	AI	ODOR CONTROL FAN ROOM	H2S	1	10	05	
PI21-17	T	21.810	PLC-2100	AI	GRIT REMOVAL BUILDING MAU NO. 1	OUTSIDE AIR	1	10	06	
PI21-17	PD	21.810	PLC-2100	AI	GRIT REMOVAL BUILDING MAU NO. 1	DIFF PRESS	1	10	07	
PI21-17	SI	21.810	PLC-2100	AI	GRIT REMOVAL BUILDING MAU NO. 1	SPEED IN	1	10	08	
PI21-17	T	21.811	PLC-2100	AI	GRIT REMOVAL BUILDING MAU NO. 1	DISCHARGE AIR	1	10	09	
PI21-01	L	21.001	PLC-2100	AI	GRIT INFLUENT CHANNEL	LEVEL	1	10	10	
PI21-10	PD	21.503	PLC-2100	AI	GREASE/MIST ELIMINATOR	PRESS DIFF	1	10	11	
PI21-10	P	21.514	PLC-2100	AI	GRIT WASHERS FOUL AIR	PRESSURE	1	10	12	
PI21-10	P	21.515	PLC-2100	AI	GRIT BINS FOUL AIR	PRESSURE	1	10	13	
PI21-02	L	21.122	PLC-2100	AI	GRIT BASIN NO. 2	LEVEL	1	11	01	
PI21-05	F	21.235	PLC-2100	AI	GRIT WASHER NO. 2	FLOW	1	11	02	
PI21-10	P	21.512	PLC-2100	AI	GRIT BASIN NO. 2 FOUL AIR	PRESSURE	1	11	03	
PI21-13	A	21.934	PLC-2100	AI	ODOR CONTROL FAN ROOM	CGD	1	11	04	
PI21-13	A	21.935	PLC-2100	AI	ODOR CONTROL FAN ROOM	H2S	1	11	05	
PI21-18	T	21.820	PLC-2100	AI	GRIT REMOVAL BUILDING MAU NO. 2	OUTSIDE AIR	1	11	06	
PI21-18	PD	21.820	PLC-2100	AI	GRIT REMOVAL BUILDING MAU NO. 2	DIFF PRESS	1	11	07	
PI21-18	SI	21.820	PLC-2100	AI	GRIT REMOVAL BUILDING MAU NO. 2	SPEED IN	1	11	08	
PI21-18	T	21.821	PLC-2100	AI	GRIT REMOVAL BUILDING MAU NO. 2	DISCHARGE AIR	1	11	09	

DRAWING	FUNCTION_	LOOP	LOCATION	I/O TYPE	EQUIPMENT	I/O DESCRIPTION	RACK	SLOT	POINT	NOTES
PI21-11	P	21.521	PLC-2100	AI	BIOFILTER NO. 1 INLET	PRESSURE	1	11	10	ADDITIVE BID ITEM NO. 4
PI21-11	P	21.522	PLC-2100	AI	BIOFILTER NO. 2 INLET	PRESSURE	1	11	11	ADDITIVE BID ITEM NO. 4
PI21-17	T	21.812	PLC-2100	AI	GRIT LOADING ROOM	TEMP	1	11	12	
PI21-17	PD	21.813	PLC-2100	AI	GRIT LOADING ROOM	DIFF PRESS	1	11	13	
PI21-03	L	21.132	PLC-2100	AI	GRIT BASIN NO. 2	LEVEL	1	12	01	ADDITIVE BID ITEM NO. 3
PI21-06	F	21.255	PLC-2100	AI	GRIT WASHER NO. 3	FLOW	1	12	02	ADDITIVE BID ITEM NO. 3
PI21-10	P	21.513	PLC-2100	AI	GRIT BASIN NO. 3 FOUL AIR	PRESSURE	1	12	03	
PI21-18	T	21.822	PLC-2100	AI	GRIT WASHER ROOM	TEMP	1	12	04	
PI21-18	PD	21.823	PLC-2100	AI	GRIT WASHER ROOM	DIFF PRESS	1	12	05	
PI21-18	T	21.832	PLC-2100	AI	GRIT REMOVAL BUILDING RESTROOM	TEMP	1	12	06	
PI21-18	T	21.842	PLC-2100	AI	GRIT REMOVAL BUILDING ELEC ROOM	TEMP	1	12	07	
PI21-17	SB	21.810	PLC-2100	AO	GRIT REMOVAL BUILDING MAU NO. 1	SPEED OUT	1	14	01	
PI21-17	T	21.810	PLC-2100	AO	GRIT REMOVAL BUILDING MAU NO. 1	TEMP SP	1	14	02	
PI21-18	SB	21.820	PLC-2100	AO	GRIT REMOVAL BUILDING MAU NO. 2	SPEED OUT	1	14	03	
PI21-18	T	21.820	PLC-2100	AO	GRIT REMOVAL BUILDING MAU NO. 2	TEMP SP	1	14	04	
PI21-17	AUX1	21.810	PLC-2100	DI	GRIT REMOVAL BUILDING MAU NO. 1	RUNNING	2	02	01	
PI21-17	AUX2	21.810	PLC-2100	DI	GRIT REMOVAL BUILDING MAU NO. 1	FAILED	2	02	02	
PI21-07	ZSO	21.305	PLC-2100	DI	GRIT DIVERter GATE NO. 1	OPENED	2	02	03	
PI21-07	ZSC	21.305	PLC-2100	DI	GRIT DIVERter GATE NO. 1	CLOSED	2	02	04	
PI21-07	ZSO	21.315	PLC-2100	DI	GRIT DIVERter GATE NO. 2	OPENED	2	02	05	
PI21-07	ZSC	21.315	PLC-2100	DI	GRIT DIVERter GATE NO. 2	CLOSED	2	02	06	
PI21-07	ZSO	21.325	PLC-2100	DI	GRIT DIVERter GATE NO. 3	OPENED	2	02	07	ADDITIVE BID ITEM NO. 3
PI21-07	ZSC	21.325	PLC-2100	DI	GRIT DIVERter GATE NO. 3	CLOSED	2	02	08	
PI21-07	ZSO	21.335	PLC-2100	DI	GRIT DIVERter GATE NO. 4	OPENED	2	02	09	ADDITIVE BID ITEM NO. 3
PI21-07	ZSC	21.335	PLC-2100	DI	GRIT DIVERter GATE NO. 4	CLOSED	2	02	10	
PI21-12	XA2	21.800	PLC-2100	DI	FACP	FIRE ALARM TROUBLE	2	02	11	
PI21-12	XA1	21.800	PLC-2100	DI	FACP	FIRE ALARM SMOKE	2	02	12	
PI21-13	HS2	21.910	PLC-2100	DI	ODOR CONTROL FAN ROOM	SILENCE	2	02	13	
PI21-18	AUX1	21.820	PLC-2100	DI	GRIT REMOVAL BUILDING MAU NO. 2	RUNNING	2	03	01	
PI21-18	AUX2	21.820	PLC-2100	DI	GRIT REMOVAL BUILDING MAU NO. 2	FAILED	2	03	02	
PI21-14	JS4	2100	PLC-2100	DI	PCM-2100	ACB ALERT	2	03	03	
PI21-14	XA1	2100	PLC-2100	DI	PCM-2100	LO BATT	2	03	04	
PI21-14	AUX1	2100	PLC-2100	DI	PCM-2100	ON UPS POWER	2	03	05	
PI21-14	TSH	2100	PLC-2100	DI	PCM-2100	HIGH TEMP	2	03	06	
PI21-14	XA3	2100	PLC-2100	DI	PCM-2100	SWITCH FAIL	2	03	07	
PI21-14	JS1	2100	PLC-2100	DI	PCM-2100	PWR SUP OK	2	03	08	
PI21-14	JS2	2100	PLC-2100	DI	PCM-2100	PWR SUP OK	2	03	09	
PI21-14	JS3	2100	PLC-2100	DI	PCM-2100	REDUNDANCY ALERT	2	03	10	
PI21-14	SPD	2100	PLC-2100	DI	PCM-2100	SPD FAIL	2	03	11	
PI21-14	XA2	2100	PLC-2100	DI	PCM-2100	UPS FAIL	2	03	12	
PI21-14	XA1	21.900	PLC-2100	DI	MCC-1	SWITCH FAIL	2	03	13	

DRAWING	FUNCTION_	LOOP	LOCATION	I/O TYPE	EQUIPMENT	I/O DESCRIPTION	RACK	SLOT	POINT	NOTES
PI21-11	ZCO	21.523	PLC-2100	DO	BIOFILTER NO. 1 WATER SOLENOID	OPEN	2	05	01	ADDITIVE BID ITEM NO. 4
PI21-11	ZCO	21.524	PLC-2100	DO	BIOFILTER NO. 2 WATER SOLENOID	OPEN	2	05	02	ADDITIVE BID ITEM NO. 4
PI21-17	MST	21.810	PLC-2100	DO	GRIT REMOVAL BUILDING MAU NO. 1	START	2	05	03	
PI21-17	MSP	21.810	PLC-2100	DO	GRIT REMOVAL BUILDING MAU NO. 1	STOP	2	05	04	
PI21-18	MST	21.820	PLC-2100	DO	GRIT REMOVAL BUILDING MAU NO. 2	START	2	05	05	
PI21-18	MSP	21.820	PLC-2100	DO	GRIT REMOVAL BUILDING MAU NO. 2	STOP	2	05	06	
PI21-13	XA1	21.910	PLC-2100	DO	ODOR CONTROL FAN ROOM	GO LIGHT	2	05	07	
PI21-13	XA2	21.910	PLC-2100	DO	ODOR CONTROL FAN ROOM	NO-GO LIGHT	2	05	08	
PI21-13	XA3	21.921	PLC-2100	DO	ODOR CONTROL FAN ROOM	HORN	2	05	09	

