Addendum No. 7
to Contract Documents

Project	Biosolids Process Improvements	CWSRF Project No.	C7-6240-13-00
Owner	The City of Auburn		
Contract No.	BPI-1A General BPI-1B Heating and Ventilation BPI-1C Electrical BPI-1D Plumbing	Date	January 13, 2023

To All Contractors:

Contractors submitting proposals for the above-named project shall take note of the following changes, additions, deletions, clarifications, etc., in the Contract Documents, which shall become a part of and have precedence over anything contrarily shown or described in the Contract Documents, and all such shall be taken into consideration and be included in the Contractor's Bid Proposal.

(See attached pages.)

The return receipt requested with this communication is to be deemed evidence that the bidder has received this addendum and has followed the instructions outlined therein.

Nick Stevens, P.E.

SPECIFICATIONS

Item No. 1:

a. Each Proposal Booklet, BPI-1A thru D. **DELETE** Bidders Checklist in its entirety and **REPLACE** with Bidders Checklist (Attachment 1)
b. Proposal Booklet For BPI-1A, Bid Form, **DELETE** section in its entirety and **REPLACE** with Bid Form Contract No. BPI-1A: General (Attachment 2)
c. Proposal Booklet For BPI-1C, Bid Form, **DELETE** section in its entirety and **REPLACE** with Bid Form Contract No. BPI-1C: Electrical (Attachment 3)
d. Proposal Booklet For BPI-1D, Bid Form, **DELETE** section in its entirety and **REPLACE** with Bid Form Contract No. BPI-1D: Plumbing (Attachment 4)

Item No. 2:

Volume I, General Conditions, Article 10, Appendix A, Builders Risk Insurance Requirements. **ADD** the following language to the requirements noted in the 2nd and 3rd column of the table:

"Flood coverage is required for full value of the work, to a maximum limit requirement of $1,000,000"

Item No. 3:

Section 01 20 00 – Lump Sum Items. **DELETE** Section in its entirety and **REPLACE** with Section 01 20 00 – Lump Sum Items (Attachment 5) adding bid alternates descriptions to contracts 1A,1C and 1D

Item No. 4:

Section 01 45 20 – Equipment and System Performance And Operational Testing. **DELETE** Section in its entirety and **REPLACE** with Section 01 45 20 – Commissioning, Testing and Start-up (Attachment 6) eliminating the role of the Commissioning Manager from the contractor's responsibility

Item No. 5:

a. Section 10 10 00 – Visual Sign Boards. **DELETE** Section in its entirety and **REPLACE** with Section 10 10 00 – Visual Sign Boards (Attachment 7)

Item No. 6

Division 10 – **ADD** the following Division 10 sections to the Volume II of the project manual (Attachment 8).

1. 10 43 16 First Aid Cabinets
2. 10 44 16 Fire Extinguishers

Item No. 7:

a. Section 10 14 00 – Signage. **DELETE** Section in its entirety and **REPLACE** with Section 10 14 00 – Signage (Attachment 9)

Item No. 8

Division 13 – **ADD** the following Division 13 sections to the Volume II of the project manual (Attachment 10).

1. 13 34 19 Metal Building Systems

Item No. 9:

Section 13 34 23 – Fabricated Structures, 2.02 C.1. b. **DELETE** "20 psf" and **REPLACE** with the following:

"15 psf"

Item No. 10:

Division 23 – ADD the following Division 23 Sections to Volume II of the Project Manual (Attachment 11)

1. 23 05 23.13 Three Way Mixing Control Valves

Item No. 11:

a. Section 23 21 16 – Hydronic Piping Specialties, 1.01.C.2. Under "System volume, gallons" **REPLACE** "XX" with the following:

"1300"

b. Section 23 21 16 – Hydronic Piping Specialties, 1.01.C.2. Under "Tank volume, gallons" **REPLACE** "XX" with the following:

"100"

Item No. 12:

a. Section 26 32 13.13 – Diesel Engine Driven Generator Set, 1.01 C.4. **DELETE** "top of the enclosure" and **REPLACE** with "inside the enclosure".

b. Section 26 32 13.13 – Diesel Engine Driven Generator Set, 1.01 E. under "Rating" column **DELETE** "Prime" and **REPLACE** with "Standby".
c. Section 26 32 13.13 – Diesel Engine Driven Generator Set, 1.02 C.2. f. **DELETE** "200" and **REPLACE** with "400"
d. Section 26 32 13.13 – Diesel Engine Driven Generator Set, 1.02 C.4. b. **DELETE** "Error! Reference source not found" and **REPLACE** with "1.01.C"
e. Section 26 32 13.13 – Diesel Engine Driven Generator Set, 1.02 E.3. **DELETE** "Preventative maintenance to be performed by"
f. Section 26 32 13.13 – Diesel Engine Driven Generator Set, 2.02 G.2.a **DELETE** the last two sentences and replace with:
"Exhaust system (pipe, fittings, and silencer) shall be coated with a heat resistant ceramic coating Once painted, exhaust system shall be insulated with high temperature thermal insulation."
g. Section 26 32 13.13 – Diesel Engine Driven Generator Set, 2.03 A.3. **ADD** the following to the end of the paragraph:
"Temperature rise of the rotor and stator shall be limited to 130°C Standby at 40 degrees Celsius."

Item No. 13:

a. Section 40 05 19 – Ductile Iron Pipe, 2.05 B.2. **DELETE** the final sentence of the paragraph "Restrained joints with gripping wedges, or gripping gaskets, radial pads, or other devices that penetrate, grip, or embed in the pipe material to resist axial thrust loads are not acceptable".
b. Section 40 05 19 – Ductile Iron Pipe, 2.05 D. **DELETE** this section in its entirety and **REPLACE** with:

"

1. Fittings may utilize Megalug Series 1100 as manufactured by EBAA Iron Sales, Inc.; Sigma One-Lok; or Uni-Flange Series 1400 as manufactured by Ford.
2. Fully restrained mechanical joints for above or below ground service conforming to AWWA C153, AWWA C110 and AWWA C111.
3. Candidate manufacturers:
    a. American Cast Iron Pipe Company, Mechanical Joint Coupled Joint
    b. U.S. Pipe, MJ HARNESS-LOK
    c. Approved Equal"

Item No. 14:

Section 40 05 02.29 – Plant Utility Water, Buried, External Coating. As associated with 4 thru 48" diameter piping **DELETE** the material requirements "Polyethylene Encasement: AWWA C105, Field Installed" and "Zinc Coating with Asphaltic Top Coat: Per Specification, Factory Applied" from the listing.

Item No. 15:

Section 40 05 02.56 – Glass Lined, indoor dry, Valves, 3 thru 12. Within "Materials" column **DELETE** "40 05 62.01" and **REPLACE** with the following:

"40 05 62.12"

Item No. 16:

Section 40 05 63.03 – Stainless Steel Threaded, Valve Materials. After "Stainless Steel (316)" within items 1,2 and 5 **ADD** the following:

"or ASTM A995-CDMN Duplex Stainless Steel"

Item No. 17:

Section 42 13 19.16 – Concentric Tube Heat Exchangers, 2.03. **DELETE** Paragraph E in its entirety and **REPLACE** with the following:

"The unit shall be enclosed in an insulated casing designed for indoor service with all return bends exposed. Casing side and top panels shall be removable"

Item No. 18:

Section 43 05 21 – Common Motor Requirements for Equipment, 2.05.2, **DELETE** items c & d in their entirety and **REPLACE** with the following:

"c. Provide means to limit shaft voltages and prevent pitting or scoring of motor shaft and bearings. This shall include one or more of the following:

1) Electrically insulated bearings or,
2) Provide Electro Static Technology's AEGIS Shaft Grounding Ring for Bearing Protection or equal. The shaft grounding ring shall be solidly bonded per manufacturer's recommendations.
3) Manufacturer's recommended means for protection against shaft voltages."

Item No. 19:

a. Section 46 41 41 – Top-Entering Tank Mixers, 2.03.D.1. Before the last sentence **ADD** the following:

"Radial flow impellers may be used for the lower impeller if two impellers are provided."

b. Section 46 41 41 – Top-Entering Tank Mixers, 3.02.A. **DELETE** "factory tested" from the first sentence and **REPLACE** with:

"field tested"

c. Section 46 41 41 – Top-Entering Tank Mixers, 3.02.A. **DELETE** "80 dBA" from the last sentence and **REPLACE** with:

"85 dBA"

Item No. 20:

a. Section 46 76 53 – Belt Dryer Equipment, **DELETE** Section in its entirety and **REPLACE** with Section 46 76 53 – Belt Dryer Equipment (Attachment 12)

DRAWINGS

Item No. 21:

a. **REPLACE** Drawing G-00-002 Drawing Index III in Volume IV and Volume V drawings (Attachment 13)

Item No. 22:

a. **REPLACE** Drawing A-00-010 Room Finish and Wall Types (Attachment 14)
b. **REPLACE** Drawing A-20-101 Digester Control Building—Basement Plan (Attachment 14)
c. **REPLACE** Drawing A-20-102 Digester Control Building—First Floor Plan (Attachment 14)
d. **REPLACE** Drawing A-20-301 Digester Control Building—Sections and Details (Attachment 14)
e. **REPLACE** Drawing A-30-201 Digester Control Building—Elevations I (Attachment 14)
f. **REPLACE** Drawing A-30-202 Digester Control Building—Elevations II (Attachment 14)

Item No. 23:

a. **REPLACE** Drawing D-30-101 Dewatering and Dryer Building—Overall Plan (Attachment 15)
b. **REPLACE** Drawing D-30-102 Dewatering and Dryer Building—Enlarged Plan I (Attachment 15)
c. **REPLACE** Drawing D-30-103 Dewatering and Dryer Building— Enlarged Plan II (Attachment 15)
d. **REPLACE** Drawing D-30-301 Dewatering and Dryer Building—Sections (Attachment 15)
e. **REPLACE** Drawing D-30-302 Dewatering and Dryer Building— Sections (Attachment 15)
f. **REPLACE** Drawing D-30-303 Dewatering and Dryer Building— Sections (Attachment 15)

Item No. 24:

a. **REPLACE** Drawing E-00-019 Network Architecture (Attachment 16)

b. **REPLACE** Drawing E-15-011 Electrical Entrance Gear Generator and Power Transformer—Single Line Diagram II (Attachment 16)
c. **REPLACE** Drawing E-30-101 DDB First Floor and Operations Corridor Plans (Attachment 16)
d. **REPLACE** Drawing E-30-102 DDB Enlarged Plans I Power and Control (Attachment 16)
e. **REPLACE** Drawing E-30-103 DDB Enlarged Plans II Power and Control (Attachment 16)
f. **REPLACE** Drawing E-30-601 DDB-MCC One Line Diagram I (Attachment 16)
g. **REPLACE** Drawing E-30-603 DDB-MCC Elevation (Attachment 16)
h. **REPLACE** Drawing E-30-604 DDB-PLC1 Control One Line Diagram I (Attachment 16)

Item No. 25:

a. **REPLACE** Drawing I-30-103 Belt Filter Presses P&ID (Attachment 17)
b. **REPLACE** Drawing I-30-104 Sludge Dryer P&ID (Attachment 17)

Item No. 26:

a. **REPLACE** Drawing P-30-101 Dewatering and Dryer Building—First Floor Plan (Attachment 18)

Item No. 27:

a. **REPLACE** Drawing S-30-103 Dewatering and Dryer Building—Plan at El. 586-00 (Attachment 19)

OTHER

Item No. 28:

The final "BPI Bid Questions Q&A" log is provided in Attachment 20 and is formally made part of the documents for BPI-1A, 1B, 1C & 1D. The log shall be attached to end of Volume I of the Project Manual.

Addendum No. 7
to Contract Documents

ADDENDUM NO. 7

ATTACHMENT NO. 1

BIDDING CHECKLIST

CITY OF AUBURN
CAYUGA COUNTY, NEW YORK

BIOSOLIDS PROCESS IMPROVEMENTS

CONTRACT NO. BPI-1A: GENERAL
CONTRACT NO. BPI-1B: HEATING, VENTILATING, AND AIR CONDITIONING
CONTRACT NO. BPI-1C: ELECTRICAL AND INSTRUMENTATION
CONTRACT NO. BPI-1D: PLUMBING

CWSRF PROJECT NO. C7-6240-13-00

This Bidding Checklist is provided to assist prospective bidders with completion and submittal of their bid so that they will contain all the documents required for the contract being bid. This checklist requires that the prospective bidder initial each item being included in the bid submission on the checklist and for the signatory on the bid form to sign this checklist and submit it as part of the bid submission.

Initial blanks next to each item on checklist, after preparing and completely executing the respective items. Initials shall only be by the same person signing the bid form.

		Initial Below
1.	Bidder is registered with Owner as a Plan Holder	_____
2.	Bidding Checklist	_____
3.	Bid Security	_____
4.	Non-Collusive Bidding Certification	_____
5.	Bid Bond	_____
6.	Bid Form (Document 00 41 00)	_____
7.	Similar Work/References	_____
8.	Statement on Sexual Harassment Certificate	_____
9.	Certificate of Bidder Regarding Equal Employment Opportunity (EEO)	_____
10.	List of Subcontractors (Document 00 42 70)	_____
11.	Required forms from the Mandatory SRF Terms and Conditions:	
	A. Lobbying Certification	_____
	B. American Iron and Steel (AIS) Contractor Certification	_____

Certification Statement:

The above items have been fully completed and executed in full accordance with the provisions specified in the instructions contained in the Project Manual. It is further acknowledged that failure to properly complete this form or provide any of the above required documents as specified in the Project Manual is itself sufficient

incontrovertible grounds for rejection of the bid, at the full discretion of the County during the evaluation of bids, and that this statement does not change or modify the information in the Project Manual.

Acknowledged and Agreed to Hereby:

By: _____

Company: _____

Date: _____

Addendum No. 7 to Contract Documents
Biosolids Process Improvements
The City of Auburn
Contract Nos. BPI-1A thru BPI-1D

January 13, 2023

ADDENDUM NO. 7

ATTACHMENT NO. 2

BID FORM

CITY OF AUBURN
CAYUGA COUNTY, NEW YORK

BIOSOLIDS PROCESS IMPROVEMENTS

CONTRACT NO. BPI-1A: GENERAL

CWSRF PROJECT NUMBER: C7-6240-13-00

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Engineering Department
Memorial City Hall
24 South Street
Auburn, NY 13021

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.	Addendum Date

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; and information and observations obtained from visits to the

Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.

E. Based on the information and observations referred to in Paragraph 3.01.D above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

F. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

G. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

H. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

I. The Bidder acknowledges that in accordance with New York State Labor Law 200, Section 220-h, every worker employed in the performance of a public works contract shall be certified as having completed an OSHA 10-Hour Construction Safety and Heath Course – S1537-A.

J. The submission of this Bid constitutes and incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

E. Bidder is registered with the Owner as a Plan Holder of this project.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will perform the Work in accordance with the Contract Documents for the prices shown in the Bid Schedule that follow.

5.02 Bidder acknowledges that Bidder's price(s) constitute Bidder's sole compensation for performing all portions of the Work assigned to the specific Contractor required by the Contract Documents, and if a particular part of the Work is not listed specifically in the Bid Item Descriptions, Bidder has included that part of the Work in the Bid Item Description which it most logically belongs. Bidder shall provide bid price for each Contract in figures below or indicate "NO BID" if Bidder is not submitting a Bid for particular Contract.

A. Schedule BPI-1A: All work associated with Contract BPI-1A: General

1. Contract BPI-A Base Bid (From Schedule BPI-1A) $_____
(Figures – or write "NO BID")

2. Contract BPI-1A Bid Alternates $_____
(From Schedule BPI-1A ALT) (Figures – or write "NO BID")

5.03 The above prices shall include all labor, materials, equipment, shoring, removal and disposal, overhead, profit, insurance, etc., to incorporate the finished work identified. Refer to Section 01 20 00.

Bidder acknowledges that Bidder's price(s) constitute Bidder's sole compensation for performing all Work required by the Contract Documents, and if a particular part of the Work is not listed in the Bid Descriptions (Section 01 20 00). Bidder has included that part of Work in the Bid Item Description which it most logically belongs.

Bidder acknowledges that estimated unit price work quantities are not guaranteed, and are solely for the purposes of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

5.04 BASIS OF AWARD: Lowest and most responsible Total Base Bid plus all accepted Bid Alternates while meeting the criteria of Information For Bidders. Owner reserves the right to select Alternates in any order or combination.

SCHEDULE BPI-1A –BASE BID: Contract BPI-1A: General

BID ITEM NO.	DESCRIPTION	UNITS	QTY.	UNIT PRICE	TOTAL PRICE
A-1	Mobilization/ Demobilization - General	LS	1	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words
A-2	General Construction	LS	1	_____ Figures	_____ Figures

BID ITEM NO.	DESCRIPTION	UNITS	QTY.	UNIT PRICE	TOTAL PRICE
				(_____ _____ _____) Words	(_____ _____ _____) Words
A-3	Record Documents - General	LS	1	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words
A-4	O&M Manuals - General	LS	1	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words
A-5	Contingency Allowance – General	LS	1	$2,000,000.00 Figures (Two Million Dollars and No Cents) Words	$2,000,000.00 Figures (Two Million Dollars and No Cents) Words
A-6	Temporary Trailer (Office) Maintenance	Month	36	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words
A-7	Wall Concrete Crack Repair – Chemical Grout Injection	LF	350	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words
A-8	Wall Concrete Crack Repair – Epoxy Grout Injection	LF	50	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words
A-9	Slab Concrete Crack Repair – Epoxy Gravity Feed	LF	250	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words
A-10	Concrete Surface Repair – Spall Repair	SF	175	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words

BID ITEM NO.	DESCRIPTION	UNITS	QTY.	UNIT PRICE	TOTAL PRICE
A-11	Concrete Surface Repair – Spall Repair Overhead	SF	25	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words
A-12	Joint Sealant Repair	LF	150	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words

TOTAL BASE BID: CONTRACT BPI-1A $_____
(Figures or "No Bid")

SCHEDULE BPI-1A ALT – BID ALTERNATES: Contract BPI-1A: General

BID ITEM NO.	DESCRIPTION	UNITS	QTY.	UNIT PRICE	TOTAL PRICE
A-A1	Belt Dryer- Add Alternate	LS	1	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words
A-A2	Belt Dryer Related Conveyance - Add Alternate	LS	1	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words

TOTAL BID ALTERNATES: CONTRACT BPI-1A $_____
(Figures or "No Bid")

- All specified contingency allowances are included in the price(s) set forth above, and have been computed in accordance with Paragraph 11.02 of the General Conditions.
- All specified unit prices have been computed in accordance with Paragraph 11.03 of the General Conditions
- In case of a discrepancy between the unit prices written in words and in figures, the unit prices written in words shall govern. In case of a discrepancy between unit prices bid and extended totals, the unit prices will govern.
- Write "NO BID" on the blank line above if Bidder is not submitting a Bid for Contract BPI-1A.

ARTICLE 6 - TIME OF COMPLETION

6.01 Subject to the below milestone dates, Bidder agrees that the Work will be substantially complete in 990 calendar days from the date of the Notice to Proceed and will be ready for final payment in accordance with Paragraph 12 of the agreement in 1,095 calendar days from the date of the Notice to Proceed. The following milestone dates shall be enforced (See Specification 01 12 16 Work Sequence:

Milestones	Start Constraints	Substantial Completion	Final Completion
Milestone 1 – CIP Projects Facilities 60,70, 90	Noticed to proceed	545 days	
Milestone 2 – Electrical Entrance Gear Facility 15	Noticed to proceed	545 days	
Milestone 3 – Biosolids Process Improvements Facilities 10,20,30,40,50	Notice to proceed	990 days	
			1,095 days

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

6.03 If awarded a Contract for this Work, it is the sole responsibility of the successful Bidder to prepare an approvable M/WBE and EEO Utilization Plan (Utilization Plan) in accordance with Document Mandatory State Revolving Fund Terms and Conditions and meeting the approval of the funding agency. Bidder acknowledges that the Owner will not process any payment applications prior to receipt of written funding agency approval of the required Utilization Plan. There will be no adjustments to the completion dates due to the successful Bidder's failure to produce a timely and approved Utilization Plan. Additionally, the Bidder waives any right to claims against the Owner for withholding payment due to Bidder's failure to produce a timely and approved Utilization Plan.

ARTICLE 7 - ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

A. Bid Security

B. Non-Collusive Bidding Certification.

C. Bid Bond.

D. Similar Work/References.

E. Statement on Sexual Harassment Certificate

F. Certificate of Bidder regarding Equal Employment Opportunity (EEO)

G. Agreement

H. Bidder's Acknowledgements
1. Corporation Acknowledgment
2. Partnership Acknowledgment
3. Individual's Acknowledgment

I. Corporate Resolution

J. Certificate of Owner's Attorney

K. Agreement Bonds

L. List of Subcontractors

M. Required forms from the Mandatory State Revolving Fund Terms and Conditions :

1. Lobbying Certification
2. American Iron and Steel (AIS) Contractor Certification

ARTICLE 8 - BID SUBMITTAL

9.01 Owner's Rights Reserved: The undersigned understands and agrees that the Owner reserves the right to reject any and all bids or to waive any formality or technicality in any bid proposal.

9.02 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____ (seal)

By: _____
(Signature of general partner -- attach evidence of authority to sign – see Document 00 41 20)

Name (typed or printed): _____

A Limited Liability Corporation (LLC)

LLC Name: _____

State in Which Organized: _____

By: _____
(Signature -- attach evidence of authority to sign – see Document 00 41 20)

Name (typed or printed): _____

Title: _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability: _____

By: _____
(Signature -- attach evidence of authority to sign – See Document 00 41 20)

Name (typed or printed): _____

Title: _____
(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in New York State is _____/_____/_____.

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of 1st joint venture partner -- attach evidence of authority to sign – Document 00 41 20)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____(SEAL)

By: _____
(Signature of 2nd joint venture partner -- attach evidence of authority to sign – Document 00 41 20)

Name (typed or printed): _____

Title: _____

Third Joint Venturer Name: _____(SEAL)

By: _____
(Signature of 3rd joint venture partner -- attach evidence of authority to sign – Document 00 41 20)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address _____

_____

Phone No. _____ Fax No. _____

E-mail _____

Federal Identification Number or Social Security Number _____

SUBMITTED on _____, 20____.

Is Bidder a NYS Certified Minority and/or Women Business Enterprise as registered with the Empire State Development Corporation's Division of Minority and Women Business Development?

_____Yes _____No

Addendum No. 7 to Contract Documents
Biosolids Process Improvements
The City of Auburn
Contract Nos. BPI-1A thru BPI-1D

January 13, 2023

ADDENDUM NO. 7

ATTACHMENT NO. 3

BID FORM

CITY OF AUBURN
CAYUGA COUNTY, NEW YORK

BIOSOLIDS PROCESS IMPROVEMENTS

CONTRACT NO. BPI-1C: ELECTRICAL AND INSTRUMENTATION

CWSRF PROJECT NUMBER: C7-6240-13-00

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Engineering Department
Memorial City Hall
24 South Street
Auburn, NY 13021

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.	Addendum Date

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; and information and observations obtained from visits to the

Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.

E. Based on the information and observations referred to in Paragraph 3.01.D above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

F. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

G. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

H. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

I. The Bidder acknowledges that in accordance with New York State Labor Law 200, Section 220-h, every worker employed in the performance of a public works contract shall be certified as having completed an OSHA 10-Hour Construction Safety and Heath Course – S1537-A.

J. The submission of this Bid constitutes and incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

E. Bidder is registered with the Owner as a Plan Holder of this project.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will perform the Work in accordance with the Contract Documents for the prices shown in the Bid Schedule that follow.

5.02 Bidder acknowledges that Bidder's price(s) constitute Bidder's sole compensation for performing all portions of the Work assigned to the specific Contractor required by the Contract Documents, and if a particular part of the Work is not listed specifically in the Bid Item Descriptions, Bidder has included that part of the Work in the Bid Item Description which it most logically belongs. Bidder shall provide bid price for each Contract in figures below or indicate "NO BID" if Bidder is not submitting a Bid for particular Contract.

A. Schedule BPI-1C: All work associated with Contract BPI-1C: Electrical and Instrumentation

1. **Contract BPI-1C Base Bid (From Schedule BPI-1C)** **$_____**
(Figures – or write "NO BID")

2. **Contract BPI-1C Bid Alternates (From Schedule BPI-1C ALT)** **$_____**
(Figures – or write "NO BID")

5.03 The above prices shall include all labor, materials, equipment, shoring, removal and disposal, overhead, profit, insurance, etc., to incorporate the finished work identified. Refer to Section 01 20 00.

Bidder acknowledges that Bidder's price(s) constitute Bidder's sole compensation for performing all Work required by the Contract Documents, and if a particular part of the Work is not listed in the Bid Descriptions (Section 01 20 00). Bidder has included that part of Work in the Bid Item Description which it most logically belongs.

Bidder acknowledges that estimated unit price work quantities are not guaranteed, and are solely for the purposes of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

5.04 BASIS OF AWARD: Lowest and most responsible Total Base Bid plus all accepted Bid Alternateswhile meeting the criteria of Information For Bidders. Owner reserves the right to select Alternates in any order or combination.

SCHEDULE BPI-1C –BASE BID: Contract BPI-1C: Electrical and Instrumentation

BID ITEM NO.	DESCRIPTION	UNITS	QTY.	UNIT PRICE	TOTAL PRICE
C-1	Mobilization/ Demobilization – Electrical and Instrumentation	LS	1	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words
C-2	Electrical and Instrumentation Construction	LS	1	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words
C-3	Record Documents – Electrical and Instrumentation	LS	1	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words
C-4	Contingency Allowance – Electrical and Instrumentation	LS	1	$1,250,000.00 Figures (One Million Two Hundred Fifty Thousand Dollars and No Cents) Words	$1,250,000.00 Figures (One Million Two Hundred Fifty Thousand Dollars and No Cents) Words
C-5	SCADA Software Allowance	LS	1	$50,000.00 Figures (Fifty Thousand Dollars and No Cents) Words	$50,000.00 Figures (Fifty Thousand Dollars and No Cents) Words
C-6	SCADA Hardware Allowance	LS	1	$50,000.00 Figures (Fifty Thousand Dollars and No Cents) Words	$50,000.00 Figures (Fifty Thousand Dollars and No Cents) Words

TOTAL BASE BID: CONTRACT BPI-1C $_____
(Figures or "No Bid")

SCHEDULE BPI-1C ALT – BID ALTERNATES: Contract BPI-1C: Electrical and Instrumentation

BID ITEM NO.	DESCRIPTION	UNITS	QTY.	UNIT PRICE	TOTAL PRICE
C-A1	Cellular Booster System- Add Alternate	LS	1	_____ Figures ($_____ _____ _____) Words	_____ Figures ($_____ _____ _____) Words
C-A2	Sludge Dryer Related Electrical and I&C- Add Alternate	LS	1	_____ Figures ($_____ _____ _____) Words	_____ Figures ($_____ _____ _____) Words
C-A3	Sludge Dryer Conveyance Related Electrical and I&C- Add Alternate	LS	1	_____ Figures ($_____ _____ _____) Words	_____ Figures ($_____ _____ _____) Words

TOTAL BID ALTERNATES: CONTRACT BPI-1C $_____
(Figures or "No Bid")

- All specified contingency allowances are included in the price(s) set forth above, and have been computed in accordance with Paragraph 11.02 of the General Conditions.
- All specified unit prices have been computed in accordance with Paragraph 11.03 of the General Conditions
- In case of a discrepancy between the unit prices written in words and in figures, the unit prices written in words shall govern. In case of a discrepancy between unit prices bid and extended totals, the unit prices will govern.
- Write "NO BID" on the blank line above if Bidder is not submitting a Bid for Contract BPI-1C.

ARTICLE 6 - TIME OF COMPLETION

6.01 Subject to the below milestone dates, Bidder agrees that the Work will be substantially complete in 990 calendar days from the date of the Notice to Proceed and will be ready for final payment in accordance with Paragraph 12 of the agreement in 1,095 calendar days from the date of the Notice to Proceed. The following milestone dates shall be enforced (See Specification 01 12 16 Work Sequence:

Milestones	Start Constraints	Substantial Completion	Final Completion
Milestone 1 – CIP Projects Facilities 60,70, 90	Noticed to proceed	545 days	
Milestone 2 – Electrical Entrance Gear Facility 15	Noticed to proceed	545 days	
Milestone 3 – Biosolids	Notice to proceed	990 days	

Process Improvements Facilities 10,20,30,40,50			
			1,095 days

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

6.03 If awarded a Contract for this Work, it is the sole responsibility of the successful Bidder to prepare an approvable M/WBE and EEO Utilization Plan (Utilization Plan) in accordance with Document Mandatory State Revolving Fund Terms and Conditions and meeting the approval of the funding agency. Bidder acknowledges that the Owner will not process any payment applications prior to receipt of written funding agency approval of the required Utilization Plan. There will be no adjustments to the completion dates due to the successful Bidder's failure to produce a timely and approved Utilization Plan. Additionally, the Bidder waives any right to claims against the Owner for withholding payment due to Bidder's failure to produce a timely and approved Utilization Plan.

ARTICLE 7 - ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid (see also Document 00 21 15, Bidding Checklist):

A. Bid Security

B. Non-Collusive Bidding Certification.

C. Bid Bond.

D. Similar Work/References.

E. Statement on Sexual Harassment Certificate

F. Certificate of Bidder regarding Equal Employment Opportunity (EEO)

G. Agreement

H. Bidder's Acknowledgements
1. Corporation Acknowledgment
2. Partnership Acknowledgment
3. Individual's Acknowledgment

I. Corporate Resolution

J. Certificate of Owner's Attorney

K. Agreement Bonds

L. List of Subcontractors

M. Required forms from the Mandatory State Revolving Fund Terms and Conditions :
1. Lobbying Certification
2. American Iron and Steel (AIS) Contractor Certification

ARTICLE 8 - BID SUBMITTAL

9.01 Owner's Rights Reserved: The undersigned understands and agrees that the Owner reserves the right to reject any and all bids or to waive any formality or technicality in any bid proposal.

9.02 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____ (seal)

By: _____
(Signature of general partner -- attach evidence of authority to sign – see Document 00 41 20)

Name (typed or printed): _____

A Limited Liability Corporation (LLC)

LLC Name: _____

State in Which Organized: _____

By: _____
(Signature -- attach evidence of authority to sign – see Document 00 41 20)

Name (typed or printed): _____

Title: _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability: _____

By: _____
(Signature -- attach evidence of authority to sign – See Document 00 41 20)

Name (typed or printed): _____

Title: _____
(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in New York State is _____/_____/_____.

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of 1st joint venture partner -- attach evidence of authority to sign – Document 00 41 20)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____(SEAL)

By: _____
(Signature of 2nd joint venture partner -- attach evidence of authority to sign – Document 00 41 20)

Name (typed or printed): _____

Title: _____

Third Joint Venturer Name: _____(SEAL)

By: _____
(Signature of 3rd joint venture partner -- attach evidence of authority to sign – Document 00 41 20)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address _____

_____

Phone No. _____ Fax No. _____

E-mail _____

Federal Identification Number or Social Security Number _____

SUBMITTED on _____, 20____.

Is Bidder a NYS Certified Minority and/or Women Business Enterprise as registered with the Empire State Development Corporation's Division of Minority and Women Business Development?

_____Yes _____No

Addendum No. 7 to Contract Documents
Biosolids Process Improvements
The City of Auburn
Contract Nos. BPI-1A thru BPI-1D

January 13, 2023

ADDENDUM NO. 7

ATTACHMENT NO. 4

BID FORM

CITY OF AUBURN
CAYUGA COUNTY, NEW YORK

BIOSOLIDS PROCESS IMPROVEMENTS

CONTRACT NO. BPI-1D: PLUMBING

CWSRF PROJECT NUMBER: C7-6240-13-00

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

Engineering Department
Memorial City Hall
24 South Street
Auburn, NY 13021

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

Addendum No.	Addendum Date

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; and information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding

Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.

E. Based on the information and observations referred to in Paragraph 3.01.D above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

F. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

G. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.

H. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

I. The Bidder acknowledges that in accordance with New York State Labor Law 200, Section 220-h, every worker employed in the performance of a public works contract shall be certified as having completed an OSHA 10-Hour Construction Safety and Heath Course – S1537-A.

J. The submission of this Bid constitutes and incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

ARTICLE 4 – BIDDER'S CERTIFICATION

4.01 Bidder certifies that:

A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;

C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and

D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;

3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

E. Bidder is registered with the Owner as a Plan Holder of this project.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will perform the Work in accordance with the Contract Documents for the prices shown in the Bid Schedule that follow.

5.02 Bidder acknowledges that Bidder's price(s) constitute Bidder's sole compensation for performing all portions of the Work assigned to the specific Contractor required by the Contract Documents, and if a particular part of the Work is not listed specifically in the Bid Item Descriptions, Bidder has included that part of the Work in the Bid Item Description which it most logically belongs. Bidder shall provide bid price for each Contract in figures below or indicate "NO BID" if Bidder is not submitting a Bid for particular Contract.

A. Schedule BPI-1D: All work associated with Contract BPI-1D: Plumbing

1. Contract BPI-1D Base Bid (From Schedule BPI-1D) **$_____**
(Figures – or write "NO BID")

2. Contract BPI-1D Bid Alternates (From Schedule BPI-1D ALT) **$_____**
(Figures – or write "NO BID")

5.03 The above prices shall include all labor, materials, equipment, shoring, removal and disposal, overhead, profit, insurance, etc., to incorporate the finished work identified. Refer to Section 01 20 00.

Bidder acknowledges that Bidder's price(s) constitute Bidder's sole compensation for performing all Work required by the Contract Documents, and if a particular part of the Work is not listed in the Bid Descriptions (Section 01 20 00). Bidder has included that part of Work in the Bid Item Description which it most logically belongs.

Bidder acknowledges that estimated unit price work quantities are not guaranteed, and are solely for the purposes of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

5.04 BASIS OF AWARD: Lowest and most responsible Total Base Bid plus all accepted Bid Alternates while meeting the criteria of Information For Bidders. Owner reserves the right to select Alternates in any order or combination.

SCHEDULE BPI-1D–BASE BID: Contract BPI-1D: Plumbing

BID ITEM NO.	DESCRIPTION	UNITS	QTY.	UNIT PRICE	TOTAL PRICE
D-1	Mobilization/ Demobilization - Plumbing	LS	1	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____) Words
D-2	Plumbing Construction	LS	1	_____ Figures (_____ _____ _____)	_____ Figures (_____ _____ _____)

BID ITEM NO.	DESCRIPTION	UNITS	QTY.	UNIT PRICE	TOTAL PRICE
				Words	Words
D-3	Record Documents - Plumbing	LS	1	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words
D-4	Contingency Allowance - Plumbing	LS	1	$50,000.00 Figures (Fifty Thousand Dollars and No Cents) Words	$50,000.00 Figures (Fifty Thousand Dollars and No Cents) Words

TOTAL BASE BID: CONTRACT BPI-1D $_____
(Figures or "No Bid")

SCHEDULE BPI-1D ALT – BID ALTERNATES: Contract BPI-1D: Plumbing

BID ITEM NO.	DESCRIPTION	UNITS	QTY.	UNIT PRICE	TOTAL PRICE
A-D1	Sludge Dryer Related Plumbing - Add Alternate	LS	1	_____ Figures (_____ _____ _____) Words	_____ Figures (_____ _____ _____) Words

- All specified contingency allowances are included in the price(s) set forth above, and have been computed in accordance with Paragraph 11.02 of the General Conditions.
- All specified unit prices have been computed in accordance with Paragraph 11.03 of the General Conditions
- In case of a discrepancy between the unit prices written in words and in figures, the unit prices written in words shall govern. In case of a discrepancy between unit prices bid and extended totals, the unit prices will govern.
- Write "NO BID" on the blank line above if Bidder is not submitting a Bid for Contract BPI-1D.

ARTICLE 6 - TIME OF COMPLETION

6.01 Subject to the below milestone dates, Bidder agrees that the Work will be substantially complete in 990 calendar days from the date of the Notice to Proceed and will be ready for final payment in accordance with Paragraph 12 of the agreement in 1,095 calendar days from the date of the Notice to Proceed. The following milestone dates shall be enforced (See Specification 01 12 16 Work Sequence:

Milestones	Start Constraints	Substantial Completion	Final Completion
Milestone 1 – CIP Projects Facilities 60,70, 90	Noticed to proceed	545 days	
Milestone 2 – Electrical Entrance Gear Facility 15	Noticed to proceed	545 days	

Milestone 3 – Biosolids Process Improvements Facilities 10,20,30,40,50	Notice to proceed	990 days	
			1,095 days

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

6.03 If awarded a Contract for this Work, it is the sole responsibility of the successful Bidder to prepare an approvable M/WBE and EEO Utilization Plan (Utilization Plan) in accordance with Document Mandatory State Revolving Fund Terms and Conditions and meeting the approval of the funding agency. Bidder acknowledges that the Owner will not process any payment applications prior to receipt of written funding agency approval of the required Utilization Plan. There will be no adjustments to the completion dates due to the successful Bidder's failure to produce a timely and approved Utilization Plan. Additionally, the Bidder waives any right to claims against the Owner for withholding payment due to Bidder's failure to produce a timely and approved Utilization Plan.

ARTICLE 7 - ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid (see also Document 00 21 15, Bidding Checklist):

A. Bid Security

B. Non-Collusive Bidding Certification.

C. Bid Bond.

D. Similar Work/References.

E. Statement on Sexual Harassment Certificate

F. Certificate of Bidder regarding Equal Employment Opportunity (EEO)

G. Agreement

H. Bidder's Acknowledgements
1. Corporation Acknowledgment
2. Partnership Acknowledgment
3. Individual's Acknowledgment

I. Corporate Resolution

J. Certificate of Owner's Attorney

K. Agreement Bonds

L. List of Subcontractors

M. Required forms from the Mandatory State Revolving Fund Terms and Conditions :
1. Lobbying Certification
2. American Iron and Steel (AIS) Contractor Certification

ARTICLE 8 - BID SUBMITTAL

9.01 Owner's Rights Reserved: The undersigned understands and agrees that the Owner reserves the right to reject any and all bids or to waive any formality or technicality in any bid proposal.

9.02 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____ (seal)

By: _____
(Signature of general partner -- attach evidence of authority to sign – see Document 00 41 20)

Name (typed or printed): _____

A Limited Liability Corporation (LLC)

LLC Name: _____

State in Which Organized: _____

By: _____
(Signature -- attach evidence of authority to sign – see Document 00 41 20)

Name (typed or printed): _____

Title: _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

Type (General Business, Professional, Service, Limited Liability: _____

By: _____
(Signature -- attach evidence of authority to sign – See Document 00 41 20)

Name (typed or printed): _____

Title: _____

(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in New York State is _____/_____/_____.

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of 1st joint venture partner -- attach evidence of authority to sign – Document 00 41 20)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____(SEAL)

By: _____
(Signature of 2nd joint venture partner -- attach evidence of authority to sign – Document 00 41 20)

Name (typed or printed): _____

Title: _____

Third Joint Venturer Name: _____(SEAL)

By: _____
(Signature of 3rd joint venture partner -- attach evidence of authority to sign – Document 00 41 20)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address _____

_____

Phone No. _____ Fax No. _____

E-mail _____

Federal Identification Number or Social Security Number _____

SUBMITTED on _____, 20____.

Is Bidder a NYS Certified Minority and/or Women Business Enterprise as registered with the Empire State Development Corporation's Division of Minority and Women Business Development?

_____Yes _____No

Addendum No. 7 to Contract Documents
Biosolids Process Improvements
The City of Auburn
Contract Nos. BPI-1A thru BPI-1D

January 13, 2023

ADDENDUM NO. 7

ATTACHMENT NO. 5

SECTION 01 20 00

LUMP SUM ITEMS

(BID ITEM DESCRIPTIONS)

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Price make-up.

B. Elements of Bid Item Description page.

C. List of lump sum items.

D. Bid Item Descriptions - Attached pages.

1.02 PRICE MAKE-UP

A. Lump sum prices bid by Contractor are deemed to be full compensation for all required labor, products, tools, equipment, plant, transportation, testing, inspection, services, incidentals, administrative procedures, applicable taxes, permit fees, overhead, profit, and other miscellaneous expenses.

B. The five percent (5%) retainage specified in Article 12 of the Agreement applies to all payments including those for Mobilization.

1.03 ELEMENTS OF BID ITEM DESCRIPTION PAGE

A. Identification of lump sum item, as set forth in the Bid Form.

B. Brief statement of work involved in the item.

C. Listing of components of work which make-up the item including reference to the section(s) covering each component.

D. Cross-references to associated work not included in the item.

1.04 LIST OF LUMP SUM ITEMS - CONTRACT NO. BPI-1A: GENERAL

Bid Item No. and Title		Bid Item Description Number
A-1	Mobilization/Demobilization - General	A-1
A-2	General Construction	A-2
A-3	Record Documents – General	A-3
A-4	O&M Manuals – General	A-4
A-5	Contingency Allowance – General	A-5

Alternative Bid Item No. and Title		Bid Item Description Number
A-A1	Sludge Dryer- Add Alternate	A-A1
A-A1	Sludge Dryer Related Conveyance - Add Alternate	A-A2

1.05 LIST OF LUMP SUM ITEMS - CONTRACT NO. BPI-1B: HEATING, VENTILATING, AND AIR CONDITIONING

Bid Item No. and Title		Bid Item Description Number
B-1	Mobilization/Demobilization – Heating, Ventilating, and Air Conditioning	B-1
B-2	Heating, Ventilating, and Air Conditioning Construction	B-2
B-3	Record Documents – Heating, Ventilating, and Air Conditioning	B-3
B-4	Contingency Allowance – Heating, Ventilating, and Air Conditioning	B-4

1.06 LIST OF LUMP SUM ITEMS - CONTRACT NO. BPI-1C: ELECTRICAL AND INSTRUMENTATION

Bid Item No. and Title		Bid Item Description Number
C-1	Mobilization/Demobilization – Electrical and Instrumentation	C-1
C-2	Electrical and Instrumentation Construction	C-2
C-3	Record Documents – Electrical and Instrumentation	C-3
C-4	Contingency Allowance – Electrical and Instrumentation	C-4
C-5	SCADA Software Allowance	C-5
C-6	SCADA Hardware Allowance	C-6

Alternative Bid Item No. and Title		Bid Item Description Number
C-A1	Cellular Boosting System – Add Alternate	C-A1
C-A2	Sludge Dryer Related Electrical and I&C- Add Alternate	C-A2
C-A3	Sludge Dryer Conveyance Related Electrical and I&C- Add Alternate	C-A3

1.07 LIST OF LUMP SUM ITEMS - CONTRACT NO. BPI-1D: PLUMBING

Bid Item No. and Title		Bid Item Description Number
D-1	Mobilization/Demobilization – Plumbing	D-1
D-2	Plumbing Construction	D-2
D-3	Record Documents – Plumbing	D-3
D-4	Contingency Allowance - Plumbing	D-4

Alternative Bid Item No. and Title		Bid Item Description Number
D-A1	Sludge Dryer Related Plumbing - Add Alternate	D-A1

1.08 BID ITEM DESCRIPTIONS

A. Bid Item Description pages are attached at the end of this specification section.

PART 2 PRODUCTS - NOT USED.

PART 3 EXECUTION - NOT USED.

END OF SECTION

BID ITEM DESCRIPTION A-1

LUMP SUM ITEM BID ITEM A-1

MOBILIZATION/DEMOBILIZATION – GENERAL

A.	DESCRIPTION	Under this Item, the General Contractor shall mobilize, demobilize, and maintain his forces, equipment, and general plant for the prosecution of the work; submit shop drawing information; protect existing facilities; attend meetings; provide bonding and insurance; and provide construction facilities and temporary controls. This Item also includes the construction of the staging area/job trailer area to the west of the WPCP site.
B.	WORK INCLUDED UNDER THIS ITEM	Mobilization and Demobilization Insurance and Bonds (General and Supplementary Conditions) Division 01 Specifications
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	All other Bid Items.
D.	METHOD OF PAYMENT	Payment for this item will be made based on the percentage of work completed on a monthly basis and in accordance with the Contractor's Schedule of Values of Work as approved by the Engineer. The Schedule of Values shall include, as a minimum, the items listed in paragraph B above.

BID ITEM DESCRIPTION A-2

LUMP SUM ITEM BID ITEM A-2

GENERAL CONSTRUCTION

A. DESCRIPTION

Under this item, furnish all materials, labor, tools, and construct the general construction work relating to all structural, architectural, civil, process equipment, and process piping as specified herein and as indicated in the Contract Documents and as outlined below.

B. WORK INCLUDED UNDER THIS ITEM

Division 01 Specifications, Division 02 Specifications
Division 03 Specifications, Division 04 Specifications
Division 05 Specifications, Division 06 Specifications
Division 07 Specifications, Division 08 Specifications
Division 09 Specifications, Division 10 Specifications,
Division 13 Specifications,
Hydronic Piping Specialties, for yard piping (23 21 16)
Division 31 Specifications, Division 32 Specifications
Division 33 Specifications, ~~Division 35 Specifications,~~
Division 40 Specifications
(excluding:

Section 40 06 70	*schedules for instrumentation of process systems*
Section 40 61 13	*process control system general provisions*
Section 40 61 21	*process control system testing*
Section 40 61 93	*process control system input/output list*
Section 40 61 96	***process control descriptions***
Section 40 62 00	*computer system hardware and ancillaries*
Section 40 63 43	*programmable logic controllers*
Section 40 66 00 testing	*network and communication system*
Section 40 66 13	*switches and routers*
Section 40 66 33	*metallic and fiber optic communication cabling and connectors*
Section 40 67 00 racks	*control system equipment panels and*
Section 40 68 00	*process control software*
Section 40 68 03	*process control software coordination and documentation*
Section 40 68 13	*process control hmi software*

Section 40 71 00 *flow measurement*
Section 40 72 00 *level measurement*
Section 40 73 00 *pressure strain and force measurement*
Section 40 74 00 *temperature measurement*
Section 40 75 00 ***Process Liquid Analytical Measurement***
Section 40 76 00 ***Process Gas Analytical Measurement***
Section 40 79 00 *misc. Instrumentation calibration equipment instrument valve and fittings*
Section 40 90 11 ***cellular boosting system)***
Division 41 Specifications
Division 42 Specifications
Division 43 Specifications
Division 46 Specifications

C. ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM

All other Bid Items.

D. METHOD OF PAYMENT

Payment will be made on a lump sum basis in accordance with the Contractor's Schedule of Values which shall include, as a minimum, all items listed herein under "B" broken down into sufficient detail for Engineer to adequately review progress payment amounts.

BID ITEM DESCRIPTION A-3

LUMP SUM ITEM BID ITEM A-3

RECORD DOCUMENTS – GENERAL

A.	DESCRIPTION	Under this Item, the General Contractor shall provide record documents consisting of record drawings in accordance with the Contract Documents.
B.	WORK INCLUDED UNDER THIS ITEM	Division 01 Specifications
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	All other Bid Items.
D.	METHOD OF PAYMENT	Payment for this item will be made based on the percentage of work completed on a monthly basis and in accordance with the Contractor's Schedule of Values of Work as approved by the Engineer. The Schedule of Values shall include, as a minimum, the items listed in paragraph B above. This Item has a minimum stipulated price. Contractor shall include in his bid for Item A-3 the minimum lump sum amount of $25,000.

BID ITEM DESCRIPTION A-4

LUMP SUM ITEM BID ITEM A-4

O&M MANUALS - GENERAL

A. DESCRIPTION

Under this Item, the General Contractor shall provide operation and maintenance manuals in accordance with the Contract Documents.

B. WORK INCLUDED UNDER THIS ITEM

Division 01 Specifications

Contractor shall include in his bid for Item A-4, the minimum lump sum amount of $25,000.

C. ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM

All other Bid Items.

D. METHOD OF PAYMENT

Payment for this item will be made based on the percentage of work completed on a monthly basis and in accordance with the Contractor's Schedule of Values of Work as approved by the Engineer. The Schedule of Values shall include, as a minimum, the items listed in paragraph B above.

BID ITEM DESCRIPTION A-5

ALLOWANCE ITEM BID ITEM A-5

CONTINGENCY ALLOWANCE – GENERAL

A.	DESCRIPTION	Under this Item, the General Contractor shall include a stipulated lump sum price to be utilized in paying for unspecified additional work. Contractor shall furnish all work necessary to complete miscellaneous additional work when authorized in writing by the Engineer. Miscellaneous additional work is not included in other lump sum bid items.
B.	WORK INCLUDED UNDER THIS ITEM	Providing all labor, materials, tools, and incidentals required to perform unspecified additional work.
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	Work required under other Bid Items.
D.	METHOD OF PAYMENT	Payment for this item will be made on a lump sum basis in accordance with an approved Contractor's change proposal and written authorization by the Engineer.

BID ITEM DESCRIPTION A-A1

ADD ALTERNATE – LUMP SUM ITEM BID ITEM A-A1

SLUDGE DRYER

A.	DESCRIPTION	Under this item, furnish all materials, labor, tools, and general construction work relating to the installation of the sludge dryer and all associated accessories equipment, piping and valves.
B.	WORK INCLUDED UNDER THIS ITEM	Purchase and installation of the equipment specified in 46 76 53 and indicated on the P&IDs as well as all associated piping, valves, and equipment pads and supports. All requirements of the bid item A-2 apply as related to the sludge dryer and its accessories.
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	Work Required Under Other Bid Items
D.	METHOD OF PAYMENT	Payment will be made on a lump sum basis in accordance with the Contractor's Schedule of Values which shall include, as a minimum, all items listed herein under "B" broken down into sufficient detail for Engineer to adequately review progress payment amounts.

BID ITEM DESCRIPTION A-A2

ADD ALTERNATE – LUMP SUM ITEM BID ITEM A-A2

SLUDGE DRYER RELATED CONVEYANCE

A.	DESCRIPTION	Under this item, furnish all materials, labor, tools, and general construction work relating to the Sludge Dryer Feed Conveyor CON3035 and the Dried Product Storage Conveyor CON3043.
B.	WORK INCLUDED UNDER THIS ITEM	Purchase and installation of the equipment specified in 41 12 13.16 and indicated on the P&IDs as well as all associated provisions and supports. All requirements of the bid item A-2 apply as related to the conveyors.
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	Work Required Under Other Bid Items
D.	METHOD OF PAYMENT	Payment will be made on a lump sum basis in accordance with the Contractor's Schedule of Values which shall include, as a minimum, all items listed herein under "B" broken down into sufficient detail for Engineer to adequately review progress payment amounts.

BID ITEM DESCRIPTION B-1

LUMP SUM ITEM BID ITEM B-1

MOBILIZATION/DEMOBILIZATION – HEATING, VENTILATING, AND AIR CONDITIONING

A.	DESCRIPTION	Under this Item, the HVAC Contractor shall mobilize, demobilize, and maintain his forces, equipment, and general plant for the prosecution of the work; provide schedules; submit shop drawing information; protect existing facilities; attend meetings; provide bonding and insurance; and provide construction facilities and temporary controls.
B.	WORK INCLUDED UNDER THIS ITEM	Mobilization and Demobilization Insurance and Bonds (General and Supplementary Conditions) Division 01 Specifications
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	All other Bid Items.
D.	METHOD OF PAYMENT	Payment for this item will be made based on the percentage of work completed on a monthly basis and in accordance with the Contractor's Schedule of Values of Work as approved by the Engineer. The Schedule of Values shall include, as a minimum, the items listed in paragraph B above.

BID ITEM DESCRIPTION B-2

LUMP SUM ITEM BID ITEM B-2

HEATING, VENTILATING, AND AIR CONDITIONING CONSTRUCTION

A. DESCRIPTION

Under this item, furnish all materials, labor, tools, and construct the electrical and instrumentation construction work as called for in the Contract Documents and as outlined below.

B. WORK INCLUDED UNDER THIS ITEM

Division 01 Specifications

Division 02 Specifications

Division 03 Specifications

Division 23 Specifications

Division 40 05 Specifications as applicable and per the piping schedule (Section 40 05 02)

Horizontal, Constant Speed, End Suction, Frame Mounted Centrifugal pumps (Section 43 23 88.11)

Miscellaneous Fabrications (Section 05 50 00)

Painting (Section 09 91 00)

Connections to Equipment Furnished Under Other Contracts

C. ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM

All other Bid Items.

D. METHOD OF PAYMENT

Payment will be made on a lump sum basis in accordance with the Contractor's Schedule of Values which shall include, as a minimum, all items listed herein under "B" broken down into sufficient detail for Engineer to adequately review progress payment amounts.

BID ITEM DESCRIPTION B-3

LUMP SUM ITEM BID ITEM B-3

RECORD DOCUMENTS – HEATING, VENTILATING, AND AIR CONDITIONING

A.	DESCRIPTION	Under this Item, the HVAC Contractor shall provide record documents consisting of record drawings in accordance with the Contract Documents.
B.	WORK INCLUDED UNDER THIS ITEM	Division 01 Specifications
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	All other Bid Items.
D.	METHOD OF PAYMENT	Payment for this item will be made based on the percentage of work completed on a monthly basis and in accordance with the Contractor's Schedule of Values of Work as approved by the Engineer. The Schedule of Values shall include, as a minimum, the items listed in paragraph B above. This Item has a minimum stipulated price. Contractor shall include in his bid for Item B-3, the minimum lump sum amount of $5,000

BID ITEM DESCRIPTION C-1

LUMP SUM ITEM BID ITEM C-1

MOBILIZATION/DEMOBILIZATION – ELECTRICAL AND INSTRUMENTATION

A.	DESCRIPTION	Under this Item, the Electrical Contractor shall mobilize, demobilize, and maintain his forces, equipment, and general plant for the prosecution of the work; provide schedules; submit shop drawing information; protect existing facilities; attend meetings; provide bonding and insurance; and provide construction facilities and temporary controls.
B.	WORK INCLUDED UNDER THIS ITEM	Mobilization and Demobilization Insurance and Bonds (General and Supplementary Conditions) Division 01 Specifications
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	All other Bid Items.
D.	METHOD OF PAYMENT	Payment for this item will be made based on the percentage of work completed on a monthly basis and in accordance with the Contractor's Schedule of Values of Work as approved by the Engineer. The Schedule of Values shall include, as a minimum, the items listed in paragraph B above.

BID ITEM DESCRIPTION C-2

LUMP SUM ITEM BID ITEM C-2

ELECTRICAL AND INSTRUMENTATION CONSTRUCTION

A. DESCRIPTION

Under this item, furnish all materials, labor, tools, and construct the electrical and instrumentation construction work as called for in the Contract Documents and as outlined below.

B. WORK INCLUDED UNDER THIS ITEM

Division 01 Specifications

Division 02 Specifications

Miscellaneous Fabrications (Section 05 50 00)

Painting (Section 09 91 00)

Division 26 Specifications

Division 27 Specifications

Division 28 Specifications

Excavation and Fill (Section 31 23 00)

Schedules for instrumentation of process systems (Section 40 06 70)

Process control system general provisions (Section 40 61 13)

Process control system testing (Section 40 61 21)

Process control system input/output list (Section 40 61 93)

Process control descriptions (40 61 96) and all subsections

~~Computer system hardware and ancillaries (Section 40 62 00)~~

Programmable logic controllers (Section 40 63 43)

Network and communication system testing (Section 40 66 00)

~~Switches and Routers (Section 40 66 13)~~

Metallic and fiber optic communication cabling and connectors (Section 40 66 33)

Control system equipment panels and racks (Section 40 67 00)

Process Control Software (Section 40 68 00)

Process control software coordination and documentation (Section 40 68 03)

Process control hmi software (Section 40 68 13)

Flow measurement (Section 40 71 00)

Level measurement (Section 40 72 00)

Pressure strain and force measurement (Section 40 73 00)

Temperature measurement (Section 40 74 00)

Process Liquid Analytical Measurement (Section 40 75 00)

Process Gas Analytical Measurement (Section 40 76 00)

Misc. Instrumentation calibration equipment instrument valve and fittings (Section 40 79 00)

Connections to Equipment Furnished Under Other Contracts

C. ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM — All other Bid Items

D. METHOD OF PAYMENT — Payment will be made on a lump sum basis in accordance with the Contractor's Schedule of Values which shall include, as a minimum, all items listed herein under "B" broken down into sufficient detail for Engineer to adequately review progress payment amounts.

BID ITEM DESCRIPTION C-3

LUMP SUM ITEM BID ITEM C-3

RECORD DOCUMENTS – ELECTRICAL AND INSTRUMENTATION

A.	DESCRIPTION	Under this Item, the Electrical Contractor shall provide record documents consisting of record drawings in accordance with the Contract Documents.
B.	WORK INCLUDED UNDER THIS ITEM	Division 01 Specifications
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	All other Bid Items.
D.	METHOD OF PAYMENT	Payment for this item will be made based on the percentage of work completed on a monthly basis and in accordance with the Contractor's Schedule of Values of Work as approved by the Engineer. The Schedule of Values shall include, as a minimum, the items listed in paragraph B above. This Item has a minimum stipulated price. Contractor shall include in his bid for Item C-3, the minimum lump sum amount of $10,000

BID ITEM DESCRIPTION C-4

ALLOWANCE ITEM BID ITEM C-4

CONTINGENCY ALLOWANCE – ELECTRICAL AND INSTRUMENTATION

A. DESCRIPTION

Under this Item, the Electrical Contractor shall include a stipulated lump sum price to be utilized in paying for unspecified additional work. Contractor shall furnish all work necessary to complete miscellaneous additional work when authorized in writing by the Engineer. Miscellaneous additional work is not included in other lump sum bid items.

B. WORK INCLUDED UNDER THIS ITEM

Providing all labor, materials, tools, and incidentals required to perform unspecified additional work.

C. ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM

Work required under other Bid Items.

D. METHOD OF PAYMENT

Payment for this item will be made on a lump sum basis in accordance with an approved Contractor's change proposal and written authorization by the Engineer.

ID ITEM DESCRIPTION C-5

ALLOWANCE ITEM BID ITEM C-5

SCADA SOFTWARE ALLOWANCE

A.	DESCRIPTION	Under this Item, the Electrical and Instrumentation Contractor shall include a stipulated lump sum price to be utilized in paying for unspecified SCADA software, if necessary.
B.	WORK INCLUDED UNDER THIS ITEM	Purchase of miscellaneous SCADA software items and delivery to the job site.
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	Work Required Under Other Bid Items Installation of SCADA Software
D.	METHOD OF PAYMENT	Payment for this item will be made on a lump sum basis in accordance with an approved Contractor's change proposal and written authorization by the Engineer.

BID ITEM DESCRIPTION C-6

ALLOWANCE ITEM BID ITEM C-6

SCADA HARDWARE ALLOWANCE

A.	DESCRIPTION	Under this Item, the Electrical and Instrumentation Contractor shall include a stipulated lump sum price to be utilized in paying for unspecified SCADA hardware, if necessary.
B.	WORK INCLUDED UNDER THIS ITEM	Purchase of miscellaneous SCADA hardware items and delivery to the job site.
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	Work Required Under Other Bid Items Installation of SCADA Hardware Shall Be Included in Bid Item C-2.
D.	METHOD OF PAYMENT	Payment for this item will be made on a lump sum basis in accordance with an approved Contractor's change proposal and written authorization by the Engineer.

BID ITEM DESCRIPTION C-A1

ADD ALTERNATE – LUMP SUM ITEM BID ITEM CA-1

CELLULAR BOOSTER SYSTEM

A.	DESCRIPTION	Under this Item, the Electrical and Instrumentation Contractor shall Install a plant wide cellular boosting system to promote better cell coverage across the plant including basement areas of existing facilities.
B.	WORK INCLUDED UNDER THIS ITEM	Purchase and installation of miscellaneous hardware and obtain any necessary permits/licenses with the FCC as shown within
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	Work Required Under Other Bid Items
D.	METHOD OF PAYMENT	Payment will be made on a lump sum basis in accordance with the Contractor's Schedule of Values which shall include, as a minimum, all items listed herein under "B" broken down into sufficient detail for Engineer to adequately review progress payment amounts.

BID ITEM DESCRIPTION C-A2

ADD ALTERNATE – LUMP SUM ITEM BID ITEM CA-2

SLUDGE DRYER RELATED ELECTRICAL AND I&C

A.	DESCRIPTION	Under this item, furnish all materials, labor, tools, and electrical construction work required to operate and control the sludge dryer.
B.	WORK INCLUDED UNDER THIS ITEM	All work associated with providing power and controls to the sludge dryer and vendor provided accessory equipment and as indicated on the electrical drawings. All requirements of the bid item C-2 apply as related to the sludge dryer
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	Work Required Under Other Bid Items
D.	METHOD OF PAYMENT	Payment will be made on a lump sum basis in accordance with the Contractor's Schedule of Values which shall include, as a minimum, all items listed herein under "B" broken down into sufficient detail for Engineer to adequately review progress payment amounts.

BID ITEM DESCRIPTION C-A3

ADD ALTERNATE – LUMP SUM ITEM BID ITEM CA-3

SLUDGE DRYER CONVEYANCE RELATED ELECTRICAL AND I&C

A.	DESCRIPTION	Under this item, furnish all materials, labor, tools, and electrical construction work required to operate and control the Sludge Dryer Feed Conveyor CON3035 and the Dried Product Storage Conveyor CON3043.
B.	WORK INCLUDED UNDER THIS ITEM	All work associated with providing power and controls to the Sludge Dryer Feed Conveyor CON3035 and the Dried Product Storage Conveyor CON3043 and as indicated on the electrical drawings. All requirements of the bid item C-2 apply as related to the conveyors.
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	Work Required Under Other Bid Items
D.	METHOD OF PAYMENT	Payment will be made on a lump sum basis in accordance with the Contractor's Schedule of Values which shall include, as a minimum, all items listed herein under "B" broken down into sufficient detail for Engineer to adequately review progress payment amounts.

BID ITEM DESCRIPTION D-1

LUMP SUM ITEM BID ITEM D-1

MOBILIZATION/DEMOBILIZATION – PLUMBING

A. DESCRIPTION

Under this Item, the Plumbing Contractor shall mobilize, demobilize, and maintain his forces, equipment, and general plant for the prosecution of the work; provide schedules; submit shop drawing information; protect existing facilities; attend meetings; provide bonding and insurance; and provide construction facilities and temporary controls.

B. WORK INCLUDED UNDER THIS ITEM

Mobilization and Demobilization
Insurance and Bonds (General and Supplementary Conditions)
Division 01 Specifications

C. ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM

All other Bid Items.

D. METHOD OF PAYMENT

Payment for this item will be made based on the percentage of work completed on a monthly basis and in accordance with the Contractor's Schedule of Values of Work as approved by the Engineer. The Schedule of Values shall include, as a minimum, the items listed in paragraph B above.

BID ITEM DESCRIPTION D-2

LUMP SUM ITEM BID ITEM D-2

PLUMBING CONSTRUCTION

A. DESCRIPTION

Under this item, furnish all materials, labor, tools, and construct the electrical and instrumentation construction work as called for in the Contract Documents and as outlined below.

B. WORK INCLUDED UNDER THIS ITEM

Division 01 Specifications
Division 02 Specifications
Division 03 Specifications
Division 21 Specifications
Division 22 Specifications
Miscellaneous Fabrications (Section 05 50 00)
Painting (Section 09 91 00)
Division 40 05 Specifications as applicable and per the piping schedule 40 05 02
Connections to Equipment Furnished Under Other Contracts (Contract Drawing)

C. ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM

All other Bid Items.

D. METHOD OF PAYMENT

Payment will be made on a lump sum basis in accordance with the Contractor's Schedule of Values which shall include, as a minimum, all items listed herein under "B" broken down into sufficient detail for Engineer to adequately review progress payment amounts.

BID ITEM DESCRIPTION D-3

LUMP SUM ITEM BID ITEM D-3

RECORD DOCUMENTS – PLUMBING

A.	DESCRIPTION	Under this Item, the Plumbing Contractor shall provide record documents consisting of record drawings in accordance with the Contract Documents.
B.	WORK INCLUDED UNDER THIS ITEM	Division 01 Specifications
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	All other Bid Items.
D.	METHOD OF PAYMENT	Payment for this item will be made based on the percentage of work completed on a monthly basis and in accordance with the Contractor's Schedule of Values of Work as approved by the Engineer. The Schedule of Values shall include, as a minimum, the items listed in paragraph B above. This Item has a minimum stipulated price. Contractor shall include in his bid for Item D-3, the minimum lump sum amount of $5,000

BID ITEM DESCRIPTION D-A1

ADD ALTERNATE – LUMP SUM ITEM BID ITEM D-A1

SLUDGE DRYER RELATED PLUMBING

A.	DESCRIPTION	Under this item, furnish all materials, labor, tools, and plumbing work relating to providing natural gas, digester gas, and water to the dryer.
B.	WORK INCLUDED UNDER THIS ITEM	Installation of piping within Facility 30 – Dewatering and Dryer Building to provide natural gas, digester gas, and water to the dryer as indicated on the P&IDs.
C.	ASSOCIATED WORK NOT INCLUDED UNDER THIS ITEM	Work Required Under Other Bid Items
D.	METHOD OF PAYMENT	Payment will be made on a lump sum basis in accordance with the Contractor's Schedule of Values which shall include, as a minimum, all items listed herein under "B" broken down into sufficient detail for Engineer to adequately review progress payment amounts.

ADDENDUM NO. 7

ATTACHMENT NO. 6

SECTION 01 45 20

COMMISSIONING, TESTING AND START-UP

PART 1 GENERAL

1.01 SUMMARY

A. This Section establishes the Contractor's responsibilities for developing and conducting the complete commissioning, including testing and startup, of all equipment, systems, and facilities (new or existing) which are defined within the Contract Documents. This effort and the associated experience requirements are significant and critical to a safe and successful startup that meets the project schedule requirements.

B. This Section provides the overarching guidelines for commissioning but does not supersede specific testing requirements found elsewhere in the Contract Documents. Where there is any discrepancy, Contractor shall assume the more stringent requirements control unless confirmed otherwise by the Engineer. Refer to Division 26 and Division 40 for specific execution requirements related to electrical and instrumentation components and systems. For pre-commissioning activities, refer to other technical specifications, including Division 03 for requirements for testing of concrete hydraulic structures and Section 40 05 01 for testing requirements of hydraulic structures and piping.

C. All commissioning activities must be coordinated early in the project to minimize interference with the operation of the existing facility, or delays to the project schedule; see Section 01 12 16 for project work sequence and constraints. Unless otherwise specified, or agreed to in advance by the Engineer and Owner. No commissioning activities will be scheduled to take place on a weekend or holiday recognized by the Owner.

D. This Section contains specific references to the following related specification sections. Additional related sections may apply that are not specifically listed below.
   1. Section 01 11 00 Summary of Work
   2. Section 01 12 16 Work Sequence
   3. Section 01 32 16 Construction Progress Schedule
   4. Section 01 33 00 Submittal Procedures
   5. Section 01 45 23 Testing and Inspection Services
   6. Section 01 51 00 Temporary Utilities

E. A representative or representatives of the equipment manufacturer(s) shall participate in the commissioning phases per the requirements of the Specifications.
   1. Commissioning Overview: The sequence of the commissioning shall proceed as follows. Variations to this sequence may be requested by the Contractor and may be authorized by the Engineer where necessary to meet other constraints described in these Contract Documents. Any requested changes to the extent of testing quality control checks, related sequencing, and/or level or frequency of documentation shall be considered a deviation from the accepted Commissioning Plan and require resubmittal. The equipment and facility startup is a bottom-up approach, where testing starts at the component level, which is then followed by testing at the system, and then facility level.

a. Phase 1 Commissioning: Component Test Phase. The Component Test Phase is comprised of the following three parts.
    1) Part 1 – Component Installation Review
    2) Part 2 – Component Operational Test
    3) Part 3 – Component Network Communications Test
b. Phase 2 Commissioning: Functional Test Phase
    1) Part 1 – Functional Test of Individual Components and Independent Systems
    2) Part 2 – Comprehensive Functional Test of Integrated Systems
c. Phase 3 Commissioning: Operations Test Phase. The Operations Test Phase is comprised of the following two parts.
    1) Part 1 – Walkdown
    2) Part 2 – Seven (7) Day Operations Test
d. Phase 4 Commissioning: Acceptance Test Phase
e. Optimization/Performance Commissioning Phase

2. Unless otherwise specified or agreed to in writing by the Engineer, all testing activities required as part of facility construction will occur prior to initiation of Phase 1 Commissioning. These include, but are not limited to, testing hydraulic structures for water tightness, pressure testing of piping systems, etc. Refer to applicable specification sections for specific requirements.

1.02 CONTRACTOR RESPONSIBILITIES

A. Each Prime Contractor's responsibilities shall include, but are not limited to, the following activities.
    1. Development of all commissioning planning documents.
    2. Coordinate and be responsible for all testing and startup activities.
    3. Coordinate activities with overall project schedule, providing a schedule update at each meeting.
    4. Participate in Commissioning Meetings from the initial development of the System Commissioning Plans until the completion of all testing and startup activities.
    5. Maintain the System Commissioning Plans and provide monthly updates to the Startup Team until the month prior to startup, then provide weekly updates until commissioning is complete.
    6. Oversee and administer all testing activities, including either direct participation in the testing, and/or oversight and monitoring of all testing, and related documentation.
    7. Assure that all tests have been successfully completed in accordance with the submitted testing procedures.
    8. Develop, compile, review for completeness and compliance to the specifications, and submit all required completed test submittals and other related documentation in a timely manner
    9. Provide safe work conditions during commissioning.
    10. Prior to submittal, review and approve the content of all training sessions to assure that the training includes all applicable operation, maintenance, safety, and functional, operations, and acceptance testing information.

1.03 DEFINITIONS

A. Commissioning:
   1. The systematic process composed of all elements and requirements related to testing and startup of the Work.

B. Commissioning Hierarchy:
   1. Area
      a. A collection of systems usually constructed within or primarily within the confines of a single building or structure.
      b. Generally, the Drawings are compiled by Area number, in ascending order. Area numbers used in the Drawings correspond with the numbering system utilized during the last several facility upgrades.
      c. In most cases, Areas correspond with treatment processes. In some cases, however, multiple treatment processes are included in the same Area and/or a single treatment process is incorporated into multiple Areas.
   2. System
      a. An arrangement of components or other systems so related or connected to perform a specific function and which form an identifiable, unified, functional, operational, safe, and independent part of the Owner's facility.
      b. A system may consist of solely new equipment installed as part of the Work, or as a combination of new equipment installed as part of the Work and existing equipment operating in conjunction with each other.
      c. A system may include equipment and facilities in more than one Area.
   3. Component
      a. Components comprise every discrete item associated within the Work.
      b. Example components include but are not limited to the following:
         1) Structural system components include: buildings, tanks and reservoirs.
         2) Architectural system components include: floors, walls, doors, windows, ceilings and roofs.
         3) Process system components are usually discrete pieces of equipment and their respective motors and include: pumps, tanks, blowers, and other types of treatment equipment.
         4) Piping system components include: the piping, the piping connections, and the valves, whether manual or powered.
         5) Electrical system components include: wiring, equipment including but not limited to panelboards, MCCs, starters, and VFDs.
         6) Control system components include: Wiring, instruments, control panels, human-machine interfaces (HMIs'), computers, programmable logic controllers (PLCs), instrument networks, and process control networks
         7) Heating, ventilation and air conditioning (HVAC) system components include: pumps discrete pieces of HVAC equipment, and their respective motors and include: pumps, heat pumps, heat exchangers, water quality systems, valves, fans, louvers and ductwork.
         8) Plumbing system components include: pumps, strainers, valves, water supply piping, and area collection/drainage for system

9) Fire alarm system components include: fire alarms, and network communication.

10) Fire suppression system components include: sprinklers, valves, and piping.

11) Security system components include: video surveillance, locking systems, identification systems, access to existing or other systems, and security staffing.

12) Communication systems, including internet connectivity devices, speakers, and receivers.

13) Indoor and outdoor lighting control systems and interface to other systems.

C. Summary of Test Phases. Reference paragraph 3.05 Testing for comprehensive test phase requirements.

1. Phase 1 Commissioning: Component Test Phase. The Component Test Phase is intended to:
   a. Perform inspection and testing in a logical, stepwise sequence to ensure that the installed components have been safely and properly assembled, serviced, aligned, adjusted, connected, and calibrated prior to operation.
   b. Perform operational tests to prove that the components are operating as needed, intended, and specified.
   c. Perform component network communications tests to prove that all network reporting, data received, and control aspects for a given component are being correctly performed as needed, intended and specified.
2. Phase 2 Commissioning: Functional Test Phase. The Functional Test Phase is performed on a system, multiple integrated systems and/or a facility to prove that they function as required in conformance with the performance requirements and as needed, intended and specified. Functional tests use plant water, non-potable water, air, or simulated signals, not the specified media.
3. Phase 3 Commissioning: Operations Test Phase. The Operations Test Phase prepares a system, multiple integrated systems or a facility for the Acceptance Test Phase, proves that all systems are correctly set up and that the facility will reliably function over time in real world conditions. The Operations Test Phase is intended to:
   a. Provide for operations testing to prove compliance with performance requirements using either plant water, non-potable water, air, or the specified media, depending on the tests performed. For systems exposed to untreated or partially treated wastewater, operations testing is the final step prior to introducing the wastewater.
   b. Perform a complete inspection (walkdown) by the commissioning team to verify readiness for the 7-day operational test.
   c. Provide for 7-day operations test which shall consist of a continuous un-interrupted seven-day run period using the specified media.
4. Phase 4 Commissioning: Acceptance Test Phase. The Acceptance Test Phase operates a system, multiple integrated systems or a facility with the specified media, by the Owner (with assistance from the Contractor), for 30 days, without operational or performance failure to demonstrate satisfactory performance with the performance requirements specified. Performance tests, specified in individual specification sections to verify guaranteed performance, are performed during Phase 4 Commissioning.

5. Optimization Commissioning Phase: Some systems may be specified with Optimization Testing which is intended to provide the Manufacturer's services to optimize specific systems.

D. Other Key Terms:
   1. Tests: Unless otherwise specified, denotes all field-testing including component tests, functional tests, operational tests, acceptance tests, and optimization/performance tests.
   2. Startup Constraints: Startup constraints are identified throughout these Contract Documents with major construction constraints with reference to the effects on process startup are being discussed in Section 01 12 16.
   3. Commissioning Team: The Commissioning Team is comprised of key operations and maintenance personnel of the Owner, the Engineer and key representatives of the Contractor and Suppliers .
   4. Temporary Provision: Outages, re-routes, systems, components, materials, or equipment which is temporarily required to allow any test to occur.
   5. Integrator: party responsible for control panel fabrication or alteration
   6. Programmer: responsible for configuration of controllers (PLC, DCS, RTUs), HMI software. This may be separate from the party responsible for the control panel, fabrications or alternation, instrument installation and configuration.
   7. Vendor Programmer: party responsible for controllers or local interface on vendor package equipment, defined as separate from plant or area SCADA systems.

1.04 SYSTEMS FOR PRE-COMMISSIONING AND COMMISSIONING

A. The following are list the major areas and systems within those areas to be commissioned as individual packages:
   1. Facility 10: Solids Handling Building
      a. Sludge Thickening
   2. Facility 15: Electrical Entrance Gear
      a. Electrical Entrance Gear
      b. Standby Generator
   3. Facility 20: Digester Control Building
      a. Digester Heating Systems
      b. Digester Pumping
   4. Facility 30: Dewatering and Dryer Building
      a. Sludge Dewatering
      b. Sludge Drying
   5. Facility 40: Digester Tanks
      a. Primary Digesters 1 & 2 & Secondary Digester
   6. Facility 60: Aeration
      a. Blowers
      b. Aeration Basins 1-4
   7. Facility 70: Final Settling Tanks
      a. Final Settling Tanks 1-4

b. WAS Pumping

8. Facility 90: Primary Settling Tanks
   a. Septage Screening
   b. Primary Basin 1-6, scum troughs and weirs
9. For all areas, facilities, equipment not explicitly included in the areas listed above, Contractor to provide listing of systems and equipment.

1.05 COMMISSIONING PLAN

A. A Master Commissioning Plan for the Work shall be prepared. The Master Commissioning Plan shall be divided into several sub-plans, the first of which is an overall Project Commissioning Plan for the Work, with more detailed System Startup Plans prepared for each system. The number of System Startup Plans is dependent on the number of facilities and systems involved in the Work, the minimum number of which is defined later in this Section.

1. Project Commissioning Plan. The Project Commissioning Plan shall provide an overview of the efforts related to the testing and startup for the Work. At a minimum this plan shall cover the following.
   a. An organizational chart of the Commissioning Team and a description of the roles and responsibilities for each member.
   b. A general approach, sequencing and analysis of major constraints at the facility and system level to performing the testing and startup for the Work.
   c. A listing and brief description of each system to be commissioned.
   d. Updated Construction progress schedule (see Section 01 32 16) which integrates the commissioning plan and schedule into the overall construction schedule. The updated schedule shall identify the schedule duration of each of the system commissioning activities specified in paragraph 1.05 B below; detailed schedule of each system commissioning activity can be provided with each system commissioning plan, as specified in paragraph 1.05 B.3 below.

B. System Commissioning Plans. A System Commissioning Plan shall be created for each system identified in paragraph 1.04 Systems for Pre-Commissioning and Commissioning. The System Commissioning Plan shall be kept updated as testing progresses. At a minimum these plans shall include the following.

1. System Description. Provide a description of the system and each facility and area(s) into which that the system extends.
2. Testing Descriptions and Sequencing
   a. Overall Testing Description
      1) Provide a summary of the testing activities to be performed for that system.
      2) Provide a summary of the sequencing of the testing to be performed for the system.
      3) Provide a description of how signals from existing equipment not yet integrated into the work, or from new equipment that cannot yet be actuated, will be simulated or actuated in order to test the system.
   b. Component Testing
      1) Provide a listing, description and sequencing of each component test.

2) The sequencing of the component testing shall be optimized to minimize the length of the phase.
3) Record of field or factory calibration such as for instruments, or configuration specific to requirements specified such as VFD settings.
4) Instrumentation and control loop tests.
5) Electrical acceptance tests.
6) Arc flash hazard and protective device requirements of Division 26.

c. Functional Testing
1) For each system, or multiple integrated systems or facilities which will undergo functional testing, provide a list, description and sequencing of each functional test. The description shall include a narrative of the scenarios to be tested and shall include how the full operational range will be tested.
a) Local control of all equipment and systems must be tested first. Successful testing of any field interlocks and hardwired controls before proceeding to remote control.
b) Local control and remote check out are to be structured around the submitted I/O list, as specified in Division 40.
c) All field terminations, loop checks, and modification within a control panel must be complete commencement of functional testing.
2) Project process and instrumentation diagrams (P&IDs) shall be marked-up and provided which schematically represent the process and controls of the final construction of the system and shall be marked up noting temporary features necessary for Functional testing.

d. Operations Testing
1) For the system, provide a description of the walkdown process.
2) For the system, provide a list, description and sequencing of each startup test. The description shall include a narrative of the scenarios to be tested and shall include how the full operational range will be tested.
3) Project P&IDs shall be marked-up and provided that schematically represent the process and controls of the final construction and shall be marked up noting temporary features necessary for Operations Testing.
4) Plan drawings shall also be provided, marked up to show the final construction and temporary features required for Operations Testing.

e. Acceptance Testing
1) For the system, provide a list, description and sequencing of each acceptance test.

f. Optimization/Performance Testing
1) If required for the facility, provide a list, description and sequencing of each optimization/performance test.

3. Comprehensive Testing Schedule
a. For each System Commissioning Plan, list all equipment to be tested by specification section number and name, and provide a comprehensive schedule showing the following for each.
1) Section number and/or paragraph number within a section.
2) Forecasted installation completion dates.
3) Forecasted visit dates by the manufacturer.

4) The system within which each equipment item is included and will be tested.
5) Forecasted start and completion for each test (component, functional, operations, acceptance).
6) Forecasted submittal dates for test reports.

b. Update Comprehensive Testing Schedule monthly and coordinate it with the Overall Project Schedule.

4. Control Descriptions. Provide a listing of the control description(s) involved. Provide control descriptions as part of the System Commissioning Plan.
5. Drawings. Provide a listing of the following drawings.
   a. All drawings that are part of the Contract Documents and are directly related to the facility undergoing testing.
   b. Shop drawings including wiring diagrams relevant to the facility.
   c. List of package system PLCs and their I/O's and wire diagrams for the system.
6. Instruments. Provide a list of the instruments involved with an appendix which includes the correct set points and ranges for the instruments.
7. Testing Consumables. Provide tables with descriptions that describe the consumables and estimated quantities required during testing, including but not limited to potable water, plant water, chemicals, fuels, oils, lubricants and filters.
8. Testing Equipment Calibration. Provide a description of the measurement devices and the calibration method for the measurement devices which will be used to measure process performance characteristics.
9. Temporary Provisions
   a. Provide a listing and description of temporary provisions required to perform all tests, including calibration equipment.
   b. Where testing requires a source of water, gas or other medium other than the process fluid, identify the source of the water or fluid, the temporary provisions to employed to deliver the water or fluid to the testing location, the temporary provisions to circulate the water or fluid through the facilities to be tested.
   c. Identify the location and method of disposal of the test media (water or fluid, or specified media). Identify temporary provisions required to safely deliver spent media to point of disposal.
10. Hazard Analysis. Provide a description of each potential hazard during the testing activities in the facility and mitigation measures planned for each.
11. A listing of and a short resume for the Manufacturer's representatives who will be involved in testing.
12. Forms: Provide in an appendix with each form and checklist to be used. Starting with forms provided in Section 01 99 90, edit each form to make specific to the components included in each System to be commissioned. Provide additional forms as needed to fully document the commissioning activities specified.

1.06 MANUFACTURER'S FIELD SERVICES

A. Where manufacturer's services are specified in this Section or other specification sections, furnish an authorized representative of the manufacturer who is factory-trained, knowledgeable and experienced in the technical aspects of their products and systems supplied on the Project and qualified to provide these services. Manufacturer representatives shall be available during equipment installation, commissioning and training of Owner's personnel.

B. Manufacturer's representatives shall be subject to the acceptance of by the Engineer as a submittal with each System Commissioning Plan. No substitute representatives will be allowed without prior written approval from the Engineer.

C. Manufacturer's Certifications:
   1. After equipment installation and before equipment energization, each manufacturer's representative shall prepare a written Manufacturer's Installation Certification Form, Form 43 05 11-A in Section 01 99 90, certifying that each equipment specified in Divisions 26 through 46 that the manufacturer supplied is properly installed and lubricated, has been properly maintained by the Contractor, is in accurate alignment, is free from any undue stress imposed by connecting piping and anchor bolts, and is in accordance with the manufacturer's installation instructions.
   2. During Phase 4 Commissioning, each manufacturer's representative shall prepare a written Manufacturer's Operation Certification Form, Form 43 05 11-D in Section 01 99 90, certifying that each equipment specified in Divisions 26 through 46 that the manufacturer supplied is properly lubricated; has been properly maintained by the Contractor; is in accurate alignment; is free from any undue stress imposed by connecting piping and anchor bolts; and has been operated under all design conditions and meets the performance criteria in accordance with the requirements in the applicable specification sections and the manufacturer's operating requirements.

D. The Manufacturer's authorized representative shall perform all services when Manufacturer's services are specified in the individual specification sections. The authorized representative shall be factory-trained and experienced in the technical applications, installation, operation and maintenance of the equipment, subsystem or system.

E. The scheduling of all visits to the site by the manufacturer's field services representative shall be determined by the Contractor. The Contractor shall notify the Engineer or Owner a minimum of 7 days in advance of all visits.

F. The Manufacturer's authorized representative shall not independently determine any requirements can be omitted, reduced or otherwise change testing requirements, protocols, or required documentation without submitting a request for deviation to the accepted Commissioning Plan or other related submittals.

1.07 SUBMITTALS

A. Action Submittals: The following minimum submittals shall be submitted in accordance with Section 01 33 00.
   1. Within 60 days following Notice to Proceed.

a. A copy of this Section, with addendum updates included, and all referenced and applicable Sections, with addendum updates included, with each paragraph check-marked to indicate Specification compliance or marked to indicate requested deviations from Specification requirements or those parts which are to be provided by the Contractor or others shall be provided. Check marks (") shall denote full compliance with a paragraph as a whole.

b. If deviations from the Specifications are indicated, and therefore requested, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Engineer shall be the final authority for determining acceptability of requested deviations.

c. The remaining portions of the paragraph not underlined shall signify compliance with the Specifications. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the requirements of the Specification shall be cause for rejection of the entire submittal and no further submittal material will be reviewed.

2. Within 120 days following Notice to Proceed.
   a. Master Commissioning Plan.
3. Not less than 120 days prior of the initiation of the first planned component testing in a system.
   a. System Commissioning Plan for the system within which the first components will be tested. Submit system test plans in two parts as described below:
      1) Submit the portion of the system commissioning plan for Component and Functional testing.
      2) After successful completion of the Component testing, submit the test plan for the remaining phases of testing and commissioning.
   b. Submit remaining System Commissioning Plans not less than 120 days prior to first planned component testing within each system, following the same two-part submittal process described above.
4. Qualifications of equipment manufacturer's representatives, to be submitted with each System Commissioning Plan.
5. Within 7 days following completion of each phase of Commissioning for each System Commissioning Plan, submit documentation demonstrating successful completion of the testing phase for that system. Any issues identified during the testing phase shall be identified along with the actions taken, or planned to be taken, to rectify the issue.
6. Certificates of instrument calibration, provided upon request from the Engineer.

B. Informational Submittals: The following minimum informational submittals shall be submitted in accordance with the timing requirements specified in these Contract Documents, prior to Substantial Completion and in accordance with Section 01 33 00.
   1. Updates to Comprehensive Testing Schedule.

C. Closeout Submittals: The following minimum closeout submittals shall be submitted in accordance with the timing requirements specified in these Contract Documents, prior to Substantial Completion and in accordance with Section 01 33 00.
   1. Manufacturer's Certificates of Proper Installation, Form 43 05 11-A in Section 01 99 90, or reference to completed certificates provided under separate submittals where specified.

2. Test Reports, including completed test forms as specified in Section 01 99 90, and paragraph 1.05 Commissioning Plan, or reference to completed test forms provided under separate submittals where specified.
3. Certificate of Testing and Commissioning
4. Certificate of Training Completion, Form 43 05 11-B in Section 01 99 90, or reference to completed Certificates of Training Completion provided under separate submittals where specified.
5. Manufacturer's Certificates of Proper Operation, Form 43 05 11-D in Section 01 99 90, or reference to completed Manufacturer's Certificate of Proper Operation provided under separate submittals where specified.

D. Samples:
1. Reference the individual specifications within the Contract Documents for items requiring samples to be submitted.

E. Mock-ups:
1. Reference the individual specifications within the Contract Documents for items requiring mock-ups to be submitted.

PART 2 PRODUCTS

2.01 TEST MATERIALS AND EQUIPMENT

A. Provide calibrated test gauges, meters, recorders and monitors, reagents and test gases and associated assemblies, as required, to supplement or augment the Work specified in the Contract Documents to facilitate compliance with requirements of the commissioning. Select devices designed to measure the performance of the specific equipment and systems incorporated into the Work.

B. When testing requires the use of temporary provisions such as, but not limited to equipment, power, compressed air, or instrumentation which have not yet been placed in service, provide substitute sources acceptable to both the Owner and Engineer, and capable of meeting the requirements needed to perform the testing.

PART 3 EXECUTION

3.01 GENERAL

A. The Contractor shall install all equipment in accordance with Manufacturer's requirements and the Contract Documents. Notify the Engineer of any conflict between a manufacturer's installation recommendations and the Contract Documents.

B. The Contractor shall perform component testing, functional testing, and startup testing, of all installed component and systems. Unless specified otherwise, the Owner shall be responsible for operating the facility during acceptance testing, with assistance and support from the Contractor in performing specific testing activities.

C. The Contractor shall provide the services of all technical and craft personnel required to support the Work throughout the duration of all testing phases, except as otherwise noted in this Section.

D. The Contractor shall maintain the appropriate staff (either on-site or on-call) to be able to respond immediately (24-hours per day) to deficiencies discovered during the Operations Test Phase and the Acceptance Test Phase. The Contractor's qualified personnel must be capable of being on-site within a maximum of 2 hours of notice to correct any deficiencies.

E. Owner's Operations and Maintenance Responsibility during Testing:
   1. Systems, multiple integrated systems, or facilities in the Operations Test Phase which require wastewater to be treated and disposed of shall be operated by the Owner with guidance from the Engineer.
   2. Unless specified otherwise, systems, multiple integrated systems, or facilities in the Acceptance Test Phase shall be operated by the Owner with assistance and support from the Engineer.

F. Until completion of the Acceptance Test Phase, the Contractor shall maintain all facilities undergoing testing. This includes, but is not limited to, manufacturer recommended preventative maintenance, repairs as needed, consumables such as lubricants, coating touch-up, etc.

G. The Contractor shall provide temporary systems, piping, valving, drains, power, controls, etc. to facilitate any of the tests, as needed to cycle water or air through the facilities in a manner that simulates the ultimate operation of the system.

H. All testing that may affect the operation of the existing facilities shall be coordinated with the Owner, including the proper isolation (e.g., lock out/tag out) procedures and features prior to commencing Work.

I. Timing of Testing:
   1. No testing shall commence until the related specific System Commissioning Plan has been submitted, reviewed, and received a review action of No Exceptions Taken, or Make Corrections Noted.
   2. No testing shall commence until the O&M Manual for the equipment involved has been reviewed and received a review action of No Exceptions Taken or Make Corrections Noted.
   3. Progression from one test phase to the next shall only be allowed at the written approval of the Engineer, following submission of written documentation from the Contractor signifying that the intent of that testing phase has been met with satisfactory results. The written approval will include a listing of items still owed by the Contractor regarding the testing which has occurred.
   4. Operations Testing shall not commence until all tagging and labeling including but not limited to piping, conduit, wires, panels, and equipment, have been completed.
   5. Acceptance Testing shall not commence until training has been completed.
   6. All life-safety systems, including but limited to ventilation, fire monitoring and alarms, hazard monitoring and alarms, communication systems, associated with a specific system, must have successfully completed operations testing prior to proceeding with Functional Testing of the system.

J. At the satisfactory conclusion of each test phase, the Contractor shall dismantle and remove all temporary valving, hoses, and other equipment used during the test, and return the facilities to conditions as existed before the test.

K. All deficiencies found during any test phase and subsequent correction thereof, must be inspected and approved by the Engineer prior to re-testing or continuation of testing. The contractor shall correct all noted deficiencies.

3.02 TESTING AND STARTUP MEETINGS AND WEEKLY REPORTS

A. The Contractor shall attend regular commissioning meetings as scheduled by the Engineer.

B. The first meeting shall be scheduled at least 6 months prior to submitting the Project Commissioning Plan and shall include preliminary discussions regarding this plan. Commissioning meetings shall then be held monthly until 120 days prior to the first planned Component Testing. Ongoing development of the individual System Commissioning Plans will be among the topics discussed in these meetings.

C. At a point commencing 120 days prior to the first Component Test Phase, the commissioning meetings shall be held weekly.

D. Commissioning meetings shall be attended by key members from the Contractor staff, Subcontractors, key representatives of the Manufacturers, along with representatives for the Owner and the Engineer.

E. The Engineer shall prepare meeting minutes from the Testing and Start-up and distribute to all attendees not later than 3 days prior to the next meeting, or within 5 working days of each meeting, whichever is sooner. These should be issued as draft with a request for comments within 3 business days, followed by a final issuance.

F. Weekly Test Reports:
   1. During testing activities, submit weekly test reports describing the tests performed, test methods, test strategies implemented during the test, summary of successful testing completed, and specific highlight of any problems and/or deficiencies found during testing.
   2. For all troubleshooting, describe the troubleshooting strategy, methods, and final resolution.

3.03 EQUIPMENT AND MATERIALS REQUIRED FOR TESTING

A. It shall be the Contractor's responsibility to ensure that all required materials and test and repair equipment are on hand during all planned testing activities. Spare parts, specified to be provided as part of the work, shall not be used for testing without the written approval of the Engineer.

B. All instruments used to measure performance shall be calibrated. Certificates of calibration shall be current (as required in Division 40), and shall be at the job site during testing, and provided upon request or when specified.

C. Contractor is required to provide all expendables during all tests (not including Acceptance Testing, unless otherwise specified), including but not limited to, chemicals, fuel, oil and filters (e.g., air, fuel, natural gas, oil, media, etc.). Upon completion of Operational Testing (or Acceptance Testing, where specified) all expendables shall be replaced with new.

3.04 TEMPORARY PROVISIONS

A. Maintain temporary provisions until the testing phase requiring the temporary facilities are complete, or until the permanent facilities are in service where specified.

3.05 TESTING

A. Phase 1 Commissioning: Component Test Phase: The Component Test Phase shall be comprised of the following three parts.
   1. Part 1 – Component Installation Review
      a. Perform inspection and testing in a logical, stepwise sequence to ensure that the installed components have been safely and properly assembled, serviced, aligned, adjusted, connected, and calibrated prior to operation.
      b. Perform all changes, adjustments, and replacements required to make the equipment operate properly.
      c. The Component Installation Review includes but is not limited to the following activities.
         1) Verification of adherence to manufacturer's installation and pre-startup requirements and procedures.
         2) For structures and tanks, perform and confirm compliance of structural leakage tests in accordance with Division 03 of these specifications.
         3) For piping, perform and confirm compliance of piping testing in accordance with Section 40 05 01.
         4) Verify wiring continuity for all components, equipment, instruments, panels, and devices. Check power, control, and monitoring circuits for continuity prior to connection to power source. Reference Division 26 and Division 40 for additional specifics regarding installation review of electrical and controls components including, but not limited to:
            a) Electrical acceptance tests per Section 26 08 00, complete.
            b) Arc flash hazard and coordination study, protective device settings, and labeling completed.
         5) Confirm cleanliness of connecting piping systems.
         6) Confirm alignment of connected machinery.
         7) Confirm correct lubrication.
         8) Confirm valve orientation and position status for manual operating mode.
         9) Confirm correct tagging and identification
         10) Confirm proper functioning of all safety components.
         11) Confirm proper connections, alignment, calibration and adjustment.
         12) Manually rotate or move all moving parts to assure freedom of movement.
         13) Confirm all safety equipment is installed per contract requirements, including but not limited to eye wash stations, warning signs, ventilation systems and equipment, etc.
         14) Provide Manufacturer's Certificate of Proper Installation following the completion of this review.
   2. Part 2 – Component Operations Test

a. Perform testing showing that the component is operating as needed, intended, and specified for the Work including but not limited to the following.
    1) Bump electric motors to verify power and direction of rotation.
    2) Verify correct voltage and phase sequence of all circuits.
    3) Verify correct amperage.
    4) Loop tests per Section 40 61 21.
    5) Complete testing of all control circuits including interlocks.
    6) Verify that every component is operational through its entire range of operation.
b. Reference Division 26 and Division 40 for specific execution requirements related to electrical and instrumentation components and systems.
c. Unless otherwise specified or allowed by the Engineer, the test media for component operational testing shall be plant water or non-potable water.

3. Part 3 – Component Network Communications Test
    a. The component network communication tests shall prove that all network reporting, data received, and control aspects for a given component are being correctly performed as needed, intended, and specified.
    b. Perform network tests for all network panels, network hardware, network cables, and all other network systems that are required to be installed and operational for each component.
    c. Refer to Division 40 for specific execution requirements for the component network tests.

B. Phase 2 Commissioning: Functional Test Phase:
1. Functional testing shall be performed on all components and systems as required to prove that they function as required in conformance with the performance requirements and as needed and intended to complete the Work. All components of a system shall be operated together during functional testing.
    a. The Functional Test Phase is required for all process equipment, HVAC equipment, other equipment, piping, electrical, instrumentation, controls, and package system equipment.
    b. Testing for all DCS controls associated with all components with DCS monitoring or DCS controls shall be performed. This test shall include testing of multiple components that have interfaces between them. For packaged equipment this shall include testing of interfaces and interlocks between equipment supplied by the Supplier of the packaged equipment and equipment supplied in other technical specification sections.
    c. When testing requires the use of auxiliary systems such as electrical power, compressed air, control air, or instrumentation which have not yet been placed in service, provide acceptable substitute sources, capable of meeting the requirements of the component or system.
    d. Functionally test each system as an independent system.
        1) Tests shall include all the functional requirements provided in Division 26 and Division 40, within the individual requirements in the Specifications and as required by the Supplier.

2) Demonstrate that each, and every, component within the system interacts and functionally operates as specified throughout its entire range of operation.
3) Test each interlock for the system, all local controls, and all DCS controls.

e. Functionally test multiple integrated systems. The testing shall include individual components and systems that were previously tested independently.
1) Test in a step-by-step method to accomplish orderly and systematic testing of integrated systems to simulate the functionality of the completed Work.
2) Tests shall be run through normal operating ranges and to prove specific performance requirements as required by the Specifications or otherwise needed to prove compliance with the Specifications.
3) To the greatest extent practical, test at conditions which represent the full range of operating parameters (or specified test parameters if greater) as defined in the Contract Documents.
4) The tests shall include all network controls, all network interlocks, all inter-process interlocks, and all operations interfaces.
5) The tests shall be performed until the specified operating modes or performance has been accomplished without interruption for the specified duration as indicated in the Specifications or in no instance less than 4 hours.
6) Should the functional testing of the integrated systems be halted for any reason, the testing shall be repeated until it has been accomplished without interruption.
7) Coordinate with Engineer such that Engineer can witness each individual step in the procedures.

f. Following the testing perform the following.
1) Check equipment for loose connections, unusual movement or other indications of improper operating characteristics.
2) Disassemble and inspect equipment which exhibits unusual or unacceptable operating characteristics. Re-align machines identified as out of alignment. Repair, or remove and replace with new if unable to pass the requirement of the testing. Test until the equipment meets the requirements of the Specifications.

g. Unless otherwise specified or allowed by the Engineer, the test media for functional testing shall be the water identified in the System Commissioning Plan (e.g., plant water, non-potable water, air, or specified media, depending on the system).

C. Phase 3 Commissioning: Operations Test Phase:
1. General Requirements of the Operations Test Phase
a. Tests shall be performed using the specified media.
b. Disposal of test media shall follow all laws and regulations and with proper permits.
c. Unless otherwise indicated in these Contract Documents or permitted by the Engineer, training shall be performed during the Operations Test Phase.
d. The Operations Test Phase shall be conducted at a time and date which is requested by the Contractor and agreed to by the Owner.

e. Coordinate with the Owner for introduction of specified media, disposal (or return to treatment plant) of specified material, and operation of facilities with specified media.

f. Prior to commencement of the Operations Test Phase, the facility shall be fully operational, capable of accepting design flows and performing functions as designed.

g. The Operations Test Phase shall test for normal operational sequence as an integrated system conforming to the requirements of the Specifications through full specified operating range. Test network control logic across multiple systems.

h. During the Operations Test Phase, tests shall be executed for all components. Tests shall include all the operations tests as specified in the individual equipment technical specification sections. This includes vibration tests where specified.

i. Provide required support to the Owner such that the facility attains its fully operational mode.

2. Part 1 -Walkdown: After the completion of the functional testing, a complete inspection by the Startup Team shall be performed to determine if the facility is ready for the Seven (7) Day Operational Test.

a. Walk through the facility with the Engineer, the Owner, and the Engineer to acknowledge facility is ready for the Seven (7) Day Operational Test.

b. A working punch-list will be developed and provided by the Engineer.

c. The punch-list shall be identified by the following ranking criteria:

1) Level 1: Significant impact item and no further tests shall be performed until resolved. Requires a signoff prior to proceeding.

2) Level 2: Minimal impact item that can be corrected later and does not affect continuation of testing.

3. Part 2 - Seven (7) Day Operational Test. The Operations Test Phase shall consist of a continuous un-interrupted seven-day run period using the specified media.

D. Phase 4 Commissioning: Acceptance Test Phase:

1. The Acceptance Test Phase shall be a test of a system or multiple systems by the Owner using the specified media, without operational or performance failure to demonstrate conformance with the performance requirements specified. The minimum duration of the Acceptance Test Phase shall be 30 days, unless otherwise specified within individual equipment specifications. This is the final test to demonstrate the facility including new and existing processes operate together as needed, intended, and specified.

a. During this test, vary operational parameters during the day, with steady state conditions overnight.

b. Conduct performance testing where required in individual specification sections. Where practical, coordinate timing of performance testing to fall within the nominal 30 days allocated for Acceptance Testing; however, performance testing outside of this 30-day period may be required in order to fully comply with specified performance testing requirements.

c. The Acceptance Test Phase shall be judged completed wholly at the discretion of the Engineer with input from the Engineer.

d. This test may last significantly longer than the specified calendar days listed if deficiencies are found, and the test is restarted one or more times. The Contractor shall coordinate with the Owner and provide support as necessary.
e. After satisfactory completion the facility shall be placed into normal operation.
f. Provide documentation of successful performance testing where required in individual equipment specifications.
g. Provide Manufacturer's Certificates of Proper Operation.

E. Optimization Testing:
1. Provide optimization testing as required in individual equipment specifications.

3.06 RETESTS

A. If any portion of a test does not pass, the Contractor shall correct the problem in a timely manner and repeat the test until it passes to the satisfaction of the Engineer and Owner.
1. Functional testing of equipment or a system shall be considered complete when, in opinion of the Engineer and Engineer, the system, facility, or designated portion has operated in manner intended for (7) continuous days without significant interruption, unless otherwise agreed upon.
2. Operational testing of the system, the entire facility or any portion thereof shall be considered complete when, in opinion of the Engineer and Engineer, the system, facility, or designated portion has operated in manner intended for (28) continuous days without significant interruption, unless otherwise agreed upon.
3. Significant Interruption: May include any of the following events:
a. Failure of Contractor to provide and maintain qualified onsite startup personnel as scheduled.
b. Failure of any critical equipment or unit process that is not satisfactorily corrected within 6 hours after failure.
c. Failure of any noncritical equipment or unit process that is not satisfactorily corrected within 24 hours after failure.
4. Operational testing of the system, the entire facility or any portion thereof shall be considered complete when, in opinion of the Engineer and Engineer, the system, all specified testing has been successfully completed, and all deficiencies have been corrected.

B. If a failure of any component or system occurs during any phase of commissioning, the entire phase shall be re-started. The Engineer may determine that the failure is minor and may allow for the continuation of the test rather than re-starting,

C. If a failure of any component should occur during any phase of commissioning, the Contractor shall be responsible for the actual cost of any idle time due to such failure. Such costs of idle time shall include personnel costs of Owner's and Engineer's staff who are assigned to coordinate, assist and witness the commissioning activities. This includes personnel costs, rental costs of equipment and any other incidental costs of the delay.

3.07 AFTER TESTS

A. Once testing has been completed, and until the Engineer has issued a certificate of Final Completion, all equipment shall be rechecked once by the Contractor (or more often if specified) for proper alignment and realigned, if necessary. All equipment shall be checked for loose connections, unusual movement, or other indications of improper operating characteristics. Any deficiencies shall be corrected to the satisfaction of the Engineer. All equipment or devices which exhibit unusual or unacceptable operating characteristics shall be disassembled, inspected and shall then be repaired or removed from the Site and replaced at no cost to the Owner.

END OF SECTION

Addendum No. 7 to Contract Documents
Biosolids Process Improvements
The City of Auburn
Contract Nos. BPI-1A thru BPI-1D

January 13, 2023

ADDENDUM NO. 7

ATTACHMENT NO. 7

SECTION 10 10 00

VISUAL DISPLAY SURFACES

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Scope:
   1. Contractor shall provide all labor, materials, equipment and incidentals as shown, specified and required to furnish and install markerboards and tackboards.
   2. The type of products required includes the following:
      a. Markerboard.
      b. Tackboard.
      c. Set of dry markers.
      d. Trim and attachments.

B. Related Work:
   1. Section 09 90 00, Painting and Coating.

1.02 REFERENCES

A. Standards referenced in this Section are listed below:
   1. American Architectural Manufacturers Association, (AAMA).
      a. AAMA 611, Voluntary Standards for Anodized Architectural Aluminum.
      b. AAMA 2603, Voluntary Specification, Performance Requirements and Test Procedures for Pigmented Organic Coating on Aluminum Extrusions and Panels.
   2. American National Standards Institute, (ANSI).
      a. ANSI A117.1, Guidelines for Accessible and Useable Buildings and Facilities - Providing Accessibility and Usability for Physically Handicapped People (ICC/ANSI A117.1-1998).
   3. American Society for Testing Materials, (ASTM).
      a. ASTM E 84, Standard Test Method for Surface Burning Characteristics of Building Materials.
   4. National Association of Architectural Metal Manufacturers, (NAAMM).
      a. NAAMM - Metal Finishes Manual for Architectural and Metal Products.

1.03 QUALITY ASSURANCE

A. Component Supply and Compatibility:
   1. Furnish all markerboards and tackboards by one manufacturer for the entire project. In addition to the requirements of this Section, comply with manufacturer's instructions and recommendations for all phases of the Work, including preparation of substrate, installation of grounds and anchors, and application of materials.

B. Requirements of Regulatory Agencies:
   1. Codes: Comply with applicable provisions of the following:
      a. Building Code of the State of New York.

b. ANSI A117.1 and Americans with Disabilities Act of 1990 Title II ADAAG.

2. Fire-Test-Response Characteristics: Provide vinyl-coated tackboards with the following surface-burning characteristics as determined by testing assembled materials composed of facings and backings identical to those required in this Section in accordance with the requirements of ASTM E 84 by a testing and inspecting agency acceptable to authorities having jurisdiction. Identify vinyl-coated tackboards with appropriate markings of applicable testing and inspecting agency.
   a. Flame Spread: 25 or less.
   b. Smoke Developed: 10 or less.

1.04 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00.

B. Samples:
   1. Samples for each type and color of markerboard, tackboard, trim and accessories are required. Provide 4-inch square samples of sheet materials and 4-inch lengths of trim members. Owner's Representative's review of samples will be for color, pattern and texture only. Compliance with all other requirements is the exclusive responsibility of Contractor.

C. Shop Drawings:
   1. Drawings for each type of markerboard and tackboard unit. Include full-scale sections of typical trim members and dimensioned elevations. Show anchors, grounds, reinforcement, accessories and installation details.
   2. Submit for approval manufacturer's technical data and installation instructions for each material and component part. Include methods of installation for each type of substrate to receive units. Transmit copy of each instruction to the installer.
   3. Submit copy of manufacturer's warranty.

1.05 WARRANTY

A. Porcelain-Enamel Markerboard Warranty: Submit a written warranty executed by manufacturer agreeing to replace porcelain enamel markerboards that do not retain their original writing and erasing qualities or become slick and shiny, or exhibit crazing, cracking, or flaking within the specified warranty period, provided the manufacturer's written instructions for handling, installation, protection, and maintenance have been followed.
   1. Warranty Period: Life of the facility.

PART 2 PRODUCTS

2.01 MATERIALS

A. Porcelain-On-Metal Markerboards: Balanced, high-pressure laminated, 3-ply construction, with facing sheet, core and backing.
   1. Porcelain Finish: Porcelain enamel over ground coat on writing surface with seal coat on reverse side. Furnish standard colors and special projection surface.
   2. Face Sheet: Enameling steel, 24 gauge.

3. Core: Plywood or hardboard, 3/8-inch thick.
4. Backing Sheet: Manufacturer's standard 0.015-inch aluminum sheet.
5. Color: Manufacturer's standard colors.
6. Products and Manufacturers: Provide one of the following:
    a. 500 Series p3 Markerboard by PolyVision Corporation.
    b. Series 185 LCS Markerboard by Claridge Products and Equipment, Incorporated.
    c. Or approved equal.

B. Plastic Impregnated Cork Tackboards:
1. Seamless sheet, 1/8-inch thick with washable vinyl finish, of ground natural cork compressed with resinous binder and integral color throughout entire thickness and laminated to burlap backing. Furnish rigid panels by factory-laminating under pressure to 3/8-inch thick plywood or hardwood backing.
2. Color: Manufacturer's standard colors.
3. Products and Manufacturers: Provide one of the following:
    a. Vinyl Plus Tackboard by PolyVision Corporation.
    b. No. 380A Tackboard by Claridge Products and Equipment, Incorporated.
    c. Or approved equal.

C. Markers: Manufacturer's standard set of 12 assorted colors specifically made for use with specified markerboard. Provide one set for each markerboard.

D. Trim and Accessories:
1. General: Fabricate frames and trim of not less than 0.062-inch thick aluminum alloy. Size and shape as specified, to suit type of installation. Provide straight, single-length units wherever possible and keep joints to a minimum. Miter corners to a neat, hairline closure.
    a. Provide manufacturer's standard wide trim units, approximately 1-1/2-inch wide, slip-on type.
    b. When structural support accessories are required for markerboards and tackboards, in addition to normal trim, provide the required additional support or modify trim to provide the necessary support.
2. Markertrough: Finish continuous aluminum markertroughs for each markerboard, using box type, with slanted front and cast aluminum end closures.
3. Finishes:
    a. General: Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations relative to applying and designating finishes.
    b. Class II, Clear Anodic Finish: AA-M12C22A31 (Mechanical Finish: nonspecular as fabricated; Chemical Finish: etched, medium matte; Anodic Coating: Architectural Class II, clear coating 0.010-mm or thicker) complying with AAMA 607.1.

E. Fabrication:
1. Assembly: Provide factory-assembled markerboard and tackboard units.
    a. Make joints only between markerboard and tackboard.

b. Provide mullion trim at joints between markerboard and tackboard.

2. Sizes:
   a. Markerboards: 4-feet 0-inches high by 4-feet 0-inches long.
   b. Tackboards: 4-feet 0-inches high by 4-feet 0-inches long

PART 3 EXECUTION

3.01 INSPECTION

A. Examine substrate and conditions under which the visual display boards Work is to be performed and notify Owner's Representative, in writing, of unsatisfactory conditions. Do not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to Owner's Representative.

3.02 INSTALLATION

A. Install boards in locations and mounting heights as directed by Owner's Representative and in accordance with the manufacturer's instructions. Provide all grounds, clips, backing materials, brackets and anchors, trim, and accessories for a complete installation.

B. Install boards in locations and mounting heights in accordance with accessibility codes where shown.

C. Deliver factory-built vinyl display units completely assembled in one piece without joints, whenever possible. Where dimensions exceed panel size, provide two or more pieces of equal length, as acceptable to Owner's Representative. When overall dimensions require delivery in separate units, prefit at the factory, disassemble for delivery, and make final joint at a Site. Use splines at joints to maintain surface alignment and smooth joints.

D. Install units with concealed hangers plumb and level, in accordance with the manufacturer's printed instructions.

E. Coordinate job-assembled units with grounds, trim and accessories. Join all parts with neat, precision fit.

3.03 SCHEDULE

A. Markerboards:
   1. Dewatering and Dryer Building – Room 202.

END OF SECTION

ADDENDUM NO. 7

ATTACHMENT NO. 8

SECTION 10 43 16

FIRST AID CABINETS

PART 1 GENERAL

1.01 SUMMARY

A. Scope
   1. This Section specifies first aid cabinets.
   2. Contractor shall provide all labor, materials, equipment and incidentals as shown, specified and required to furnish and install all first aid equipment.
   3. Extent of the first aid equipment is specified.
   4. Types of products required include the following
      a. First aid station.
      b. Miscellaneous mounting brackets, accessories, fasteners.

1.02 QUALITY ASSURANCE

A. Reference Codes and Standards
   1. This Section contains references to the following documents. They are a part of this Section as specified and modified. Where a referenced document contains references to other standards, those documents are included as references under this Section as if referenced directly. In the event of conflict between the requirements of this Section and those of the listed documents, the requirements of this Section shall prevail.
   2. Unless otherwise specified, references to documents shall mean the documents in effect at the time of Advertisement for Bids or Invitation to Bid (or on the effective date of the Agreement if there was no Bids). If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued or replaced. In all cases, the effective version of the New York State Building Code at the time of Advertisement for Bids or Invitation to Bid shall be considered the building code in effect.

Reference	Title
1910.266 App A	Occupational Safety and Health Act of 1970. First-Aid Kits (Mandatory)

B. Quality Source Control
   1. Furnish as complete first aid equipment produced by one supplier, including hardware, accessory items, mounting brackets, and fastenings.
   2. Furnish all equipment by one supplier unless otherwise accepted by Engineer.

1.03 ENVIRONMENTAL CONDITIONS

A. Equipment in this Section shall be subjected to environmental conditions in accordance with Section 01 11 80 Environmental Conditions.

1.04 SUBMITTALS

A. Preconstruction/Action Submittals: The following minimum submittals shall be submitted prior to construction of this element of the Work in accordance with Section 01 33 00 Submittals.

1. A copy of this Section, with addendum updates included, and all referenced and applicable Sections, with addendum updates included, with each paragraph check-marked to indicate Specification compliance or marked to indicate requested deviations from Specification requirements or those parts which are to be provided by the Contractor or others shall be provided. Check marks (✓) shall denote full compliance with a paragraph as a whole.

   If deviations from the Specifications are indicated, and therefore requested, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Engineer shall be the final authority for determining acceptability of requested deviations.

   The remaining portions of the paragraph not underlined shall signify compliance with the Specifications. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the requirements of the Specification shall be cause for rejection of the entire submittal and no further submittal material will be reviewed.
2. Shop Drawings.

PART 2 PRODUCTS

2.01 ACCEPTABLE PRODUCTS

A. Suppliers

1. The Engineer believes that the Suppliers indicated in this Section are capable of producing equipment and products, which will satisfy the requirements of this Section. This statement, however, shall not be construed as an endorsement of a particular Supplier or product, nor shall it be construed that a named Supplier's standard product will comply with the requirements of this Section.

B. Supplier Qualifications

1. The Supplier shall have five (5) years of experience manufacturing and installing first aid cabinets in similar-sized projects.

2.02 MATERIALS

A. Materials specified are considered the minimum acceptable for the purposes of durability, strength, and resistance to erosion and corrosion. The Contractor may propose alternative materials for the purpose of providing greater strength or to meet required stress limitations. However, alternative materials must provide at least the same qualities as those specified for the purpose. If alternatives are proposed, the proposals shall be accompanied with documentation supporting the claimed superiority of the proposed substitutions. The Engineer shall be the sole decider in the equivalency of alternative materials of construction.

B. Industrial First Aid Kit: Provide the following
   1. Quantity: 1 unit.
   2. Description: Each unit shall consist of a balanced assortment of first aid supplies adequate to administer first aid for up to 50 people. Provide 24 gage steel, weatherproof, dustproof, rust resistant case with rounded corners with carrying handle and wall brackets.
   3. Product and Supplier: Provide the following
      a. Industrial First Aid Kit Number 50 by Johnson & Johnson Incorporated.
      b. 36 Unit by Figgie International Incorporated, Fire Protection/Safety Group, Scott Aviation Division.
      c. #50 Person Original Safety First Aid Kit by Northern Safety Company, Incorporated.

PART 3 EXECUTION

3.01 SHIPMENT AND STORAGE

A. Supplier shall provide Contractor with detailed recommendations and instructions for product storage.

3.02 SUPPLIER'S FIELD SERVICES

A. Supplier shall provide field services as further required within this Section.

3.03 INSTALLATION

A. The Supplier shall provide the Contractor with detailed recommendations and instructions for installation of the product specified in this Section.

B. Product shall be installed at the locations as directed by Engineer and in accordance with the recommendations of the Supplier.

C. Inspection
   1. Contractor shall examine the substrates and conditions under which the first aid equipment is to be installed and notify Engineer in writing of conditions detrimental to the proper and timely completion of the Work. Do not proceed with the Work until unsatisfactory conditions have been corrected in a manner acceptable to Engineer.

D. Install first aid equipment as specified and in accordance with the Supplier's instructions. Position units plumb and true, securely anchored in place with proper clips, brackets and bolts for the type of mounting required. Location as directed by Engineer.

END OF SECTION

SECTION 10 44 16

FIRE EXTINGUISHERS

PART 1 GENERAL

1.01 SCOPE OF WORK

A. Scope:
   1. Contractor shall provide all labor, materials, equipment, and incidentals as shown, specified, and required to furnish and install all fire protection specialties Work.
   2. Extent of fire protection specialties Work is shown and specified.
   3. Types of fire protection specialties Work required includes:
      a. Dry chemical extinguishers.
      b. Carbon dioxide extinguishers.
      c. Mounting accessories and miscellaneous fasteners.

B. Coordination:
   1. Review installation procedures under other Sections and coordinate installation of items that must be installed with or before fire protection specialties.

C. Related Work:
   1. Section 10 14 00 Signage.

1.02 REFERENCES

A. The references listed below are a part of this section as specified and modified. Where a referenced document contains references to other standards, those documents are included as references under this section as if referenced directly. In the event of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

B. The references listed below indicate those documents in effect at the time of Advertisement for Bids, Invitation to Bid, or on the effective date of the Agreement if there were no Bids. Where documents are referenced in applicable local, state, or federal codes, use the version reference by date in the individual code. If referenced documents are not specifically identified in the applicable code(s), reference to those documents shall indicate the latest version of the documents available at the time of Advertisement for Bids. If referenced documents have been discontinued by the issuing organization, reference to those documents shall mean the latest version of replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. When document dates are given in the following listing that are not specifically referenced in an applicable code, references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued or replaced. For questions, refer to Engineer.

Reference	Title
ASTM E814	Test Method for Fire Tests of Penetration Fire Systems
FM Global	FM Approval Guide
NFPA 10	Portable Fire Extinguishers
UL	Portable Fire Extinguishers
ADA	Americans with Disabilities Act
ABA	Accessibility Guidelines for Buildings and Facilities

1.03 QUALITY ASSURANCE

A. Component Supply and Compatibility:
   1. Provide fire protection specialties products from one manufacturer.

B. Certifications: Fire Extinguishers: Listed and labeled for type, rating, and classification by an independent testing agency acceptable to authorities having jurisdiction.
   1. Provide fire extinguishers approved, listed, and labeled by FM Global.
   2. Provide fire extinguishers approved, listed, and labeled to comply with ASTM E814.

C. Regulatory Requirements:
   1. Provide fire protection specialties approved and labeled by UL.
   2. Provide fire protection specialties conforming to NFPA 10 requirements.
   3. Provide fire protection specialties conforming to ADA-ABA Accessibility Guidelines.

1.04 SUBMITTALS

A. Submit the following in accordance with Section 01 33 00.

B. Action Submittals:
   1. Procedures: Section 01 33 00.
   2. A copy of this specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks (✓) shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Engineer shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined will signify compliance on the part of the Contractor with the specifications. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.
   3. Product Data: Submit the following:
      a. Manufacturer's technical data, certification of UL rating, and installation instructions for fire protection specialties.

C. Closeout Submittals: Submit the following:

1. Operation and Maintenance Data: For fire extinguishers to include in maintenance manuals.
2. Warranty: Sample of special warranty.

1.05 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace fire extinguishers that fail in materials or workmanship within specified warranty period.
   1. Failures include, but are not limited to, the following:
      a. Failure of hydrostatic test according to NFPA 10.
      b. Faulty operation of valves or release levers.
   2. Warranty Period: Six years from date of Substantial Completion.

PART 2 PRODUCTS

2.01 PORTABLE, HAND-CARRIED FIRE EXTINGUISHERS

A. General: Provide manufacturer’s standard mounting brackets for portable fire extinguishers size as specified.

B. Multi-Purpose Dry Chemical Fire Extinguishers:
   1. Ten-pound capacity, enameled steel container with pressure-indicating gauge, for Class A, Class B, Class C fires, UL rating 4A-60 B:C.
   2. Products and Manufacturers: Provide one of the following:
      a. Cosmic Model 10E by J.L. Industries, a division of Activar Construction Products Group.
      b. MP 10 Series by Larsen’s Manufacturing Company.
      c. or approved equal.

C. Carbon Dioxide Fire Extinguishers:
   1. Ten-pound enameled steel container capacity, for Class B and Class C fires UL rating.
   2. Product and Manufacturer: Provide one of the following:
      a. Sentinel Model 10 by J.L. Industries, a division of Activar Construction Products Group.
      b. CD 10 Series by Larsen’s Manufacturing Company.
      c. or approved equal.

D. Identification: Refer to Section 10 14 00 Signage.

PART 3 EXECUTION

3.01 INSPECTION

A. Examine substrates and conditions under which fire protection specialties will be installed and notify Engineer in writing of conditions detrimental to proper and timely completion of the Work. Do not proceed with Work until unsatisfactory conditions have been corrected in manner acceptable to the Engineer.

3.02 INSTALLATION OF FIRE EXTINGUISHERS

A. When exact locations of fire protection specialties are not shown on Drawings, locate as directed by Engineer.

B. Securely fasten products to structure, square and plumb, per Supplier's instructions. Mounting heights shall be:
   1. Install fire extinguishers to meet ADA/ABA requirements.
   2. Install fire extinguishers with gross weight greater than 40 pounds with top of fire extinguisher no more than 3.5 feet above finished floor.
   3. Install fire extinguishers with gross weight less than 40 pounds with top of fire extinguisher no more than 4.0 feet above finished floor.
   4. Clearance between bottom of fire extinguisher and finished floor shall be at least four inches.

C. Identification Devices: Refer to Section 10 14 00 Signage.

D. Recharge fire extinguishers provided under this Contract so that most recent inspection date coincides as nearly as possible with date of Substantial Completion. Inform CITY in writing of next required inspection and recharging date.

3.03 FIRE EXTINGUISHER SCHEDULE

A. Multi-Purpose Dry chemical, wall mounted.

B. Carbon Dioxide, wall mounted.

END OF SECTION

ADDENDUM NO. 7

ATTACHMENT NO. 9

SECTION 10 14 00

SIGNAGE

PART 1 GENERAL

1.01 DESCRIPTION

A. This section specifies informational and accident prevention signs.

1.02 OPERATING AND DESIGN REQUIREMENTS

A. General:
   1. Accident prevention signs shall conform as to design with OSHA Section 1910.145 of Subpart J, Part 1910, Chapter XVII, Title 29 of the Code of Federal Regulations. Exit signs shall conform with Section 1910.37(g) of the OSHA Safety and Health Standard for General Industry, Article 10, Section 10.113 of the Fire Code of the State of New York, and where applicable with local fire regulations.
   2. In addition to the signs identified on the schedule in Part 3 of this section, the following shall be provided:
      a. Exit signs shall be provided in accordance with Section 26 50 00.
      b. "Caution Automatic Equipment May Start at Any Time" signs shall be provided in accordance with paragraph 43 05 11-2.07.
      c. Provide chemical hazard signs and warnings in accordance with OSHA standard 1910.1200

B. Design Requirements:
   1. Size:
      a. Sign size shall be as follows:
         1) 14 inch x 20 inch
         2) 10 inch x 14 inch
         3) 7 inch x 10 inch
   2. Type:
      a. The sign type shall be as follows:

Type	Message
A	NO SMOKING
B	FIRE EXTINGUISHER
C	CAUTION – AUTHORIZED PERSONNEL ONLY
D	NOTICE – MAXIMUM FLOOR LOAD 200 PSF LIVE LOAD
E	THINK – SAFETY FIRST
F	“ROOM NAMES”
G	WARNING - EAR PROTECTION REQUIRED IN THIS AREA
H	ACCESSIBLE AREA – NOT USED
I	FIRST AID
J	DANGER-480 VOLTS
K	NOTICE – NON-POTABLE WATER – DO NOT DRINK
L	DANGER – CONFINED SPACE ENTRY

Type	Message
M	As directed by the Owner

PART 2 PRODUCTS

2.01 GENERAL

A. Sign lettering shall be single stroke and shall contrast in color with the background. For those messages for which there are international symbols, the international symbols shall be used. Chain mounted signs shall have lettering on both sides.

2.02 MATERIALS

A. Signs shall be 0.100-inch thick fiberglass with embedded fadeproof legends.

PART 3 EXECUTION

3.01 GENERAL

A. Signs shall be distributed as follows:

Process Area	Location	Number	Size	Message	Mount
All	Electrical Manholes	1 per manhole	20 x 14	J	Top
	Hose bibs, hydrants	Each	20 x 14	K	Hydrant or wall
	General	24	14 x 10	To be determined	To be determined
	Building Signage	6	Coordinate with owner	Coordinate with owner	Wall
	Confined Space Entry	10	14 x 10	L	Wall
	First Aid Cabinets	4	8 x 6	I	Wall
Solids Handling Building	Sludge Pump Room 001A/001B	2	8 x 6	F	Doors 001A, 002A
	Sludge Pump Room 001A/001B	2 of each type	14 x 10	C, E	Wall
	Sludge Pump Room 001A/001B	1	8 x 6	B	Wall
	PLC Room 101	1	8 x 6	F	Doors 101A
	PLC Room 101	2 of each type	14 x 10	C, E	Wall
	PLC Room 101	1	8 x 6	B	Wall
	Sludge Thickening Room 102	1	8 x 6	F	Doors 102A
	Sludge Thickening Room 102	2 of each type	14 x 10	C, E	Wall
	Sludge Thickening Room 102	1	8 x 6	B	Wall
	Electrical Room 104	3	8 x 6	F	Doors 104B,104A. Existing Door
	Electrical Room 104	2 of each type	14 x 10	C, E	Wall
	Electrical Room 104	2	8 x 6	B	Wall
	Hopper Area 105	1	8 x 6	F	Wall

	Hopper Area 105	1 of each type	14 x 10	C, E	Wall
Digester Control Building	Stair S01	3	8 x 6	F	Door 001A, S01A, 105B
	Digester Pump Room 001	1	8x6	F	Door 001A
	Digester Pump Room 001	2 of each type	14 x 10	C, E	Wall
	Digester Pump Room 001	2	8 x 6	B	Wall
	Boiler Room 101	3	8x6	F	Door 101A, 101B, 101C
	Boiler Room 101	2 of each type	14 x 10	C, E	Wall
	Boiler Room 101	1	8 x 6	B	Wall
	Blower Room 102	1	8x6	F	Door 102A
	Blower Room 102	2 of each type	14 x 10	C, E	Wall
	Blower Room 102	1	8 x 6	B	Wall
	Electrical Room 103	2	8x6	F	Door 103A, 103B
	Electrical Room 103	2 of each type	14 x 10	C, E	Wall
	Electrical Room 103	1	8 x 6	B	Wall
	Drop Shaft 104	1	8x6	F	Door 104A
	Drop Shaft 104	2 of each type	14 x 10	C, E	Wall
	Drop Shaft 104	1	8 x 6	B	Wall
	Corridor 105	2	8x6	F	Door 105A, 105B
Dewatering and Dryer Building	Dryer Room 101	3	8 x 6	B	Wall
	Dryer Room 101	4	8x6	F	Door 101B, 109A, 101C, 108B
	Dryer Room 101	2 of each type	14 x 10	C, E	Wall
	Electrical Room 102	2	8 x 6	B	Wall
	Electrical Room 102	3	8 x 6	F	Door 102A, 102B, 102C
	Electrical Room 102	2 of each type	14 x 10	C, E	Wall
	Pump Room 103	2	8 x 6	B	Wall
	Pump Room 103	3	8 x 6	F	Door 103A,109B
	Pump Room 103	2 of each type	14 x 10	C, E	Wall
	Polymer Room 104	1	8 x 6	B	Wall
	Polymer Room 104	1	8 x 6	F	Door 104A
	Polymer Room 104	2 of each type	14 x 10	C, E	Wall
	Restroom 105	1	8 x 6	F	Door 105A
	Sprinkler Room 106	1	8 x 6	B	Wall
	Sprinkler Room 106	1	8 x 6	F	Door 106A
	Truck Loading Area 108	2	8 x 6	B	Wall
	Truck Loading Area 108	1	8 x 6	F	Door 108B
	Stair S1	4	8 x 6	F	Door S1B, S1E, 202B, 201C
	Mezzanine Level	1	14 x 10	D	Wall
	Mezzanine Level	2	8 x 6	B	Wall
	Dewatering Room 201	1	8 x 6	B	Wall
	Dewatering Room 201	2	8 x 6	F	Door 202A, 201C

	Dewatering Room 201	2 of each type	14 x 10	C, E	Wall
	Dewatering Operations Corridor 202	1	8 x 6	B	Wall
	Dewatering Operations Corridor 202	3	8 x 6	F	Door 202B, 202C, 202A
	Dewatering Operations Corridor 202	2 of each type	14 x 10	C, E	Wall
	Filter Press Room 203	1	8 x 6	F	Door 201D
	Filter Press Room 203	2 of each type	14 x 10	C, E	Wall
Dry Product Storage		1	8 x 6	B	Wall

END OF SECTION

Addendum No. 7 to Contract Documents
Biosolids Process Improvements
The City of Auburn
Contract Nos. BPI-1A thru BPI-1D

January 13, 2023

ADDENDUM NO. 7

ATTACHMENT NO. 10

SECTION 13 34 19

METAL BUILDING SYSTEMS

PART 1 GENERAL

1.01 SUMMARY

A. Section includes: Design, supply and installation of a pre-engineered Metal Building and Canopy, including: structural steel system primary and secondary members, including purlins and girts; metal roof system; wall system; liner panels; column base plates and anchor bolts; insulation; vapor barriers, doors and overhead coiling doors; trim, flashing and accessories; sealants; ventilation system, including louvers and fans; soffits; gutters and downspouts; and galvanizing and coatings as described in this section and related sections and shown on the Drawings. The scope also includes, but is not limited to, framing and sealing openings in wall and roof panels, including openings for pipe and cable tray penetrations, and curbs and flashing at louvers and ventilation fans.

B. System Descriptions:
   1. Building Description:
      a. Dewatering and Dryer Building: The pre-engineered metal building is a clear span, rigid frame structure with footprint of approximately 93-feet long by 65-feet wide. The overall square footage of the building is approximately 6,045 square feet. The building eave height is 22-feet 8-inches and includes a gabled roof with a 6 on 12 pitch. The metal building abuts a two story masonry building that requires an expansion joint closure system between the two structures.
   2. Roof System: Standing seam roof system per Manufacturer's standard roof system.
   3. Wall System: Insulated metal panel (IMP) wall system.
   4. Thermal Insulation: The roof shall be insulated with fiberglass blanket insulation with vapor barrier.

1.02 RELATED SECTIONS

A. This section contains specific references to the following related sections. Additional related sections may apply that are not specifically listed below.
   1. Section 03 30 00 Cast-in-Place Concrete
   2. Section 05 05 14 Hot-Dip Galvanizing
   3. Section 05 05 20 Anchor Bolts
   4. Section 05 10 00 Structural Metal Framing
   5. Section 05 50 00 Metal Fabrications
   6. Section 08 11 30 Standard Hollow Metal Doors and Frames
   7. Section 08 33 23 Overhead Coiling Doors
   8. Section 09 90 00 Painting and Coating
   9. Division 23 Heating, Ventilating, Air Conditioning (HVAC)

1.03 REFERENCES

A. The references listed below are a part of this section. Where a referenced document contains references to other standards, those documents are included as references

under this section as if referenced directly. In the event of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

B. The references listed below indicate those documents in effect at the time of Advertisement for Bids, Invitation to Bid, or on the effective date of the Agreement if there were no Bids. Where documents are referenced in applicable local, state, or federal codes, use the version reference by date in the individual code. If referenced documents are not specifically identified in the applicable code(s), reference to those documents shall indicate the latest version of the documents available at the time of Advertisement for Bids. If referenced documents have been discontinued by the issuing organization, reference to those documents shall mean the latest version of replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. When document dates are given in the following listing that are not specifically referenced in an applicable code, references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued or replaced. For questions, refer to Engineer.

Reference	Title
AISC 303	Code of Standard Practice for Steel Buildings and Bridges
AISC 341	Seismic Provisions for Structural Steel Buildings
AISC 360	Specification for Structural Steel Buildings
AISC Steel Construction Manual	American Institute of Steel Construction, Manual of Steel Construction
AISC Design Guide 3	Serviceability Design Considerations for Steel Buildings
AISI S100	Design of Cold-Formed Steel Structural Members
ACI 318	Building Code Requirements for Structural Concrete
AWS D1.1	Structural Welding Code – Steel
AWS D1.3	Structural Welding Code – Sheet Steel
AISE 13	Design and Construction of Mill Buildings
ASCE 7	Minimum Design Loads for Buildings and Other Structures
ASTM A36	Carbon Structural Steel
ASTM A48	Gray-Iron Castings
ASTM A108	Steel Bar, Carbon and Alloy, Cold-Finished
ASTM A123	Zinc (Hot Dip Galvanized) Coatings on Iron and Steel Products
ASTM A307	Carbon Steel Bolts, Studs, and Threaded Rod 60000 psi Tensile Strength
ASTM A475	Zinc-Coated Steel Wire Strand
ASTM A490	Structural Bolts, Alloy Steel, Heat Treated, 150 ksi Minimum Tensile Strength
ASTM A500	Cold-Formed Welded and Seamless Carbon Steel Structural Tubing in Rounds and Shapes
ASTM A529	High-Strength Carbon-Manganese Steel of Structural Quality
ASTM A563	Carbon and Alloy Steel Nuts
ASTM A572	High-Strength Low-Alloy Columbium-Vanadium Structural Steel
ASTM A653	Steel Sheet, Zinc Coated (Galvanized) or Zinc Iron Alloy Coated (Galvannealed) by the Hot Dip Process

Reference	Title
ASTM A792	Standard Specification for Steel Sheet, 55 % Aluminum-Zinc Alloy-Coated by the Hot-Dip Process
ASTM A992	Structural Steel Shapes
ASTM A1011	Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength
ASTM A1039	Steel, Sheet, Hot Rolled, Carbon, Commercial, Structural, and High-Strength Low-Alloy, Produced by Twin-Roll Casting Process
ASTM B209	Aluminum and Aluminum-Alloy Sheet and Plate
ASTM C553	Mineral Fiber Blanket Thermal Insulation for Commercial and Industrial Applications
ASTM D2244	Calculation of Color Tolerances and Color Differences from Instrumentally Measured Color Coordinates
ASTM D4214	Test Methods for Evaluating the Degree of Chalking of Exterior Paint Films
ASTM E96	Test Methods for Water Vapor Transmission of Materials
ASTM E108	Spread-of Flame Testing: Class 1A Rating
ASTM E283	Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
ASTM E331	Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
ASTM E1592	Test Method for Structural Performance of Sheet Metal Roof and Siding Systems by Uniform Static Air Pressure Difference
ASTM E1646	Test Method for Water Penetration of Exterior Metal Roof Panel Systems by Uniform Static Air Pressure Difference
ASTM E1680	Test Method for Rate of Air Leakage Through Exterior Metal Roof Panel Systems
ASTM E2140	Test Method for Water Penetration of Metal Roof Panel Systems by Static Water Pressure Head
ASTM F436	Hardened Steel Washers
ASTM F468	Nonferrous Bolts, Hex Cap Screws, SocketHead Cap Screws and Studs for General Use
ASTM F1145	Turnbuckles, Swaged, Welded, Forged
ASTM F1554	Anchor Bolts, Steel, 36, 55, and 105-ksi Yield Strength
ASTM F3125	High Strength Structural Bolts and Assemblies, Steel and Alloy Steel, Heat Treated, Inch Dimensions 120 ksi and 150 ksi Minimum Tensile Strength, and Metric Dimensions 830 MPa and 1040 MPa Minimum Tensile Strength
IAS AC472	Accreditation Criteria for Inspection Programs for Manufacturers of Metal Building Systems
NCBC	North Carolina Building Code 2018
MBMA	Metal Building Manufacturer's Association
NFPA-13	Installation of Sprinkler Systems
OSHA	U.S. Dept. of Labor, Occupational Safety and Health Administration

1.04 SUBMITTALS

A. Action Submittals
   1. Procedures: Section 01 33 00

2. A copy of this specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check-marks (✓) shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Engineer shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined will signify compliance on the part of the Contractor with the specifications. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.
3. Metal Building Design and Drawings:
    a. Drawings, prepared and sealed by a Professional Engineer registered in the state of New York. Drawings shall include the following:
        1) Building plans, elevations, and sections.
        2) Primary and secondary framing systems, and location, size, and connection details for diagonal bracing.
        3) Expansion Joints, Covers
        4) Siding, roofing, ventilation, and roof drainage system details.
        5) Mandoor and roll-up door details with hardware list.
        6) Window, roof hatch, ladder, roof walkway, monorail, interior wall details and other building components.
    b. Design calculations of the Metal Building, prepared and sealed by a Professional Engineer registered in the state of New York.
    c. Letter of Design Certification prepared and sealed by a Professional Engineer registered in the state of New York confirming responsibility for the design and attesting that the design prepared meets the performance criteria required by the Contract Documents, the requirements of governing authorities having jurisdiction at the Site, and conforms to prevailing standards of practice. Letter of Design Certification shall include the following:
        1) Design Loads including dead load, roof live load, collateral loads, impact loads, roof snow load, deflection, wind loads/speeds and exposure, design spectral response accelerations at short and 1-second periods (S_{DS} & S_{D1}), seismic importance factor (I_e), response modification factor (R), seismic response coefficient (C_s), and auxiliary loads, such as loading superimposed on the system by erection equipment.
        2) Verification that the metal roofing system is Factory Mutual approved for the Factory Mutual Rating required at the site. Metal Building supplier shall calculate the Factory Mutual Rating required in accordance with FM Global Property Loss Prevention Data Sheet 1-28, latest revision, using the Basic Wind Speed and Exposure information in this Section.
4. Anchor Bolt Design and Drawings:
    a. Drawings that include anchor bolt location plans, anchor bolt size, material, orientation, and building column base plate details and base attachments where required.

b. Anchor bolt calculations prepared and sealed by a Professional Engineer registered in the state of New York. Drawings shall include the unfactored building column loads imposed on foundations. Unfactored column loads are to be separately shown for dead load, live load, snow load, wind, and seismic load.

5. Erection drawings showing roof framing, transverse cross sections, covering and trim details, and accessory installation details to clearly indicate proper assembly of building components.
6. Product Data: Manufacturer's product information, specifications, and installation instructions for building components, accessories, and vapor barrier.
7. Color charts showing full range of colors, textures, and patterns available.
8. Samples: Two of each of the following samples will be used as basis for evaluating quality of finished roof and wall systems and selection of colors.
   a. Twelve inches long by actual width of roofing, liner panel and siding panels, with specified finishes.
   b. Fasteners for application of roofing, siding, and soffit panels.
   c. Twelve inches long actual profile of aluminum window frame glazed with glass specified.
9. Quality Control Submittals:
   a. Certification that Metal Building Manufacturer has a minimum of 5 years' experience in the manufacture of metal buildings.
   b. Certification that the Metal Building Erector has a minimum of 5 years' experience in the erection of metal buildings.
   c. Manufacturer's Certificate of Accreditation with IAS AC472.

B. Informational Submittals:
   1. Procedures: Section 01 33 00.
   2. Manufacturers' certificates of compliance with specified industry standards.

1.05 QUALITY ASSURANCE

A. Qualifications
   1. Manufacturer Qualifications
      a. The manufacturer shall have a minimum of 10 years' experience in the manufacture of metal buildings and shall be accredited under the IAS AC472.
   2. Erector Qualifications
      a. Erector shall have a minimum of 5 years' experience in the erection of metal buildings.
      b. Erector shall be familiar with Manufacturer's metal building systems, standard and/or custom concepts.
      c. Erection shall be performed by qualified erector using proper tools and equipment in accordance with manufacturer's recommendations.
   3. Workman Qualifications
      a. The erector shall provide at least one person who shall be present at all times during execution of the work and who shall be thoroughly familiar with the metal building concept and the requirements, and who shall direct all work performed.

b. Workers employed by the erector shall be skilled in performing tasks related to metal buildings.
c. Certified welding procedures and welding operators in accordance with AWS.

4. Source Limitations: Obtain metal building components, including primary and secondary framing and metal panel assemblies, from single source from single manufacturer.

1.06 DELIVERY, STORAGE AND HANDLING

A. The metal building manufacturer and their installation Contractor are responsible for the delivery, storage, and handling of materials.

B. Materials shall be delivered in a dry and undamaged condition and stored out of contact with the ground. Materials other than framing and structural members shall be covered with weather tight covering and kept dry. Storage accommodations for roof and wall covering shall provide good air circulation and protection from surface staining.

C. The Owner will make adequate lay down and staging areas available to the erector. Details of access and lay down areas shall be finalized at the pre-award conference.

1.07 SPECIAL WARRANTY

A. Provide a Special Warranty in accordance with the following:
1. 1 year workmanship guarantee against failures caused by faulty erection.
2. 2 year materials guarantee against failures.
3. Manufacturer's written weather tightness warranty for 10 years against leaks in roof panels arising out of or caused by ordinary wear and tear under normal weather and atmospheric conditions.
4. Manufacturer's paint film written warranty for 20 years against chipping, cracking, peeling, chalking, and fading of the coating on painted wall panels, painted roof panels and soffit panels.
a. Chalking shall not exceed #8 per ASTM D4214.
b. Fading shall be 5 NBS units or less per ASTM D2244.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Candidate manufacturers are listed below. The manufacturer's standard product may require modification to conform to specified requirements:
1. American Buildings Company
2. Butler Manufacturing
3. Ceco Building Systems
4. Garco Building Systems
5. Star Building Systems
6. Varco-Pruden Buildings
7. Kirby Building Systems
8. or approved equal

2.02 PERFORMANCE/DESIGN CRITERIA

A. General
   1. Design of steel systems, members and components shall be in accordance with the Design Codes shown below.
   2. Workmanship, detailing of connections, fabrication and erection shall conform to the AISC Manual of Steel Construction.

B. Design Codes
   1. The following standard codes have applications at this site for:

Design	Code
Buildings/Structures:	New York State Building Code (2020) and ASCE 7-10
Structural steel:	AISC 360-10 and AISC 341-10
Cold formed steel:	AISI S100, Latest Edition
Welding:	AWS Welding Codes, Latest Edition
Occupational health and safety requirements:	OSHA

C. Design Loads
   1. Dead Loads:
      a. Dead loads used in the calculations shall be the weight of building system construction, such as framing, roofing, purlins, insulation, accessories, and covering materials.
      b. Add an additional allowance for collateral loads as follows:
         1) Piping and conduit unless noted otherwise: 10 psf
         2) Sprinkler system and lighting: 5 psf
   2. Uniform Live Loads:

Live Load	Refer to S-00-001

   3. Snow Loads:

Code:	New York State Building Code (2020) & ASCE 7-10
Risk Category:	III (Wastewater Treatment facilities are Risk Category III)
Ground Snow Load (p_g)	40 psf
Exposure Factor (C_e):	1.0
Thermal Factor (C_t):	1.0
Importance Factor (I_s):	1.1
Flat Roof Snow Load:	30.8psf
Drifting	Per ASCE 7

Note:

1. Due consideration shall be given to drifting and the possible formation of ice dams resulting in ponding of water on un-insulated roofs.

4. Wind Loads:

Code:	New York State Building Code (2020) & ASCE 7-10
Risk Category:	III (Wastewater Treatment facilities are Risk Category III)
Basic Wind Speed (Ultimate, 3-second gust) for Risk Category Shown Above:	116 mph
Exposure:	C
Topographic Factor (K_{zt})	1.0

Note:

1. *Design to withstand the design wind loads without consideration of shielding effects by other structures.*

5. Seismic Loads:

Code:	New York State Building Code 2020 & ASCE 7-10
Risk Category:	III (Wastewater Treatment facilities are Risk Category III)
0.2 Sec. Mapped Spectral Response, S_S:	0.136 g
1.0 Sec. Mapped Spectral Response, S_1:	0.049 g
Site Class:	D
0.2 Sec. Design Spectral Response, S_{DS}:	0.145 g
1.0 Sec. Design Spectral Response, S_{D1}:	0.078g
Importance Factor (I_e):	1.25
Component Importance Factor (I_p):	1.0, except I_p=1.5 for components identified in Section 13.1.3 of ASCE 7
Seismic Design Category	B

6. Roll-Up Door Loads:
   a. In accordance with the roll-up door manufacturer's specifications.
7. Impact Loads:
   a. Consider impact loads in the design of support systems.
   b. Use the following impact load factors:

Monorail Hoists:	
• Vertical	25% of lifted load
• Longitudinal	10% of lifted load
Hangers supporting floors and platforms:	33% of live and dead load

8. Temperature:
   a. Include the effects of temperature in design where metal building systems are exposed to differential climatic conditions. See climatic conditions below for temperature extremes.

D. Load Combinations
   1. Design metal building systems to withstand the load combinations as specified in the governing building code. Where the exclusion of live load or impact load would cause a more severe load condition for the member under investigation, then ignore the load when evaluating that member.

E. Design Considerations
   1. Minimum roof slope: 1/2 inch per foot or as shown on Drawings.
   2. Design structures and components for the following climatic conditions.
      a. Climatic Conditions:

Maximum design temperature:	110	degrees Fahrenheit
Minimum design temperature:	10	degrees Fahrenheit

   3. Roof panels in a standing seam roof system shall be free to move in response to the expansion and contraction forces resulting from a temperature variation. Assembly to permit movement of components without buckling, failure of joint seals, undue stress on fasteners or other detrimental effects, when subject to temperature range specified.

F. Deflections:
   1. Calculations for building deflections shall be performed using only the bare frame method. Reductions based on engineering judgment using the assumed composite stiffness of the building envelope shall not be allowed.
   2. Primary Framing:
      a. Horizontal Drift: H/80, not to exceed 2 1/2 inches, where H is the eave height of the building.
      b. Vertical Deflection: Per NYBC limits; L/450 for members supporting a monorail.
   3. Secondary Framing:
      a. Horizontal Deflection: L/360 for load cases that include wind and L/180 for load cases that include seismic.
      b. Vertical Deflection: Per NYBC limits.
   4. Deflections not listed above shall be in accordance with the applicable provisions of the AISC Steel Design Guide Series 3 – Serviceability Design Considerations for Steel Buildings.

G. Gutters and Downspouts
   1. Exterior gutters and downspouts shall be designed for rainfall intensity based upon a 5-year recurrence interval for a five-minute duration. Interior gutters, valleys, and downspouts shall be designed for rainfall intensity based upon a 25-year recurrence interval based on a five-minute duration.

H. Primary Framing and Anchor Bolts
   1. The column bases shall be designed as pinned connections. No moments shall be assumed to be transferred to the foundations.
   2. Anchor bolt design, size and arrangements shall be coordinated between the metal building manufacturer and the foundation design as shown on the Drawings. Anchor bolt arrangements shall meet the minimum bolt spacing requirements per AISC codes. Anchor bolt design shall meet the requirements of ACI 318 Anchoring to Concrete chapter.

I. Secondary Framing
   1. Purlins at the standing seam roofs shall be braced in accordance with FMRC standards when a standing seam roof is used. Where an accepted FMRC design does not exist, the design of the roof purlins and associated bracing shall meet or exceed

requirements in the latest version of the American Iron and Steel Institute (AISI) "North American Specification for the Design of Cold-Formed Steel Structural Members".

J. Metal Panels
   1. Roof paneling system shall be designed to support design snow load, wind loads, and live loads. Panels shall be designed to support a 200 pound load over a 2 foot square area centered between purlins without exceeding a panel deflection to span ratio of 1/180.
   2. Wall paneling system shall be designed to support design wind loads.

2.03 MATERIALS

A. Material specifications:

Material	Specification
Primary Framing Steel	
Mill-Rolled Structural Sections	ASTM A36, ASTM A572 Grade 50, or ASTM A992 as applicable
Built Up Sections	ASTM A572, ASTM A529, or ASTM A1011
Secondary Framing Steel	
Purlins, girts, eave struts, and "C" sections	ASTM A36, ASTM A572, ASTM A529, or ASTM A1011
Structural Bolts	
Steel	ASTM F3125 or ASTM A490
Galvanized Steel	ASTM F3125(Gr. A325 Type 1)
Anchor Bolts	
Galvanized	ASTM F1554, Hot Dip Galvanized
Stainless Steel	ASTM A193, Type 316, or A320, Type 316
Roof and Wall Panels	
Galvanized Steel	ASTM A653 Grade 80 or Grade 50 (Class 3)
Aluminum	ASTM B209

B. See Specification Sections 05 05 14, 05 05 20, 05 10 00 and 05 50 00 for additional metal material information.

2.04 MANUFACTURED UNITS AND COMPONENTS

A. Primary Framing System
   1. Interior Frames:
      a. Use clear span rigid frames. Interior columns are allowed only where indicated on the Drawings.
      b. Frames shall consist of tapered or straight columns and roof beams constructed from welded-up plate section or hot-rolled wide flange columns and beams complete with necessary splice plates for bolted field assembly.
      c. Bolts for field assembly of frame members shall be galvanized F3125 (Gr. A325 Type 1) high strength bolts.
   2. Endwalls

a. Use rigid moment frames at endwalls where allowance for future expansion is indicated on the Drawings or in the specification or when needed to allow for a clear opening (such as a roll-up door) that a brace would otherwise obstruct. Otherwise, a braced frame may be used at an endwalls.
b. Endwall frames shall consist of endwall corner posts, endwall roof beams and endwall wind columns as required.
c. At endwalls designed as rigid frames for building expansion, design and detail endwall wind columns for horizontal loading only (no gravity loading) and detail for future removal when the building is expanded.

3. Anchor Bolts
a. Design and supply the anchor bolts. The anchor bolt design, size and arrangement shall be coordinated between the metal building manufacturer and the foundation design as shown on the drawings. See Section 03 30 00 for concrete material information.
b. Anchor bolts shall be galvanized.

B. Secondary Structural Members
1. Roof Purlins and Wall Girts
a. Purlins and girts shall be G60 zinc-coated per ASTM A653. Purlins and girts shall be "Z" shaped, precision roll formed. The interior flange of girts shall be turned down to avoid forming a pocket for dust and debris.
2. Eave Struts
a. Eave Struts shall be 8 inch, 9 1/2 inch, or 11 inch deep "C" sections.
3. Bracing
a. Bracing may be located at perimeter walls in locations where it will not interfere with openings or future expansions as shown on the Drawings. Interior bracing is not allowed (i.e. vertical bracing to interior columns).
b. Diagonal bracing shall be hot-rolled rods and attached to columns and roof beams. Rods shall be furnished to length and equipped with bevel washer, cut washers and nuts at each end.
c. Rigid frame beam and column flange braces back to purlins or girts shall be cold formed.

C. Roof Panels
1. Roof panels shall be factory roll-formed roof panels. Panel material shall be 24 gauge minimum G90 zinc-coated per ASTM A653. Finish coating of the panels shall be as specified below in the “Finish” paragraph of this section.
2. Panels of maximum possible lengths shall be used to minimize end laps. Eave panels shall extend beyond the structural line of the sidewall.
3. Panel end splices shall be floating and allow the roof panels to expand and contract with roof panel temperature changes.
4. Ridge assembly shall be designed to allow roof panels to move lengthwise with expansion or contraction as the roof panel temperature changes. Panel closures shall be installed to seal the panel ends at the ridge.
5. Endwall trim and roof transition flashings shall allow the roof panel to move relative to the wall panels as the roof expands and contracts with temperature changes.
6. Roof System Performance Testing:

a. UL Wind Uplift Classification Rating, UL 580: Class 90.
b. Structural Performance Under Uniform Static Air Pressure Difference: Test roof system in accordance with ASTM E 1592.
c. Roof system has been tested in accordance with U.S. Army Corps of Engineers Unified Facilities Guide.
d. FM Global (Factory Mutual):
    1) Roof system has been tested in accordance with FMRC Standard 4471 and approved as a Class 1 Panel Roof.
    2) Metal Building System Manufacturer: Provide specific assemblies to meet required wind rating in accordance with FM Global.
    3) Installation modifications or substitutions can invalidate FM Global approval.

D. Roof Panels
1. 24 gage minimum, pre-painted G90 zinc-coated. Panels shall have a configuration consisting of 2 inches high standing seam, spaced at 16 inches on center. Panels shall be field-machine seamed in-place. Each panel shall provide 16 inches net coverage in width. The female panel seam shall have factory applied sealant.
2. Panel clips shall be a two part assembly designed for expansion capabilities of the roof panels. Top portion shall be aluminum coated steel. Bottom portion shall be zinc-coated steel.
3. Fasteners for connecting roof panels to secondary framing shall be No. 12 x 1-1/4 inch or No. 14 x 1 inch self-drilling carbon steel screws with a molded zinc alloy or capped stainless steel cupped hex washer head. Roof fasteners shall be assembled with an EPDM washer.
4. Fasteners for roof panel to flashing connections shall be No. 14 x 3/4 inch self-drilling carbon steel screws with a molded zinc alloy or capped stainless steel cupped hex washer head. Roof fasteners shall be assembled with an EPDM washer.
5. Fasteners for the roof panel clips shall be No. 12 x 1-1/4 inch self-drilling hex head, cadmium, or zinc plated screws.

E. Wall Panels
1. Insulated Metal Panels (IMP): Provide manufacturer's double-walled foam insulated panels complying with the following:
    a. Fabricate from 50-ksi metallic-coated steel sheets pre-painted with a coil-coating. The exterior panels are factory-formed, embossed with vertical lines. The interior panels are a planked design. The composite panels are 42-inches wide and 3-inches deep with offset tongue-and-groove side lap joints. Panels shall be secured with concealed fasteners. The panel core is foamed-in-place non-CFC polyurethane. Factory apply sealant at each interlocking joint.
    b. Material: Aluminum-zinc alloy-coated steel.
    c. Panel Metal Thickness Interior and Exterior: 26 gage.
    d. Color: Provide complete selection of manufacturer’s standard and custom colors for Owner selection. Reference construction drawings for further color selection requirements. Two separate colors are shown on the elevation drawings which should be designed as two separate panels.
2. Wall Panel Accessories:

a. Provide components required for a complete wall panel assembly, including trim, copings, mullions, sills, corner units, clips, seam covers, battens, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match materials and finishes of panels.

b. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.

F. Trims and Flashing

1. The system shall be complete with integrated pre-engineered trims and flashings to accommodate reasonable variances in tolerances and thermal movement. Minor flashings may be field fabricated.
2. Rake flashing, corner trim, eave trim, and all other necessary trim shall be 26 gage G90 zinc-coated, pre-painted, color to match wall panels.
3. Pipe flashing shall be of one piece construction and fabricated from an EPDM membrane and shall have an aluminum base formed to roof panel profile.
4. Trims and flashings shall be painted with the metal panel coating system listed below and shall match the color of the wall or roof panels.

G. Gutters and Downspouts

1. Gutters shall be 24-gage G90 zinc-coated, pre-painted, color coordinated to match wall panels.
2. Downspouts shall be rectangular, 28 gage G90 zinc-coated, pre-painted, color coordinated to match wall panels.
3. Gutters shall be provided on exterior of building along perimeter.
4. Downspouts shall be provided at corners. Intermediate downspouts shall be provided to limit spacing between downspouts to 50 feet.
5. Gutters and downspouts shall be painted with metal panel coating system listed below.

H. Insulation System

1. Wall and roof panels shall be insulated unless otherwise noted on design drawings. Provide fiberglass blanket insulation with UL flame spread classification of 25 or less. Insulating “R” values shall be as listed below:

Wall Insulating “R” values:	R-20
Roof Insulating “R” values:	R-30 / R-19-R-11LS

2. Fiberglass blanket insulation conforming to ASTM C665 shall be thickness required to achieve the specified R-values above.
3. Laminated Reinforced Vapor Barrier:
   a. Insulation facing shall be Lamtec WMP-50, white polypropylene film fiberglass & polyester scrim core metallized polyester or equal approved by Owner’s representative. The vapor barrier shall be adhered to the batt insulation, semi-gloss white side exposed, and shall have a .02 perm rating.
   b. The insulation blanket joints shall be sealed with 3 inch tabs along both sides of panels, including a factory applied 1 1/2 inch continuous adhesive strip to one

tab. Installation method shall be: Insulation panels are butted together, tabs are tape sealed and double folded, and double fold is stapled at 3 inches on center maximum spacing.

4. Rigid foam thermal blocks shall be cut from high density extruded polystyrene board stock (Dow Styrofoam Blue Board or Approved Equal), have a UL 25 flame spread rating and minimum thickness of 1 inch and minimum width of 3 inches.

I. Closures and Sealants

1. Preformed closed cell non-shrinking, laminated polyethylene closures along the eave, ridge, and rake for weather tightness.
2. 20 gage metal closures at standing seam roof panels, color coordinated with the same coating system as roof panels.
3. Sealant for end laps, roof flashing laps, ridges, and eave shall be tape mastic, 100% solid ethylene propylene copolymer tape.
4. Sealant for gutter and downspout joints, roof accessories shall be polyurethane.

J. Ventilation System

1. See Mechanical Drawings and Division 23.

K. Mandoors

1. See Architectural Drawings and Section 08 11 30.

L. Overhead Coiling Doors:

1. See Architectural Drawings and Section 08 33 23.

2.05 FINISHES

A. Coating of Primary Framing and Secondary Members

1. Primary structural steel framing and secondary steel, such as purlins and girts, shall be factory primed. Primer shall be selected by the manufacturer for compatibility with finish paint systems specified in Section 09 90 00, and capable of providing a sound substrate for site-applied topcoats, despite prolonged exposure without topcoat protection .
2. Prior to priming, steel shall be cleaned of loose rust, loose mill scale, dirt, and other foreign material.
3. Reference specification 09 90 00 for finish coatings.

B. Coating of Panels

1. The coating system for the exterior side of the roof, the interior and exterior side of the wall panels, the liner panels, the interior and exterior side of all trim, flashings, gutters and downspouts shall be a full strength, 70% Kynar 500®/Hylar 5000(TM) fluoropolymer coating, Flurothane IV system, or approved equal .
2. The interior side of the roof panels shall be coated with primer and a universal off-white polyester paint coat.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine and accept existing conditions before beginning work.

B. Check lines and elevations of concrete bearing surfaces.

C. Confirm locations of anchor bolts and similar devices before metal building erection proceeds.

D. Report discrepancies immediately to the Owner. Do not proceed with erection until corrections have been made, or until compensating adjustments to the steelwork have been agreed upon.

3.02 PREPARATION

A. Prior to performing work of this section, verify that work of other trades, as applicable, is complete for commencement of installation.

B. Obtain manufacturer's written instructions before commencing erection or installation.

3.03 ERECTION

A. Erect the work in accordance with Specifications, Drawings, and manufacturer's directions.

B. Conform to configurations and connections indicated on reviewed and accepted shop and erection drawings.

C. Accurately position and assemble structural framing to lines and members of framing system prior to permanent fastening.

D. Erector shall not make any field modifications to any structural member except as authorized and/or specified by manufacturer in writing, with a copy to the Owner.

E. Approved Field Modification: Perform in manner not to impair appearance, weather tightness, or structural quality of material or structure.

F. Install metal panels, fasteners, trim, louvers, and related items in conformance with approved drawings and requirements of manufacturers. Protect installed panels and structures from damage by other trades.

G. Temporary shoring and bracing: Provide members with connections of sufficient strength to bear imposed loads. Remove temporary members and connections when permanent members are in place and final connections have been made. Provide temporary guy lines to achieve proper alignment of structures as erection proceeds.

3.04 REPAIR/RESTORATION

A. Replace damaged panels and other components that cannot be repaired by finish touch-up or similar minor repair.

B. Touch-up coatings: Immediately after erection, clean field welds, bolted connections, and areas where coating is abraded. Apply coating to exposed areas using same material as used for shop coating.

C. Replace or restore the following to original condition:
   1. Surface finishes damaged prior to or during erection.
   2. Components where material and workmanship does not meet specified requirements.

D. Minor Scratches, Dents, And Holes: Repair and paint with similar enamel of thickness and color to match original coating.

3.05 FIELD QUALITY CONTROL

A. Manufacturer's Field Services: Metal Building Manufacturer's Representative shall be present at jobsite for installation assistance, inspection, and certification of installation.

B. The Owner's Special Inspector will inspect and indicate if work is in conformance with specifications. This inspection will include products, erection, welding, grouting and similar construction. The Inspector will verify that the work has been performed in accordance with AISC and this specification.

C. Maximum deviations from plumb, level, and alignment are not to exceed AISC specifications, and tolerances specified in this section.

D. Defective Work: Promptly remove and replace materials and fabricated components that do not comply. Furnish, perform, and install to specified requirements.

3.06 CLEANING

A. Upon completion of the services, the Metal Building Manufacturer and their installation Contractor shall remove excess materials, tools, scaffolds, and rubbish which has accumulated on the premises and leave same in a clean and satisfactory condition.

END OF SECTION

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ADDENDUM NO. 7

ATTACHMENT NO. 11

SECTION 23 05 23.13

THREE-WAY MIXING CONTROL VALVES FOR HYDRONIC PIPING

PART 1 GENERAL

1.01 DESCRIPTION

A. Scope:
   1. This section specifies three-way mixing control valves with electric operators for water mixing service on hydronic systems and process applications. Three-way mixing control valves specified in this section shall be for converging flow and modulating operation.

B. Operation:
   1. Valves shall be continuously modulated by the plant control system to maintain a process temperature. Power and/or signal failure shall result in valve position as indicated on the control valve schedule in paragraph 1.03.

1.02 REFERENCES

A. This section contains references to the following documents. They are a part of this section as specified and modified. Where a referenced document contains references to other standards, those documents are included as references under this section as if referenced directly. In the event of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.

B. Unless otherwise specified, references to documents shall mean the documents in effect at the time of Advertisement for Bids or Invitation to Bid (or on the effective date of the Agreement if there were no Bids). If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing, references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued or replaced.

Reference	Title
ANSI B16.1	Cast Iron Pipe Flanges and Flanged Fittings, Class 25, 125, 250, and 800
ISA S75.02	Control Valve Capacity Test Procedure
NEMA ICS 2	Industrial Control Devices, Controllers, and Assemblies

1.03 CONTROL VALVE SCHEDULE

Valve number	Line size, inches	Max pressure loss at nominal flow, PSI	Normal flow, GPM	Failure position	Operator
V2041	2	2.0	45	In-place	Electric
V2042	2	2.0	45	In-place	Electric

Valve number	Line size, inches	Max pressure loss at nominal flow, PSI	Normal flow, GPM	Failure position	Operator
V2043	2	2.0	45	In-place	Electric
V2051	3	2.0	140	In-place	Electric
V2052	3	2.0	140	In-place	Electric

1.04 SUBMITTALS

A. The following information shall be provided in accordance with Section 01 33 00:

1. A copy of this specification section, with addendum updates included, and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate specification compliance or marked to indicate requested deviations from specification requirements. Check marks (✓) shall denote full compliance with a paragraph as a whole. If deviations from the specifications are indicated, and therefore requested by the Contractor, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Construction Manager shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined will signify compliance on the part of the Contractor with the specifications. Failure to include a copy of the marked-up specification sections, along with justification(s) for any requested deviations to the specification requirements, with the submittal shall be sufficient cause for rejection of the entire submittal with no further consideration.
2. A complete description of the valves, including catalog cuts, and accessories sufficient to demonstrate compliance with these specifications.

1.05 VALVE SIZING

A. Where the specific valve is smaller than the connected pipe, the Contractor shall provide reducers. The pressure drop across each valve for the purpose of actuator sizing shall be the test pressure for the service as listed on the PIPESPEC sheets in Section 40 05 01. Cv values shall be as determined by ISA-S75.02.

PART 2 PRODUCTS

2.01 ACCEPTABLE PRODUCTS

A. Valves shall be Fisher, Masoneilan, Johnson Controls, or approved equal, modified as necessary to provide the specified features and performance.

B. Control valve operators shall be per Section 40 05 57.23.

2.02 MATERIALS

A. Control valves shall be constructed of the following materials:

Component	Material
Body	Bronze, cast iron, brass, or semisteel

Component	Material
Trim, throttling plug	Bronze, brass, or Type 304 stainless steel
Packing	Teflon

B. Materials specified are considered the minimum acceptable for the purposes of durability, strength, and resistance to erosion and corrosion. The Contractor may propose alternative materials for the purpose of providing greater strength or to meet required stress limitations. However, alternative materials must provide at least the same qualities as those specified for the purpose.

2.03 MANUFACTURE

A. Control valves shall be three-way throttling (modulating) type mixing valves and shall have single-seated valve plugs. Valves 2 inches and smaller shall have NPT threaded connections; valves 2-1/2 inches and larger shall have 125-pound ANSI flanges.

2.04 OPERATORS

A. Electric:
   1. Electric valve operators shall operate on 480V ac power and control signal per Contract Instrumentation Drawings. Operators shall be of the type specially designed for mixing valve control service.
   2. Operators shall have solid state control circuitry and drive circuitry.

2.05 PRODUCT DATA

A. Applicable operation and maintenance information specified in Section 01 78 23 shall be provided in accordance with Section 01 33 00.

PART 3 EXECUTION

3.01 INSTALLATION

A. Three-way mixing control valves shall be installed in accordance with the manufacturer's recommendations.

3.02 TESTING

A. After completion of installation, each valve shall be completely field-tested in accordance with Section 01 45 20 to guarantee compliance with these specifications.

END OF SECTION

ADDENDUM NO. 7

ATTACHMENT NO. 12

SECTION 46 76 53

BELT DRYER EQUIPMENT

PART 1 GENERAL

1.01 SCOPE

A. This section specifies the scope of supply for the Biosolids Thermal Drying System (hereinafter "System"), including biosolids dryer, wet sludge storage and transport, dried product discharge, and instrumentation and controls, and required installation and testing support.

B. The System shall be provided as a completely integrated system by the dryer system supplier (Supplier).

C. It is the intent of this Specification to describe the process and major components comprising the System and to establish the minimum quality standards for equipment, materials, construction, process performance, and acceptance.

D. Equipment and components not appearing in this Specification, but necessary for the complete system are not eliminated by reason of such omission and shall be provided by the Supplier unless specifically noted as being provided by Contractor.

1.02 EQUIPMENT

A. Supplier shall be responsible for process design and equipment sizing, selection and procurement required for all equipment provided as part of the System. The System shall be designed and supplied in accordance with this section of the Specifications. Supplier shall provide all necessary design, installation instructions and operating information for equipment within the scope of supply identified in this section and Contract Documents.

B. The System shall include the following main components or sub-systems and meet the Specifications of this section:
   1. Wet Sludge Storage And Feed
   2. Belt Dryer
   3. Recirculated Drying Air Treatment and Cooling System
   4. Process Heater
   5. Off-Gas Handling System
   6. Cooling Tower and Loop
   7. Control Panel
   8. Motors According To 43 05 21
   9. Field Instruments
   10. Interconnecting Piping And Duct-Work Between System Components
   11. Dried Product Discharge Conveyor
   12. Dried Product Vertical Conveyor
   13. Standard Recommended Spare Parts/Components

C. Supplier shall coordinate process engineering and design support for the System as follows:
   1. Process Flow/Piping and Instrumentation Diagrams
   2. Dimensional Layout Drawings Including Wet Sludge Storage And Feed Systems
   3. Installation Details
   4. Start-Up and Operation Instructions
   5. Electrical and Control Diagram(s)
   6. Parts and Spare Parts List(s)
   7. Operation and Maintenance Manuals
   8. Manufacturer design parameters

D. Supplier shall provide the field services necessary to start-up, test, train, commission, and operate the System in accordance with Division 01 and Section 43 05 11.

E. Equipment furnished under this section shall be fabricated, assembled, erected, and placed in proper operation condition in full conformity with the Drawings, Specifications, engineering data instructions, and recommendations and requirements of the Supplier and equipment manufacturer.

F. All equipment and instrumentation furnished under this section shall be off-loaded, placed, and installed by the Contractor. Contractor shall be fully responsible for all coordination with the Supplier. Some items referenced in this section shall be provided separately by the Contractor. These items include, but are not limited to, industrial ductwork (from dryer system to exhaust), process water piping, potable water piping, drain piping, compressed air piping, digester gas piping, natural gas piping, power supply, and wiring. Contractor shall be responsible for identifying and providing these items.

G. Anchor bolts shall be designed by the Supplier and provided/installed by the Contractor. Anchor bolts shall be stainless steel, type 304 and in accordance with Section 05 05 20. Anchor details shall be as specified in the Drawings.

H. Standard recommended spare parts/components shall be provided prior to commissioning of the dryer system.

1.03 QUALITY ASSURANCE

A. Reference standards:
   1. This section contains references to the following documents. They are a part of this section as specified and modified. Where a referenced document contains references to other standards, those documents are included as references under this section as if referenced directly. In the event of conflict between the requirements of this section and those of the listed documents, the requirements of this section shall prevail.
   2. Unless otherwise specified, references to documents shall mean the documents in effect at the time of Contact Document publishing. If referenced documents have been discontinued by the issuing organization, references to those documents shall mean the replacement documents issued or otherwise identified by that organization or, if there are no replacement documents, the last version of the document before it was discontinued. Where document dates are given in the following listing,

references to those documents shall mean the specific document version associated with that date, regardless of whether the document has been superseded by a version with a later date, discontinued or replaced.

Reference	Title
AISC	Manual of Steel Construction
ASME	Boiler and Pressure Vessel Code, Section VIII, Division 1
ASTM E1226	Standard Method for Explosibility of Dust Clouds
ASTM E2021	Standard Test Method for Hot-Surface Ignition Temperature of Dust Layers
ASTM E1515	Standard Test Method for Minimum Exposable Concentration of Combustible Dusts
ASTM E2019	Standard Method for the Minimum Ignition of a Dust Cloud in Air
IBC	International Building Code, locally amended
NFPA 55	Standard for the Storage, Use, and Handling of Compressed Gases
NFPA 68	Guide for Venting of Deflagrations
NFPA 69	Standard on Explosion Prevention Systems
NFPA 654	Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids
NFPA 820	Standard for Fire Protection in Wastewater Treatment and Collection Facilities

3. The design standards of the following issuing organizations are referenced, and the supplied equipment shall be designed and installed in accordance with these standards.
   a. American Gear Manufacturers Association (AGMA)
   b. American National Standards Institute (ANSI)
   c. Conveyor Equipment Manufacturers Association (CEMA)
   d. Factory Mutual (FM)
   e. Institute of Electrical and Electronics Engineers (IEEE)
   f. Industrial Risk Insurers (IRI)
   g. Instrument Society of America, International Society of Automation (ISA)
   h. National Electric Manufacturer's Association (NEMA)
   i. National Electric Code (NEC)
   j. Occupational Safety and Health Administration
   k. Underwriters Laboratory (UL)

B. Unit Responsibility: The Supplier is assigned unit responsibility, as specified in Section 43 05 11, for the System provided under this section. The Supplier is the unit responsibility manufacturer and has unit responsibility, as specified in Section 43 05 11, for both the equipment assembly specified in this section and for the motors specified in section 43 05 21, and all other equipment assembly components specified elsewhere but referenced in this section. A completed, signed, and notarized certificate of unit responsibility (form 43 05 11-C, Section 01 99 90) shall be provided.

C. Factory Testing: The dryer, process heater, and conveyors, as a minimum, be factory tested according to the Supplier's recommended and standard factory testing procedures. The factory tests shall show that all equipment meets the performance requirements of the Supplier and as specified herein. Any pressure vessel shall be tested according to ASME pressure vessel standards. The Supplier shall notify the Project Representative a minimum of two weeks prior to commencing the tests. The Contractor

and/or Project Representative reserve the right to witness the factory tests. Test results shall be signed and certified by an officer of the manufacturing corporation. Supplier shall provide factory test results as Product Data.

D. Shipment Protection and Storage: the equipment shall be protected during shipment and storage as specified in Section 01 66 00.

E. Equipment and materials provided as part of the dryer system shall meet or exceed industry standards of quality and performance. This includes operation and transfer of materials to consecutive systems without excessive noise, vibration, wear, or leakage of solids, process air, steam, lubricants, or other fluids, etc. Quality and performance standards for these items are further defined in this section and specified in Section 43 05 11.

1.04 SUBMITTALS

A. The Supplier shall provide submittals according to Section 01 33 00. Submittals shall include the following at a minimum:

1. A copy of this Specification section and all referenced and applicable sections, with addendum updates included, with each paragraph check-marked to indicate Specification compliance or marked to indicate requested deviations from Specification requirements or those parts which are to be provided by the Supplier. Check marks (✓) shall denote full compliance with a paragraph as a whole. If deviations from the Specifications are indicated, and therefore requested by the Supplier, each deviation shall be underlined and denoted by a number in the margin to the right of the identified paragraph, referenced to a detailed written explanation of the reasons for requesting the deviation. The Project Representative shall be the final authority for determining acceptability of requested deviations. The remaining portions of the paragraph not underlined will signify compliance on the part of the Supplier with the Specifications. Failure to include a copy of the marked-up Specification sections, along with justification(s) for any requested deviations to the Specification requirements shall be cause for rejection of the entire submittal and no further submittal material will be reviewed.
2. A copy of the control diagrams, process and instrumentation diagrams and mechanical layout drawings relating to the submitted equipment, with addendum updates that apply to the equipment in this section, marked to show specific changes necessary for the equipment proposed in the submittal. If no changes are required, the Drawing or Drawings shall be marked "no changes required". Failure to include copies of the relevant Drawings with the submittal shall be cause for rejection of the entire submittal with no further review.
3. Certificate of Unit Responsibility Form 43 05 11-C, attesting that the Supplier has assumed unit responsibility in accordance with the requirements of this section and Section 43 05 11. No other submittal material will be reviewed until the certificate has been received and found to be in conformance with these requirements.
4. A process flow diagram, including a heat and mass balance for the dryer design point and maximum capacity.
5. Process and instrumentation diagrams
6. Process control descriptions detailing how each piece of equipment operates individually and as a part of the complete sludge drying process.
7. Equipment list, including motors, valves, and instruments.

8. Detailed layout drawings, showing plan and section views for the entire system. Layout drawings shall indicate required coordination with all interconnected equipment, piping, and duct systems.
9. Detailed installation manual and drawings showing equipment layout, and the size and location of all pipe, duct, electrical, instrumentation and structural connections. Locations of the grounding lug shall be clearly marked on the Drawings.
10. Manufacturer's data including catalog cuts and model numbers, materials of construction and equipment weight, including a listing of equipment components and materials.
11. Sample calculation of the emissions rates in wet ppm as required to interpret emissions testing results.
12. Motor submittal information as specified in Section 43 05 21.
13. Connected electric power and maximum consumed electric power calculations.
14. Predicted factory performance curves developed for the supplied air compressor, fans, and pumps. Performance curves shall show speed, capacity, pressure, and horsepower for the specified conditions. Include design calculations for sizing of the air compressor and compressed air receiver if applicable.
15. Design calculations and sizing data for conveyor equipment.
16. Dimensions of the largest piece for both assembly and disassembly. Include the weight of the heaviest component for both assembly and disassembly.
17. Anchor bolt system design, including number of anchor bolts, anchor bolt diameters, and embedment depth and a template of anchor bolt layout, as specified in Section 43 05 11.
18. Electrical Schematics, panel layouts, instrumentation sheets, and product data sheets for all electrical equipment. Include one-line diagrams, power plans, and motor location plans
19. Submittal requirements for control panels and control devices in accordance with Division 40 67 00. Include wiring diagrams, elementary diagrams, loop diagrams, control system network diagram, electric motor control schematics.
20. The test plan for the System, including ancillary equipment and integration with the dewatering system, shall be included in the test plan provided as part of Section 01 79 00. Test plan shall include provisions for air emissions testing.
21. Utility requirements for the System during normal steady state operation at low heating value for electrical, natural gas, cooling water (plant utility water), and quench water (non-potable water). Electrical utility requirements shall include system voltage and amperage required. Natural gas requirements shall include flow and pressure upstream of the gas control equipment and be based on a nominal heating value of 1,000 BTU/SCFT when the system is operating at the design evaporation rate. Cooling and quench water requirements shall include both pressure and flow requirements at the interface points shown on the Drawings and be based on maximum water temperature of 75°F.
22. A list of spare parts and special tools (if required)
23. Design parameters and documentation of all safety measures as required by NFPA 652. Documentation shall include, but not be limited to, design calculations, combustible material properties report, vent relief path, and explosion vents data and calculations. Calculations shall conform to applicable ASTM and NFPA standards.
24. Performance Affidavit specified in this section.

25. Provide heat load calculations for the control panels
26. Supplier shall provide operation and maintenance manuals as Product Data. The manuals shall be prepared specifically for this installation and shall include all required as-built cuts, drawings, equipment lists, descriptions, design information, such as flow rates, solids loading rates, operating temperatures, equipment troubleshooting, and other information that is required to instruct operation and maintenance personnel unfamiliar with such equipment.
27. Provide a backup of all PLC and Operator Interface application software used in the production of the belt dryer on electronic media for program reloading and troubleshooting, without password protection or other means to prevent software access.

1.05 SERVICE REQUIREMENTS

A. Service Conditions:

1. The System shall operate under the following service conditions. Environmental conditions shall be as described in Section 01 11 80.

Dryer Feed Material Characteristics	Description
Type	Dewatered municipal wastewater sludge cake, which will exhibit abrasive characteristics. Sludge will be processed through anaerobic digesters and belt filter presses prior to drying.
Feed Material pH	6-8
Dry Solids Content	Average 20%, Range: 18-26%
Volatile Solids Percent of Total Solids	55-70%
Feed Material Temperature	55-95 deg F
Density	40-65 pounds per cubic foot
Grease Content	<5% by weight*
Ash Content	<40% by weight

** All grease imported to the Auburn WWTP will be processed in the anaerobic digesters to be constructed as part of the Auburn Biosolids Process Improvements Project. Average anaerobic digester solids retention time will be at least 20 days.*

2. The equipment herein specified shall meet classification requirements as specified in Division 26.
3. Plant effluent will be provided according the System Supplier's requirement.
4. The dryer shall be capable of operating in a blended, dual fuel configuration with both digester gas and natural gas. The Supplier will provide either of the process heater configurations described below and be capable of operating using the digester gas parameters listed below.
    a. Two separate process heaters that can independently utilize digester gas or natural gas and operate together to automatically meet the dryer demand.
    b. A single process heater with an upstream fuel blending system capable of analyzing the digester gas fuel inlet and modulating the feed rate of natural gas to meet the dryer demand.
5. No data is available for digester gas as the digesters will be new at the time of dryer installation, expected digester gas parameters are listed below.

Parameter	Value
CH_4 Content	55-60% by volume
CO_2 Content	35-45% by volume
Sulfides Content	Up to 300-ppm by volume
Siloxane Content	0.25-10.0ppm by volume
Moisture Content	Effectively no free water
Pressure	Up to 7 psig

Notes:

[1] Methane and carbon dioxide values represent percent by volume as a dry gas.

[2] Sulfides are expected to comprise 90 percent or more hydrogen sulfide.

[3] Siloxanes: Volatile silicon based compounds including octamethylcyclotetrasiloxane (D4), decamethylcyclopentasiloxane (D5) and dodecamethylcyclohexasiloxane.

1.06 PERFORMANCE CRITERIA

A. The dried product system shall be specifically designed to dry and convey anaerobically digested biosolids product from a municipal wastewater treatment plant.

B. The System shall treat biosolids to meet Class A pathogen and vector attraction reduction requirements under 40 CFR 503 and the requirements of this section, when operated as specified in this section.

C. The System shall be designed for continuous drying of the feed material without interruption.

D. The dryer portion of the System shall be designed to meet the following design requirements.

1. The System shall be designed based on the following process parameters.

Parameter	Unit	Value
Number of Dryer Trains	Quantity	1
Average System Processing Capacity (Wet Sludge) at 20% DS	Wet Pounds/Hour	2,000
Average System Evaporative Load (Water)	Pounds/Hour	1,600
Rated System Processing Capacity (Wet Sludge) at 20% DS	Wet Pounds/Hour	~~4,000~~ **3,500**
Rated System Evaporative Load (Water)	Pounds/Hour	~~3,200~~ **2,750**
Dried Biosolids Solids Content	%	92-94
Operating Duty	Hours/Day	24
Minimum Calendar Days Available for Service	Days/Year	335
Primary Fuel Type	-	Untreated digester gas (550 BTU/cf heating value)
Secondary Fuel Type	-	Natural gas

Parameter	Unit	Value
Maximum Fuel Consumption Efficiency at Dryer Feed Capacity	BTU/Lb Water Evaporated	<1,600
Consumed Electric Power Maximum under design load	kW	<230
Process heater type	-	Direct-fired air heater
Equipment Installation	Location	Indoors

2. Dried Biosolids product produced by the System shall meet the following parameters.

Dryer Product Characteristics	Description
Type	Dried wastewater sludge
Temperature	135 degrees F (max) at product discharge to storage
Characteristics	Granular product that can be spread readily with a representative fertilizer spreader

E. Air Emissions Performance Criteria

1. The dryer system shall not exceed the following air emission parameters when operating with either natural gas or digester gas. All parameters assume operation at full design load with 100% digester gas.

Parameter	Value
Process Heater Nitrogen Oxides (NOx) Emissions	< 130 ppm at 3% O_2.
Process Heater Carbon Dioxide (CO2) Emissions	7.5% Min 9.5% Max
Process Heater Carbon Monoxide Emissions	< 450 ppm at 35 O_2

1.07 PERFORMANCE GUARANTEES

A. Supplier agrees to fulfill all performance obligations set forth in Paragraph 1.06. For a period of one year from Final Acceptance, if the Equipment fails to meet the Performance Criteria for reasons other than the External Causes, and Supplier refuses or is unable to cure the default, Supplier shall be liable to Owner for the remedy set forth as follows. Where the remedy is liquidated damages, the parties agree that such liquidated damages are not a penalty, but a reasonable forecast of the damages that will be sustained by Owner in the event of default. In case of multiple defaults, Owner will be entitled to a remedy for each separate default. Damages assessed under this Exhibit shall be limited to a total not to exceed 100% of the value of the Equipment contract. If Supplier is liable to Owner for damages, Owner shall send the Supplier an invoice for such damages, and the Supplier shall pay such invoice within thirty (30) days of its receipt by Supplier.

Default	Remedy
Equipment unavailable for service for more than seven days in a calendar month during the Performance Guarantee Period or for more than seven consecutive days	Liquidated Damages due to unavailability of Equipment are: LD = (NDAYS- 3DAYS) X ($1,000.00/day). Where: LD= Liquidated Damages N = Number of days equipment was unavailable for service in a calendar month. If N is less than 4, 3 shall be used in the Damages calculation. This calculation shall be evaluated for each month of the Performance Guarantee Period to arrive at the total Liquidated Damages. Liquidated Damages due to Equipment being unavailable for more than three consecutive days are applied when consecutive days fall over two or more months. Liquidated Damages for consecutive days of unavailability are assessed for days not covered under the damages for monthly days of unavailability stated above. This calculation shall be evaluated for each month of the Performance Guarantee Period. LD= (D-7) X ($1,000.00/day) Where: LD= Liquidated Damages (Per occurrence) D =Number of consecutive days equipment was unavailable if D is greater than three days. If D is less than 4, 3 shall be used in the Damages calculation.
Failure to meet Class A requirements under 40 CFR 503, **but achieves production of a Dried Biosolids with a solids content greater than 75%. Production of a product of lesser solids content value will be considered "unavailable for service"**	Liquidated Damages of: LD = (Tons) X ($~~78~~ **50**/ton). Where: Tons = Wet tons of non-Class A biosolids produced per year during Performance Guarantee Period
Failure to reach minimum processing capacity	Liquidated Damages of: LD = (Tons) X ($78/ton). Where: Tons = Wet tons of biosolids processing shortfall per year during Performance Guarantee Period

Default	Remedy
Failure to achieve rated fuel consumption efficiency at dryer feed capacity	Liquidated Damages of: LD = ((242,800-52,800) X 52) X ((ABTU - 1,600) / 100,000) X CT Where: 242,800 = Total pounds of sludge processed per week @20% solids 52,800 = Total pounds of sludge processed per week @92% solids ABTU = Actual BTU/Pound input to the process heater for each pound of water removed if greater than 1,600 BTU/Pound 1,600 = Maximum allowable input to the dryer, BTU/Pound of water evaporated CT= ($0.30) unit cost per therm (dollars).
Dryer exceeds maximum electric power under design load	If kWA is greater than ~~230~~ **325** kW, Liquidated Damages of: LD = (kWA – 130 kW) X (Hours) X $0.065/kWh Where kWA= Measured kW Hours = Number of hours equipment operates per year
Temperature for dryer product exceeds 135 degrees F by more than 5 degrees as measured at the discharge of the cooling conveyor	Supplier will install, at its own cost and expense, additional cooling equipment to affect a remedy
Emissions materially deviate from performance criteria	Supplier will install, at its own cost and expense, additional emissions control equipment to affect a remedy

B. If Supplier fails to meet performance criteria outlined in this this section five times or more within the 12-month performance guarantee period, the 12-month performance guarantee period shell be reset to begin from the date of the fifth deviation from the performance criteria.

C. The Supplier shall submit a Performance Affidavit certifying that the Supplier has examined the Specification and that the equipment provided will meet the performance requirements set forth in the Specification. The Performance Affidavit shall be signed by an officer of the corporation, partnership, or company manufacturing the System and shall be witnessed by a notary public. The Performance Affidavit shall include a performance guarantee for a period of 12 months from the acceptance date.

1.08 OPERATION AND MAINTENANCE

A. Supplier shall provide operation and maintenance manuals as Product Data per Part 3. The manuals shall be prepared specifically for this installation and shall include all required cuts, drawings, equipment lists, descriptions, design parameters, troubleshooting information and other information that is required to instruct operation and maintenance personnel unfamiliar with such equipment.

B. A factory trained representative with knowledge of the proper system operation and maintenance shall be provided to instruct representatives of the Owner and Contractor

on proper operation and maintenance of the system and equipment as indicated in this section. The instruction shall be conducted in conjunction with the inspection of installation and start-up assistance as provided under Part 3. The Supplier shall be provided with a minimum of 3-weeks' notice prior to the date personnel are requested to be on site.

1.09 EQUIPMENT SHIPMENT, PROTECTION, AND HANDLING

A. Equipment shall be shipped, protected, and handled according to Section 01 66 00

B. Equipment, including spares shall be shipped by the Supplier or the Supplier's vendor. The Contractor shall be responsible for receiving, unloading, and properly storing the equipment in accordance with Supplier's instructions. Promptly upon the arrival of any equipment components at the job site or first shipping destination, the Contractor shall prepare a Supplier's receiving report and submit a copy thereof to the Supplier. The receiving report is to note equipment receipt and all evidence of damage in transit, if any. Confirmation of inspection shall be no later than 10 days after receipt of delivery.

C. Finished iron or steel surfaces not required to be painted, such as flange faces, shall be properly protected to prevent rust, corrosion, and damage.

D. Each box or package shall be properly marked to show its net weight in addition to its contents.

1.10 WARRANTY

A. The Supplier warrants to the Owner and Contractor that the dryer System is appropriate for the intended service, will achieve the performance requirements indicated herein, and is free from manufacturing and fabrication defects in material and workmanship.

B. A minimum full replacement warranty period of 12 months after date of installation is required. The date of installation for warranty purposes is considered to be the date that the Notice of Substantial Completion for the project is issued following equipment Acceptance Tests.

C. In the event of a failure during the warranty period, the Owner/Contractor shall notify the Supplier in writing within 10 calendar days of discovery. The Supplier shall either agree on a resolution with the Owner/Contractor, or the Supplier representative shall be onsite within a minimum of 48 hours from written notice to investigate the failure.

D. Warranty shall include the full cost of replacement parts and labor to repair the failure. Any labor to be covered under the warranty must be approved by the Supplier before labor is performed.

E. Warranty will include premature wear on non-consumable parts from chemical action or abrasion provided that:
   1. Wear is inconsistent with expected wear from typical municipal WWTP anaerobically digested sludge.
   2. Products have been stored, installed, operated, and maintained according to Supplier instructions.

3. Products have not been exposed to materials or operating conditions other than those outlined in this section.

1.11 PATENT

A. The Supplier shall assume all costs of patent fees or licenses for equipment or processes, and shall safeguard and save harmless the Contractor and their agents from damages, judgments, claims and expenses arising from license fees or claimed infringements or any letters of patent or patent right, or because of royalty or fee for the use of any equipment or process, structural feature or arrangement of any of the component parts of the installation; and the price stipulated for all such patent fees, licenses, or other costs pertaining thereto.

1.12 DRIED PRODUCT PARAMETERS

A. For sizing of dryer equipment safety systems, the following estimated parameters have been provided for the convenience of the Supplier. Supplier shall arrange to laboratory test the City of Auburn product to determine the specific parameters once the anaerobic digesters are operational. Supplier shall provide a conservative design for safety and dust control within the dryer system.

Parameter	Value	Test Standard
K_{st}	150 bar-m/s	ASTM E1226
Maximum Explosion Pressure: P_{max}	8 bar	ASTM E1226
P_{red} (bar) [1]	-	NFPA 68
$P_{initial}$ (bar) [2]	1.0	NFPA 68
P_{stat} (bar) [3]	-	NFPA 68
Minimum Ignition Energy in a Dust Cloud: MIE	500 mJ	ASTM E2019
Minimum Ignition Temperature: MIT		
Dust Cloud	480 deg-C	ASTM E1491
Dust Layer	220 deg-C	ASTM E2021
Minimum Explosible Concentration: MEC	120 g/m^3	ASTM E1515

1. The reduced pressure shall not exceed two-thirds of the ultimate strength of the vented enclosure (NFPA 68, 6.3.1.1, 2013).
2. The initial pressure in the system is assumed to be atmospheric. During normal operation of the dust control system, the pressure is less than atmospheric. If a pressure different than specified is proposed, Supplier shall clearly indicate the reasoning for this change.

B. When dewatered cake is available with operational anaerobic digesters, the Supplier shall collect sample(s) and conduct testing to obtain actual parameters per NFPA 652 requirements. Supplier shall provide the services of an independent, third party to conduct the test and submit a report. Supplier shall then confirm safety system design of the dryer system. Provide test report and safety system design confirmation as Product Data.

1.13 ROOM CLASSIFICATION

A. The System shall be installed in a new Dewatering and Drying Building- Dryer Area. The electrical classifications shall be as follows according to NFPA 820.

Area/Room/Process	Classification
Within dryer vessel	Class II, Div 1
Dryer and conveyors, within 10’	Class II, Div 2
Digester gas processing equipment, within 5’	Class I, Div 1
Digester gas processing equipment, within 10’	Class I, Div 2

B. All equipment provided shall be in conformance to these classifications. This includes equipment provided under other sections of these Contract Documents.

PART 2 PRODUCTS

2.01 ACCEPTABLE SUPPLIERS

A. The System indicated on the contract drawings and specified herein is a 1040 Dryer as manufactured by Gryphon Environmental, LLC in Owensboro, Kentucky, modified as necessary to meet the requirements specified herein.

B. Only the System specified in the Contract Documents shall be used to compute the Base Bid. Alternate belt dryer systems, as provided by other System Suppliers, may be considered as a substitution; however, System substitutions will only be considered after the agreement has been executed in accordance with the General Conditions. This requirement is not intended to restrict competition, but is for the purpose of establishing the desired standard of quality and mechanical features without ruling out comparable competitive equipment. The decision to award System substitutions will be at the sole discretion of the Owner after the effective date of the agreement.

1. System substitutions which differ in detail and arrangement from that shown may require changes in design and construction. All costs which result from such changes in design and construction are to be borne entirely and unconditionally by the Contractor; said costs to include but not be limited to structural, piping, mechanical and electrical changes and all engineering costs incurred as a result of the substitution, in the revision of Contract Documents, review of design changes by others, preparation of change orders, and any other costs directly resulting from said substitution

2.02 GENERAL

A. The equipment covered by these Specifications is intended to be standard process equipment of proven ability as manufactured by reputable companies having long experience in the production of such equipment. However, the equipment shall be modified, as necessary, to meet the requirements in these Specifications and the specific application. The equipment provided shall be designed, constructed, and installed in accordance with the best practices, methods, and Supplier’s recommendations and requirements; and shall operate satisfactorily after installation. Equipment shall be sized and selected by the Supplier.

B. All parts shall be so designed and proportioned as to have liberal strength and stiffness and to be especially adapted for the work to be done and material to be handled. Ample room and facilities shall be provided for inspection, repairs, and adjustment.

C. The nameplate rating for the motors shall not be exceeded, nor shall the design service factor be reduced when its piece of equipment is operating at any point on its characteristic curve. Reference 43 05 21 for motor requirements.

D. All equipment furnished under this Specification section shall be new and unused.

E. All equipment, vessels, piping, and duct work shall be bonded and grounded per NFPA. Metal to metal bolted connections shall be considered bonded.

F. Any moving parts shall be protected by guards to prevent accidental contact and shall conform to Section 43 05 11. Chemical and fade resistant nameplates shall be according to 43 05 11 and shall be affixed to the equipment where equipment may start automatically, have rotating parts, or heat zones. Nameplates shall be displayed in areas that are visually obvious and shall have black print on yellow background.

G. The Supplier shall supply all motors and drive components for this equipment. All motors shall be totally enclosed, fan-cooled (TEFC) horizontal, severe duty, energy efficiency motor designed to meet specified operating conditions, unless otherwise specified. Motors shall be suitable for continuous 24-hour operation and shall be of sufficient horsepower, exclusive of the service factor, to operate the equipment over its full operating range, including start-up loads, without overloading. Motor lubrication may be grease or oil type P. Motors shall comply with Specification 43 05 21. Dryer equipment motor starters and variable frequency drives will be included in the Supplier's control panel.

H. All conveyors and other dried product handling equipment shall be enclosed to avoid fugitive dust or odors.

I. Structural steel and support design shall exceed minimal design deflection requirements per AISC and meet all requirements of the IBC. Unless otherwise specified, structural steel supports shall be hot-dipped galvanized after fabrication or stainless steel.

J. Unless otherwise specified, platforms and grating shall be according to 01 73 24 and Division 05.

K. All dryer system equipment shall be supported independently from either the existing floor slab or the new dryer foundation to be constructed by the Contractor.

2.03 WET SLUDGE STORAGE AND TRANSPORT PRIOR TO DRYING

A. The Supplier shall provide a means to store at least 4 cubic yards of wet (dewatered) sludge (or cake) and transfer the wet sludge to the dryer feed system. The Contractor will provide wet sludge transport to the Supplier's wet sludge storage system. Wet sludge storage shall be achieved through a cake hopper mounted above the dryer feed mechanism.

B. Dryer Mounted Cake Hopper

1. Cake hopper complete with mounting and support frame, live bottom, electrical controls, access ladder, top handrails, safety accessories and all appurtenances specified or required for a complete and operable system. The equipment and all appurtenances will be installed as recommended by the Supplier and in compliance with all OSHA, local, state and federal codes and regulation.

2. Cake Hopper shall be sized and selected to meet the following:
   a. Number of Wet Cake Hoppers: 1
   b. Minimum Usable Volume Per Hopper: 4 yd^3
3. Wet cake hopper shall be self-supporting with structural steel support and framing required for mounting to the dryer system. All necessary cross bracing and reinforcing members shall be fabricated within the support system. A 4-inch plate flanged connection shall be provided to drain the hopper during maintenance activities. Intermediate supports within the hopper will not be acceptable. Support system to be designed and stamped by a State of New York Professionally Licensed Engineer.
4. Unless otherwise specified, the materials used in the fabrication of the equipment under this section shall conform to the following:
   a. Hopper: T-304 stainless steel
   b. Inlet/Outlet Chutes: T-304 stainless steel
   c. Supports: A53, A36 Carbon Steel, HDG
   d. Shaftless Live Bottom Screws: A8620 steel, primed.
   e. Live Bottom Pan/Trough: T-304 stainless steel
   f. Bolts, Nuts, and Washers: 18-8 Stainless Steel
   g. Handrails: Aluminum
   h. Ladder: Aluminum
5. Welds: All welds shall be sealed watertight by continuous welds, unless otherwise specified. Edge Grinding: Sharp corners of all cut and sheared edges shall be made smooth by a power grinder.
6. Hopper: Wet cake hopper shall be constructed of welded steel plate of a thickness determined by the manufacturer. It shall be designed to limit maximum deflection of no more than 1/270. Minimum plate thickness shall be 1/4-inch. Interior surfaces of hopper shall be smooth to allow unobstructed flow.
7. Top Cover: Each wet cake hopper shall be covered and be constructed of welded steel plate of a thickness determined by the manufacturer. It shall be designed to limit maximum deflection of no more than 1/360. Minimum plate thickness shall be 1/4-inch diamond thread plate of the same material as the hopper. The cover shall be supported by members underneath of suitable size to achieve deflection and a live load of 100 lbs./ft2 minimum. Provide one manway, odor control ports, sensor ports, inlet from feeding conveyor. Aluminum handrails shall encircle the perimeter of the cover.
8. Access Ladder:
   a. Manufacturer shall provide an aluminum access ladder with aluminum safety cage and top grab rails complying with OSHA standards to wet cake hopper to top cover.
9. Equipment Components:
   a. Hoppers:
      1) Hoppers shall be designed such that each one may be shipped in as few sections as is practical for shipping. The Hopper shall have bolted fit-up connections for field erection by the contractor. After field fit the contractor shall field weld the flange seams for a watertight vessel.
      2) Side slope angles of not less than 60 degrees from the horizontal.
      3) Hopper shall be minimum ¼" plate which external stiffeners as required.

4) Design stiffening members to limit deflection of hopper to 1/270 of span.
5) Provide continuous welds at all welded hopper joints. Stiffeners do not require continuous welds.
6) Provide connections for one level element.
7) Hoppers shall have integral support structure and anchors suitable for mounting to dryer system.
8) Design integral hopper supports for dead loads assuming hoppers completely full of biosolids of 65 lb/ft3 density.

10. Screw Conveyors:
    a. Provide a live bottom consisting of nonreversible shafted screw conveyor(s).
    b. **Provide a vertical screw conveyor consisting of a shafted screw conveyor meeting the requirements of Section 41 12 13.16.**
    c. Live bottom screws shall be mounted in a stainless-steel trough assembly. The trough shall be minimum 1/4" plate with external stiffeners as required.
    d. Screw Spirals to be minimum 12-inch diameter.
    e. Spirals with variable pitch shall be provided. Spiral outside diameter shall be CEMA standardized sizes. Spirals shall be of the required diameter and thickness to convey the specified material at the specified rate.
    f. Spirals shall be manufactured from A8620 alloy steel with a Brinnell hardness of 220, and maximum yield strength of 80,000 psi. Pipe shafts shall be manufactured from carbon steel. Carbon steel Spirals and pipe shall be coated with one coat of epoxy shop primer only.
    g. Conveyor pitch design shall collect and pull sludge from the entire cross section of the hopper.
    h. Designs incorporating inboard bearings, intermediate supports, or bearings located inside the hopper are not acceptable.
    i. Fabricate screws to CEMA 300 Standards.
    j. Each screw shall incorporate a speed switch to detect low or no speed.
11. Conveyor Drive Units:
    a. Provide live bottom drive unit with gear motor
    b. One drive will be provided for each live bottom screw.
    c. Provide severe duty inverter duty motors. Live bottom screw conveyor motors shall have space heaters and temperature sensing and protection.
    d. Ensure output speed of bottom screw conveyor secondary gear reducer is as required for specified discharge rate.
    e. Provide minimum 3 Hp, 1,800 rpm, 460 volt, 60 Hz, 3 phase motors with a1.15 service factor, with Class F insulation. Furnish motors with TEFC enclosure and Design B speed/torque characteristics.
    f. Provide all gear reducers with AGMA Class II, single or double reduction, helical gear units with high capacity roller bearings. Design bearings for thrust loads from the fully loaded startup condition with an AFBMA B10 life of 30,000 hours. Provide standard air-cooled reducer units with no auxiliary cooling. Size the gear reducer with a torque service factor of 1.5 times the absorbed power or 1.1 times the motor nameplate, at the driven shaft speed, whichever is greater.

g. Maximum continuous operating torque shall be determined by hopper manufacturer for worst combination of service conditions, feed or discharge rate, and biosolids consistency.

12. .The equipment shall be the product of a manufacturer engaged in the design and manufacture of similar equipment in successful operation in similar applications. The manufacturer shall have a minimum of 10 years of United States municipal wastewater experience with 5 installations of the same type of equipment as specified herein with documented successful operation. The following candidate Suppliers are understood to be capable of producing the System that will satisfy the requirements of this section. This statement, however, shall not be construed as an endorsement of a particular Supplier's product, nor shall it be construed that a named Supplier's standard products will comply with the requirements of this section. Candidate Suppliers include the following:
    a. Jim Myers and Sons
    b. KWS Manufacturing
    c. Approved Equal

2.04 SLUDGE DRYER

A. General
1. Supplier shall provide one (1) biosolids belt dryer with ancillary equipment to meet the process conditions specified above.
2. The Scope of supply shall include but not be limited to the dryer vessel, inlet feed mechanism, belt and rotating assemblies and offgas treatment required for any exhaust recirculation (including a complete packaged water cooling system).
3. Design Requirements: The sludge dryer system shall be designed for the performance criteria listed in this Specification.
4. The dryer shall be a closed system to minimize air leakage through the feed inlet, product discharge, etc.
5. The dryer shall include an instrument to monitor and report belt alignment and provide an alarm when belt is out of alignment. The dryer shall have a means to correct belt alignment through adjustments made outside the dryer vessel at normal working height and with standard working tools.
6. If required for routine operation and maintenance, a platform and stair access system shall be provided by the Supplier and installed by the Contractor. Platform and stair access shall be galvanized steel framing, stairs and grating with aluminum railing. Platform layout shall be adequate to provide access to equipment for routine operation and maintenance. Platform shall provide a minimum of 3'-0" clear width at all points and be designed to sustain a minimum live load of 100 pounds per square foot.

2.05 PROCESS HEATER

A. General
1. The Supplier shall provide a complete process heating system required to meet the performance criteria listed in this Section . System shall include the design criteria listed below:

Item	Criteria
Minimum heater combustion efficiency (based on LHV fuel value)	80%
Heat output	By Vendor
Pump design flow	By Vendor

B. Fuel burner
   1. A fully modulating, forced draft burner shall be supplied for dual-fuel burning. Fuel burner shall include the following at a minimum:
      a. 7:1 turndown ratio for natural gas, 5:1 turndown ratio for digester gas
      b. Natural gas pilot
      c. Ignition transformer
      d. UV flame detection scanner
      e. IRI insured gas train
      f. Components in NEMA 4X enclosure and NEMA 4X control panel
      g. Biogas supply train shall be 304 stainless steel or equal.
      h. Fuel burner internal components shall be 304 stainless steel and exhaust piping shall be 316 stainless steel.

C. Gas train for all process heaters shall meet or exceed ASME CSD-1, NEC, NFPA, Factory Mutual, and all applicable local codes and regulations. Fuel consumption shall be continuously recorded by totalizing meters that shall record the cumulative total cubic feet of gas used in the burners. The meters shall have a local and remote readout.

D. All digester gas and natural gas piping to the gas train feed connection and from gas train vent connections to be supplied and installed by the Contractor.

2.06 OFF-GAS HANDLING SYSTEM

A. Supplier shall provide one complete and functioning off-gas handing system including:
   1. Off-gas duct to convey off-gas between the recirculation gas treatment system and dryer system.
      a. Off-gas duct shall include at least one port for inspection and cleanout.
      b. Off-gas duct from the dryer (or recirculation) system to the exhaust point shall be designed, furnished, and installed by the installing Contractor.
   2. Off-gas fan as required to maintain performance criteria listed in this Specification.
      a. Fan wetted parts shall be fabricated from 304 stainless steel.
      b. Fan shall be driven by a TEFC motor rated for CL II, Div 2, Group G, hazardous area operation.
   3. Recirculation gas condenser system to dewater recirculation gas.
      a. Supplier shall assume that non-potable plant water is not available and that the condenser will use a closed circuit potable water cooling fluid. Supplier shall design and supply closed circuit device (e.g. cooling tower) for cooling the recirculated potable water. Potable water piping shall be supplied and installed by the installing Contractor.

b. Cooling tower provided under this section shall be suitable for continuous duty under all outdoor environmental conditions as noted in Section 01 11 80. The Supplier shall provide enough electric heating elements for the cooling tower to protect it from freezing given the outdoor conditions at the project location. The cooling tower shall be configured to prevent debris from entering the potable water cooling circuit.

c. Supplier shall provide a cooling water disinfection system to comply with New York State Department of Health Legionella regulations. System shall include a 20 gallon dual containment chemical storage tank. Supplier shall furnish all equipment, controls, piping, and fittings to provide a complete working system.

4. It is assumed that odor control will not be required for this dryer system.

B. All wetted parts shall be fabricated from 304 stainless steel.

C. Off-gas duct shall include a flowmeter and temperature sensor. Temperature of off-gas shall be maintained below 175°F at discharge point.

2.07 PIPING AND DUCTWORK

A. Ductwork and piping (between wet sludge storage, dryer, heater, venting, fans, and condenser) that is not specifically specified as Supplier-provided shall be provided by the Contractor in accordance with 40 05 01. All interconnecting wiring and conduit shall be provided by Contractor.

B. Supplier shall provide piping/duct design including thermal expansion of ductwork within dryer system.

C. All automated valves and manual valves mounted on dryer system equipment shall be provided by the Supplier. Manual valves and fittings located in interconnecting piping shall be provided by the Contractor.

2.08 PIPE SUPPORTS

A. The Supplier shall design and supply all pipe supports for all dryer off-gas between the dryer and off-gas handling system.

2.09 PAINTING AND COATING

A. Shop priming and coating shall be completed by the Supplier. Field priming and coating shall be completed by the Contractor.

B. Contractor shall repair painting/coating of all surfaces that are damaged, modified, or permanently exposed during demolition and installation. Painting/coating repair shall match existing.

C. All painting and coating shall be completed per Society for Protective Coatings (SSPC) standards and Coating System Manufacturer (CSM) recommendations.

D. Materials installed as part of this project shall be coated per the following table, unless otherwise specified.

Material	Coating System Identification
Aluminum and galvanized steel (for access platform)	Uncoated
Stainless steel	Uncoated
Equipment	Per manufacturer's recommendation
Conduit, piping, and appurtenant hangers and supports (non-immersed) and carbon steel equipment supports.	Field coated by Contractor in accordance with 09 90 00
Concrete equipment bases	Field coated by Contractor in accordance with 09 90 00

2.10 CONTROL PANEL

A. The Supplier shall provide NEMA 4X control panel(s) to control all System equipment. All I/O shall be wired to field terminations and include surge arrestors and isolation as required, with construction meeting the requirements of Section 40 67 00. The Control Panel shall be completely assembled, tested, and programmed for the required functionality, meeting the testing requirements of Section 40 61 21.

B. Control panel shall include an Allen Bradley Compact Logix PLC. The PLC shall meet requirements of Section 40 63 43. All networked control panel components shall utilize Ethernet/IP protocol for connection with existing plant equipment. Supplier shall provide a list of produced/consumed tags to Owner's Designated Programmer for integration into the plant SCADA.

C. Control panel shall include one (1) operator interface terminal (OIT), which shall be mounted on the control panel door. OIT shall have at a minimum (1) 10.2" color touchscreen interface. Provide Panelview Plus 7 OIT meeting the requirements of Section 40 67 00.

D. Provide one managed Ethernet switch, DIN-rail mounted, within the control panel for OIT and PLC communication, and additional communications to Facility SCADA (Facility SCADA integration by others). Provide Allen-Bradley Stratix Managed Ethernet switch, Cisco IE series or equal meeting the requirements of Section 40 67 00.

E. The Supplier shall furnish signal wiring, terminations, incidental conduits, and necessary mounting and accessory equipment to supply power and signal connections to individual components from dryer system-mounted junction boxes. Contractor shall furnish all additional equipment required, including signal wiring, terminations, incidental conduits, and necessary mounting and accessory equipment to provide a complete and operational system.

F. All instrumentation provided by the system Supplier, regardless of source voltage, shall be powered out of the Supplier-provided System control panel.

G. The equipment specified in this Section shall be wired to and controlled by the new control panel. The Supplier is responsible for incorporating this equipment, I/O, and associated control strategies into the sludge dryer process and shall provide process control descriptions for each piece of equipment as a part of the submittal requirements.

2.11 SCADA SYSTEM

A. The Supplier shall provide a listing of PLC tags in producer/consumer format along with description, analog value scaling, and any other required data exchanges to so that read/write functions can be integrated into the Facility-wide SCADA by the Owner's Designated Programmer.

2.12 FIELD INSTRUMENTS

A. Field Instruments shall be supplied as required to meet the functionality of the System. The Supplier shall install furnish and install dryer system instruments required for control and monitoring of the System and Electrical Contractor shall terminate field wires for the instruments. Instruments shall be rated for the area classification of the Dryer Room of Class II Division 2 and at least NEMA 4X for corrosion protection.

PART 3 EXECUTION

3.01 GENERAL

A. All sections and loose items shall be clearly tagged prior to shipping. Contractor shall coordinate all shipment and loose items with the Supplier.

B. All piping, fittings, valves, etc., not explicitly specified as part of this section shall be provided in accordance with Section 40 05 01.

C. Unless otherwise specified, all equipment shall be painted per Supplier standard paint systems.

D. The Contractor will provide all fuel and water utilities required for the testing specified in this Part at the rate and in the quantities required for System operation.

3.02 INSTALLATION

A. The Contractor shall install the equipment in accordance with the Supplier's written instructions, Drawings, applicable Codes and Regulations, and as directed during onsite inspection and installations services by the Supplier.

B. All equipment furnished under this section shall be fabricated, assembled, erected, and placed in proper operating condition in full conformity with Drawings, Specifications, engineering data, instructions, and requirements provided by the Supplier. Equipment servicing and valve locations shall be installed to provide easy access to these components.

C. Installation shall include providing the required oil and grease for initial operation. The grades of oil and grease shall be in accordance with the Supplier's recommendations. Provide extended grease lines where grease application points are difficult to reach.

D. Equipment shall be rigidly and accurately anchored into position and carefully coordinated with all connecting pieces of equipment. All equipment, components, piping, and appurtenances shall be installed true to alignment rigidly supported. Contractor shall follow installation information and details provided elsewhere in the Contract

Documents, including Sections 05 05 20 and 43 05 13, and Supplier's recommendations and requirements.

3.03 FIELD TESTS

A. Field tests shall consist of mechanical, electrical, control system, integrated systems, and acceptance tests of the entire System and shall be according to Section 01 79 00, Division 26, Division 40, and as specified herein and as required by the Supplier.

B. Contractor shall coordinate all field tests with the Supplier. Contractor will make available to the Supplier, sufficient personnel of relative trades to assist with the mechanical tests and integrated systems test as well as perform punch list items. Supplier shall provide sufficient staff of skilled operators to conduct the field, mechanical, control system, integrated system, and acceptance tests. Supplier shall provide access for a reasonable complement of the Contractor's staff to accompany and observe the tests.

C. Supplier shall thoroughly document the results of all tests (field, mechanical, control system, integrated system, acceptance) and equipment servicing (pre-warranty and warranty period) of suitable form and content to the Contractor. Field test results shall be provided as Product Data.

D. Field test shall verify that all stated equipment and computer inputs, outputs and control algorithms are in the working condition specified.

E. Any defects in the equipment or operating controls or failure to meet any requirements of the Specifications shall be promptly corrected by the Supplier at no additional cost to the Contractor.

F. Supplier shall test and document process heater function with natural gas , biogas, and a blended fuel stream during functional testing.

G. Integrated System Tests
   1. Upon successful completion of the mechanical, electrical, and control systems tests, an integrated systems test shall be performed.
   2. All process and control functions shall be tested, as well as designated combinations and logical sequence and operation of I/O peripherals shall be checked out.
   3. During the integrated system test, the System shall process biosolids and demonstrate that the System can function continuously and reliably and produce a dried product meeting Class A and convey the dried product to the conveyance system. The Contractor shall coordinate operation of the solids handling facility to provide dewatered biosolids required for initial startup.
   4. All completed tests, malfunctions, corrective measures, and downtime shall be chronologically logged.
   5. The integrated systems test shall be continuous operation of the System at steady state conditions using natural gas as well as digester gas as the fuel source.
   6. Minimum duration of 10 business days.
   7. Any defects in the equipment or operating controls or failure to meet the requirements of the Specification shall be promptly corrected by the Supplier at no additional cost to the Contractor.

8. After successful completion of the integrated systems test, the Owner will have the option to operate the dryer for a three-week period in order to continue optimization and acclimate to the system before acceptance testing.

H. Acceptance Tests

1. Directly following the three-week Owner operation period, the Supplier shall facilitate acceptance testing. The acceptance test shall be conducted under steady state conditions using digester gas.
2. Acceptance testing shall have a minimum duration of one, 120-hour period of continuous operation.
3. The acceptance test shall prove that the equipment satisfies the performance criteria:
    a. The dryer will produce a Class A dried product according to 40 CFR 503.
    b. The system is capable of processing the minimum processing capacity of dewatered biosolids (wet lbs per hour) specified in this section.
    c. The maximum fuel consumption shall not exceed the Btu per lb of water evaporated as specified in this section. Measurement of fuel consumption efficiency shall be based on the heating value of biogas. Biogas will be sampled and analyzed by an independent laboratory during acceptance testing to determine the heating value to be used for efficiency calculations. Digester gas testing will be coordinated and paid for by the Contractor. Any re-testing required because of dryer system performance shall be paid by the Supplier.
    d. The maximum electric power consumption specified in this section is not exceeded.
4. Acceptance testing shall be completed when representative feed solids are available to demonstrate the equipment complies with the design conditions specified herein. The testing shall take place while the wastewater plant is operating at stabilized conditions and at such time as acceptable to the Contractor. The Contractor shall determine what “representative” feed solids characteristics are.
5. Proposed test procedures shall be developed by the Supplier and submitted to the Contractor for review, comment and approval. Testing shall not begin until the test procedures have been approved by the Contractor.
6. In the event that the dryer system does not meet the performance requirements of this section during the acceptance test, the representative of the Supplier shall make such changes in the equipment and methods of operation as deemed necessary and as approved by the Contractor and pay for all reasonable costs to re-test, including those of the Contractor. The necessary adjustments shall be made as soon as practical, but within a period not to exceed 30 days. Following the adjustments, make a second test regime similar to the first testing regime. In the event that the dryer system still does not achieve specified performance during the second test, then the equipment will be subject to rejection. The dryer system Supplier shall retain responsibility for the dryer system until the acceptance test has been successfully completed. However, after initial startup the Owner shall have the right to use the dryer system as needed to process solids.
7. The cost of power, water, natural gas, feed solids, and disposal shall be borne by the Contractor.
8. The Contractor may retain the services of an independent certified third-party laboratory to provide analytical services for the dryer process field and acceptance testing. Reports from the Supplier that rely on data generated by the third-party

laboratory shall be due at the specified interval after the laboratory results are provided to the Supplier. Any re-testing required due to dryer system equipment performance shall be paid for by the Supplier.

9. Emissions acceptance testing
    a. Emissions acceptance testing will be conducted by an independent and fully-certified testing laboratory.
    b. All emissions testing methods shall satisfy the applicable requirements of the local air regulation authority at the time of testing.
    c. Digester gas will be tested on the same day as the dryer emissions test to confirm digester gas conforms to maximum parameters listed in this section.
    d. Testing will confirm performance with requirements of this section. Contractor and Supplier shall review and provide reasonable comments on the emissions testing protocol prior to commencement of emissions testing.
    e. All emissions testing will be open to the Contractor and Supplier for observation.
    f. Emissions acceptance testing shall be conducted at 100% load using digester gas, or the maximum load that can be achieved with available digester gas. Testing shall also be conducted at 100% load using natural gas.
    g. Emissions acceptance testing will be coordinated and paid for by the Contractor. Should the dryer system not comply with the air permitting requirements, the Supplier and the source testing firm shall resolve any issues and retest at no cost to the Contractor until successful emissions compliance is achieved, to the satisfaction of the Contractor.
10. The Owner shall have the option of requesting additional rounds of acceptance testing during the performance guarantee period. Cost per additional round of acceptance testing, including attendance on-site by a factory-trained Supplier representative, shall be provided as a separate line item. Additional rounds of testing will not include emissions testing once initial emissions acceptance testing has passed, unless specifically requested by the Owner or Contractor.

3.04 SERVICES OF SUPPLIER

A. Services shall be performed by a qualified representative of the Supplier.

B. Supplier shall provide field testing up to the integrated systems test, including inspection and checkout of the entire System following installation (installation shall be certified on form 43 05 11-A). Tests shall be conducted to demonstrate that all system components are fully operational, that all connecting piping is leak proof and properly anchored, and that the entire system is ready for continuous safe operation. The purpose of the checkout shall be to ensure that each individual system component had been correctly installed, shall operate fully in the manner intended, and is ready to perform its function as part of the integrated system when placed in continuous operation.

C. The integrated systems test shall consist of one (1) 24-hour day operation of the System at steady state conditions.

D. Instruction of Owner's Personnel: The authorized service representative shall also furnish the indicated services for instruction of the Owner's personnel in the operation and maintenance of the equipment including step-by-step troubleshooting procedures with necessary test equipment for a period of two eight (8)-hour days. Training shall be closely

coordinate with Contractor such that training is covered adequately for both operations and maintenance staff. Training shall include both hands on training and class room instruction. Instruction shall conform to Section 01 79 00; provide form 43 05 11.

E. After final acceptance, the Supplier shall provide performance optimization services (such as instrument calibration, programming, and fine tuning of equipment settings) for a period of 12 months. These services shall include a minimum of two (2) site visits of one (1) 8- hour day per visit, with attendance of a factory technical representative.

F. Supplier is required to perform a two additional sets of field testing to demonstrate compliance with performance requirements specified in this section, occurring at 6 and 12 months from Final Acceptance or at the request of the Owner.

G. Summary of Supplier on-site services, to be completed by a factory-trained and certified representative:

ITEM	Minimum Time On Site (8-hour days)	Minimum Number of Trips	Minimum Test Duration	Notes
Installation	15 days	3	N/A	Check installation completed by installing Contractor per Supplier's instructions
Field tests and integrated systems test	15 days	3	Integrated systems test: continuous operation during 10 business day period	Facilitate start-up and testing
Acceptance testing (including emissions testing)	7 days	1	One continuous 120-hour period	Facilitate acceptance testing, supervise emissions testing
Training	2 days	1	N/A	To be scheduled with Owner to accommodate staff shifts

3.05 PRODUCT DATA

A. The following information shall be provided by the Supplier in accordance with Section 01 33 00:
   1. A written report on the factory test results.
   2. Control narrative/description encompassing the entire System.
   3. Applicable operation and maintenance information specified in Section 01 78 23.
   4. Supplier's Installation Certification Form 43 05 11-A.
   5. Supplier's Instruction Certification Form 43 05 11-B.
   6. A written report on the field test results.
   7. A written report on the field test results for air emissions.
   8. Final equipment list, including motors, valves, and instruments.
   9. Motor product data as specified in Section 43 05 21.
   10. Dried product test report and updated explosion venting calculations to confirm initial sizing.

11. Acceptance report, including acceptance testing results.

END OF SECTION

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Addendum No. 7 to Contract Documents
Biosolids Process Improvements
The City of Auburn
Contract Nos. BPI-1A thru BPI-1D

January 13, 2023

ADDENDUM NO. 7

ATTACHMENT NO. 13

DRAWING INDEX - VOLUME V

SHEET COUNT	SHEET NUMBER	SHEET TITLE
HVAC		
260	M-00-001	GENERAL SYMBOLS, NOTES AND DETAILS
261	M-00-002	EQUIPMENT SCHEDULES
262	M-00-003	SCHEDULES
263	M-00-004	STANDARD DETAILS I
264	M-00-005	STANDARD DETAILS II
265	M-10-101	SOLIDS HANDLING BUILDING - OVERALL HVAC BASEMENT PLAN
266	M-10-102	SOLIDS HANDLING BUILDING - BASEMENT HVAC PARTIAL PLAN I
268	M-10-104	SOLIDS HANDLING BUILDING - OVERALL FIRST FLOOR HVAC PLAN
269	M-10-105	SOLIDS HANDLING BUILDING - FIRST FLOOR HVAC PARTIAL PLAN I
270	M-10-106	SOLIDS HANDLING BUILDING - FIRST FLOOR HVAC PARTIAL PLAN II
274	M-10-301	SOLIDS HANDLING BUILDING - HVAC SECTIONS
275	M-20-101	DIGESTER CONTROL BUILDING - BASEMENT FLOOR PLAN
276	M-20-102	DIGESTER CONTROL BUILDING - FIRST FLOOR PLAN
277	M-20-103	DIGESTER CONTROL BUILDING - ROOF PLAN
278	M-20-301	DIGESTER CONTROL BUILDING - SECTIONS I
279	M-20-302	DIGESTER CONTROL BUILDING - SECTIONS II
281	M-30-101	DEWATERING AND DRYER BUILDING - FIRST FLOOR PLAN
282	M-30-102	DEWATERING AND DRYER BUILDING - MEZZANINE PLAN
283	M-30-103	DEWATERING AND DRYER BUILDING - ROOF PLAN
284	M-30-301	DEWATERING AND DRYER BUILDING - SECTIONS
ELECTRICAL		
287	E-00-001	LEGEND, SYMBOLS AND ABBREVIATIONS I
288	E-00-002	LEGEND, SYMBOLS AND ABBREVIATIONS II
289	E-00-003	ELECTRICAL GENERAL NOTES
290	E-00-004	STANDARD DETAILS I
291	E-00-005	STANDARD DETAILS II
292	E-00-006	STANDARD DETAILS III
293	E-00-007	OVERALL FACILITY DEMO SINGLE LINE DIAGRAM I
294	E-00-008	OVERALL FACILITY DEMO SINGLE LINE DIAGRAM II
295	E-00-009	OVERALL FACILITY MODIFIED SINGLE LINE DIAGRAM I
296	E-00-010	OVERALL FACILITY MODIFIED SINGLE LINE DIAGRAM II
297	E-00-017	LUMINAIRE SCHEDULE - I
299	E-00-030	SCHEMATIC WIRING DIAGRAMS - I
300	E-00-031	SCHEMATIC WIRING DIAGRAMS - II
301	E-00-032	SCHEMATIC WIRING DIAGRAMS - III
302	E-00-033	SCHEMATIC WIRING DIAGRAMS - IV
303	E-00-034	SCHEMATIC WIRING DIAGRAMS - V
304	E-00-035	SCHEMATIC WIRING DIAGRAMS - VI
305	E-00-036	SCHEMATIC WIRING DIAGRAMS - VII
306	E-00-037	SCHEMATIC WIRING DIAGRAMS - VIII
307	E-00-101	ELECTRICAL SITE PLAN - NORTH
308	E-00-102	ELECTRICAL SITE PLAN - SOUTH
310	ED-10-101	SOLIDS HANDLING BUILDING - OVERALL BASEMENT DEMOLITION PLAN
311	ED-10-102	SOLIDS HANDLING BUILDING - BASEMENT DEMOLITION PARTIAL PLAN I
312	ED-10-103	SOLIDS HANDLING BUILDING - BASEMENT DEMOLITION PARTIAL PLAN II
313	ED-10-104	SOLIDS HANDLING BUILDING - OVERALL FIRST FLOOR DEMOLITION PLAN
314	ED-10-105	SOLIDS HANDLING BUILDING - FIRST FLOOR DEMOLITION PARTIAL PLAN I
315	ED-10-106	SOLIDS HANDLING BUILDING - FIRST FLOOR DEMOLITION PARTIAL PLAN II
316	E-10-101	SOLIDS HANDLING BUILDING - OVERALL BASEMENT POWER AND CONTROL PLAN
317	E-10-102	SOLIDS HANDLING BUILDING - BASEMENT POWER AND CONTROL PLAN I
318	E-10-103	SOLIDS HANDLING BUILDING - BASEMENT POWER AND CONTROL PLAN II
319	E-10-104	SOLIDS HANDLING BUILDING - OVERALL FIRST FLOOR POWER AND CONTROL PLAN
320	E-10-105	SOLIDS HANDLING BUILDING - FIRST FLOOR POWER AND CONTROL PLAN I
321	E-10-106	SOLIDS HANDLING BUILDING - FIRST FLOOR POWER AND CONTROL PLAN II
322	E-10-107	SOLIDS HANDLING BUILDING - BASEMENT POWER AND LIGHTING AND RECEPTACLE PLAN I
323	E-10-109	SOLIDS HANDLING BUILDING - FIRST FLOOR POWER AND LIGHTING AND RECEPTACLE PLAN I
324	E-10-110	SOLIDS HANDLING BUILDING - FIRST FLOOR POWER AND LIGHTING AND RECEPTACLE PLAN II
325	E-10-111	SOLIDS HANDLING BUILDING - SECOND FLOOR PARTIAL - POWER AND CONTROL PLAN
326	E-10-301	GRAVITY THICKENER - RETROFIT POWER AND CONTROL PLAN
327	E-10-302	WAS STORAGE TANK - RETROFIT POWER AND CONTROL PLAN
328	E-10-401	SOLIDS HANDLING BUILDING - FIRST FLOOR ENLARGED ELECTRICAL ROOM EQUIPMENT LAYOUT
329	E-10-601	SHB-MCC ONE LINE DIAGRAM - I
330	E-10-602	SHB-MCC ONE LINE DIAGRAM - II (CONTINUED)
331	E-10-603	SHB-PLC1 CONTROL ONE LINE DIAGRAM - I
332	E-10-604	SHB-PLC1 CONTROL ONE LINE DIAGRAM - II
336	E-15-010	ELECTRICAL ENTRANCE GEAR, GENERATOR AND POWER TRANSFORMER - SINGLE LINE DIAGRAM - I
337	E-15-011	ELECTRICAL ENTRANCE GEAR, GENERATOR AND POWER TRANSFORMER - SINGLE LINE DIAGRAM - II
338	E-15-101	ELECTRICAL ENTRANCE GEAR PLAN - POWER, CONTROL, LIGHTING & GROUNDING
339	E-15-102	ELECTRICAL ENCLOSURE PLAN - POWER, CONTROL, LIGHTING AND GROUNDING
341	E-15-107	ELECTRICAL ENCLOSURE - PANELBOARD AND MISCELLANEOUS DETAILS
342	E-20-101	DIGESTER CONTROL BUILDING - BASEMENT FLOOR POWER AND CONTROL PLAN
343	E-20-102	DIGESTER CONTROL BUILDING - FIRST FLOOR POWER AND CONTROL PLAN
346	E-20-105	DIGESTER CONTROL BUILDING - ENLARGED ELECTRICAL EQUIPMENT LAYOUT PLAN
347	E-20-106	DIGESTER CONTROL BUILDING ROOF - POWER AND CONTROL PLAN
348	E-20-601	DCB-MCC ONE LINE DIAGRAM I
349	E-20-602	DCB-MCC ONE LINE DIAGRAM II (CONTINUED)
351	E-20-604	DCB-PLC1 - CONTROL ONE LINE DIAGRAM I
352	E-20-605	DCB-PLC1 - CONTROL ONE LINE DIAGRAM II
353	E-20-606	PANEL SCHEDULE - I
354	E-20-607	PANEL SCHEDULE - II
355	E-30-101	DEWATERING AND DRYER BUILDING - FIRST FLOOR AND OPERATIONS CORRIDOR - EQUIPMENT PLANS
356	E-30-102	DEWATERING AND DRYER BUILDING - ENLARGED PLAN I - POWER AND CONTROL
357	E-30-103	DEWATERING AND DRYER BUILDING - ENLARGED PLAN II - POWER AND CONTROL
358	E-30-104	DEWATERING AND DRYER BUILDING - ENLARGED ELECTRICAL EQUIPMENT LAYOUT PLAN
359	E-30-105	DEWATERING AND DRYER BUILDING - ROOF PLAN - POWER AND CONTROL
362	E-30-601	DDB-MCC ONE LINE DIAGRAM I
363	E-30-602	DDB-MCC ONE LINE DIAGRAM II (CONTINUED)
365	E-30-604	DDB-PLC1 CONTROL ONE LINE DIAGRAM I
366	E-30-606	PANEL SCHEDULE I
367	E-30-607	PANEL SCHEDULE II
371	E-60-101	AERATION TANKS - POWER AND CONTROL PLAN
372	E-60-102	BLOWER BLDG ELECTRICAL PLAN
373	E-60-601	BLOWER BUILDING ONE LINE
374	E-60-602	BLOWER BUILDING MCC ELEV AND PANEL SCHEDULES
375	E-60-603	BLOWER BUILDING AND AERATION TANK CONTROL ONE LINE

SHEET COUNT	SHEET NUMBER	SHEET TITLE
INSTRUMENTATION		
381	I-00-001	LEGEND AND SYMBOLS I
382	I-00-002	LEGEND AND SYMBOLS II
383	I-00-003	LEGEND AND SYMBOLS III
384	I-00-004	LEGEND AND SYMBOLS IV
385	I-00-005	ABBREVIATIONS
386	I-00-006	INSTRUMENTATION DETAILS I
387	I-00-007	INSTRUMENTATION DETAILS II
388	I-00-008	INSTRUMENTATION DETAILS III
389	I-00-009	INSTRUMENTATION DETAILS IV
390	I-00-010	EXISTING NETWORK AND DEMO BLOCK DIAGRAM
391	I-00-011	NEW NETWORK BLOCK DIAGRAM
392	I-00-012	WIFI ACCESS POINT BLOCK DIAGRAM
393	I-00-013	CAMERA-BASED PROCESS MONITORING BLOCK DIAGRAM
394	I-00-014	CELLULAR SIGNAL BOOSTER BLOCK DIAGRAM
395	I-10-101	GRAVITY THICKENER - P&ID
396	I-10-102	GRAVITY THICKENER SLUDGE WITHDRAWAL PUMPS - P&ID
397	I-10-103	SLUDGE SCREEN - P&ID
398	I-10-104	SLUDGE STORAGE TANK - P&ID
399	I-10-105	POLYMER SYSTEM - P&ID
400	I-10-106	ROTARY DRUM THICKENER - P&ID
401	I-10-107	FEEDSTOCK TANKS - P&ID
402	I-10-108	FERRIC SYSTEM - P&ID
403	I-15-101	ELECTRICAL ENTRANCE GEAR - P&ID
404	I-20-101	DIGESTER TRANSFER PUMPS - P&ID
405	I-20-102	DIGESTER RECIRCULATION PUMPS - P&ID
406	I-20-103	PRIMARY HRS LOOP CIRCULATION PUMPS - P&ID
407	I-20-104	SECONDARY HRS LOOP CIRCULATION PUMPS - P&ID
408	I-20-105	BOILER CIRCULATION PUMPS - P&ID
409	I-20-106	GAS BOOSTER AND BOILERS - P&ID
410	I-20-107	GLYCOL PUMP AND AIR COOLED CHILLER - P&ID
411	I-20-108	SUMP PUMPS - P&ID
412	I-30-102	DEWATERING FEED PUMPS - P&ID
413	I-30-103	BELT FILTER PRESSES - P&ID
414	I-30-104	SLUDGE DRYER - P&ID
415	I-30-105	BELT FILTER PRESS POLYMER SYSTEM - P&ID
416	I-40-101	PRIMARY DIGESTER 1 - P&ID
417	I-40-102	PRIMARY DIGESTER 1 WITHDRAWAL - P&ID
418	I-40-103	PRIMARY DIGESTER 2 - P&ID
419	I-40-104	PRIMARY DIGESTER 2 WITHDRAWL – P&ID
420	I-40-105	SECONDARY DIGESTER - P&ID
421	I-40-106	SECONDARY DIGESTER WITHDRAWL - P&ID
422	I-40-107	GAS CONVEYANCE MAIN HEADER - P&ID
423	I-40-108	GAS CONVEYANCE WASTE GAS BURNER - P&ID
424	I-60-101	BLOWER ROOM - P&ID
425	I-60-102	AERATION TANKS - P&ID
426	I-70-101	FINAL SETTLING TANKS 1 AND 2 - P&ID
427	I-70-102	FINAL SETTLING TANKS 3 AND 4 - P&ID
428	I-70-103	WAS PUMPS - P&ID
429	I-90-101	PRIMARY SETTLING TANKS ROTATING SCUM TROUGHS - P&ID
PLUMBING		
430	P-00-001	SCHEDULES
431	P-00-002	STANDARD DETAILS
432	P-10-101	SOLIDS HANDLING BUILDING - BASEMENT PARTIL PLAN
433	P-10-102	SOLIDS HANDLING BUILDING - FIRST FLOOR PARTIAL PLAN
434	P-10-103	SOLIDS HANDLING BUILDING - CHEMICAL ROOM PLAN
435	P-10-601	SOLIDS HANDLING BUILDING - DOMESTIC WATER PARTIAL RISER DIAGRAM
436	P-20-101	DIGESTER CONTROL BUILDING - BASEMENT FLOOR PLAN
437	P-20-102	DIGESTER CONTROL BUILDING - FIRST FLOOR PLAN
438	P-20-103	DIGESTER CONTROL BUILDING - ROOF PLAN
439	P-30-101	DEWATERING AND DRYER BUILDING - FIRST FLOOR PLAN
FIRE PROTECTION		
440	F-30-101	DEWATERING AND DRYER BUILDING - PLAN AND DETAILS
FIRE ALARM		
441	FA-00-001	FIRE ALARM LEGEND AND GENERAL NOTES
442	FA-00-002	TYPICAL FIRE ALARM DETAILS - 1
443	FA-00-003	TYPICAL FIRE ALARM DETAILS - 2
444	FA-00-101	PLANT SITE FIRE ALARM PLAN
445	FA-00-601	BUILDING INTERCONNECTION - FIRE ALARM ONE LINE DIAGRAM
446	FA-10-101	SOLIDS HANDLING BUILDING - FIRE ALARM BASEMENT PLAN
447	FA-10-102	SOLIDS HANDLING BUILDING - FIRE ALARM FIRST FLOOR PLAN
448	FA-10-601	SOLIDS HANDLING BUILDING - FIRE ALARM RISER DIAGRAM
449	FA-20-101	DIGESTER CONTROL BUILDING - FIRE ALARM BASEMENT PLAN
450	FA-20-102	DIGESTER CONTROL BUILDING - FIRE ALARM FIRST FLOOR PLAN
451	FA-20-601	DIGESTER CONTROL BUILDING - FIRE ALARM RISER DIAGRAM
452	FA-30-101	DEWATERING AND DRYER BUILDING - FIRE ALARM OVERALL LOWER PLAN
453	FA-30-102	DEWATERING AND DRYER BUILDING - FIRE ALARM OVERALL UPPER PLAN
454	FA-30-601	DEWATERING AND DRYER BUILDING - FIRE ALARM RISER DIAGRAM

Brown AND Caldwell
327 W FAYETTE ST #409
SYRACUSE, NY 13202

THIS DRAWING IS NOT VALID FOR CONSTRUCTION PURPOSES UNLESS IT BEARS THE SEAL OF A DULY REGISTERED PROFESSIONAL

BID DOCUMENTS

CITY OF AUBURN NEW YORK

BIOSOLIDS PROCESS IMPROVEMENTS

AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	1/12/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: A. CHARDE
DRAWN: N. STEVENS
CHECKED: S. CLARK
APPROVED: N. STEVENS
FILENAME

BC PROJECT NUMBER
154218
CWSRF PROJECT NUMBER
C7-6240-13-00

GENERAL

DRAWING INDEX II

DRAWING NUMBER
G-00-002

ADDENDUM NO. 7

ATTACHMENT NO. 14

ROOM FINISH SCHEDULE

BUILDING	ROOM NUMBER	ROOM NAME	FLOOR MATERIAL	BASE MATERIAL	WALLS												CEILING			NOTES
					N			S			E			W						
					MAT'L	FIN	CLR	MAT'L	FIN	CLR	MAT'L	FIN	CLR	MAT'L	FIN	CLR	MAT'L	FIN	CLR	
DEWATERING AND DRYER BUILDING	101	DRYER ROOM	A	C	C/B	P2	5	C/B	P2	5	C/B	P2	5	C/B	P2	5	G	N	4	
DEWATERING AND DRYER BUILDING	102	ELECTRICAL ROOM	A	E	D	P2	5	D	P2	5	D	P2	5	D	P2	5	D	P2	5	
DEWATERING AND DRYER BUILDING	103	PUMP ROOM	A	C	C/B	P2	5	C/B	P2	5	C/B	P2	5	C/B	P2	5	J	P2	5	
DEWATERING AND DRYER BUILDING	104	POLYMER ROOM	A	C	C/B	P2	5	C/B	P2	5	C/B	P2	5	C/B	P2	5	I	P2	5	
DEWATERING AND DRYER BUILDING	105	RESTROOM	A	E/C	D	P2	5	C/B	P2	5	C/B	P2	5	C/B	P2	5	I	P2	5	
DEWATERING AND DRYER BUILDING	106	SPRINKLER ROOM	A	C	C/B	P2	5	C/B	P2	5	C/B	P2	5	C/B	P2	5	I	P2	5	
DEWATERING AND DRYER BUILDING	107	VESTIBULE	A	C	C	P2	5	C	P2	5	C	P2	5	C	P2	5	I	P2	5	
DEWATERING AND DRYER BUILDING	108	TRUCK LOADING AREA	A	C	C/B	P2	5	C/B	P2	5	C/B	P2	5	C/B	P2	5	G	N	5	
DEWATERING AND DRYER BUILDING	201	DEWATERING ROOM	A	C	C/B	P2	5	C/B	P2	5	C/B	P2	5	C/B	P2	5	G	N	5	
DEWATERING AND DRYER BUILDING	202	DEWATERING OPERATIONS CORRIDOR	A	C	C/B	P2	5	C/B	P2	5	C/B	P2	5	C/B	P2	5	G	N	5	
DEWATERING AND DRYER BUILDING	203	FILTER PRESS ROOM	A	C	C/B	P2	5	C/B	P2	5	C/B	P2	5	C/B	P2	5	G	N	5	
DEWATERING AND DRYER BUILDING	S1	STAIR	A	C	C/B	P2	5	C/B	P2	5	C/B	P2	5	C/B	P2	5	G	N	5	
DIGESTER CONTROL BUILDING	101	BOILER ROOM	A	C	C	P2	5	C	P2	5	C	P2	5	C	P2	5	J	P2	5	
DIGESTER CONTROL BUILDING	102	BLOWER ROOM	A	C	C	P2	5	C	P2	5	C	P2	5	C	P2	5	J	P2	5	
DIGESTER CONTROL BUILDING	103	ELECTRICAL ROOM	A	C	D	P2	5	D	P2	5	D	P2	5	D	P2	5	J	P2	5	
DIGESTER CONTROL BUILDING	104	DROP SHAFT	A	C	C	P2	5	C	P2	5	C	P2	5	C	P2	5	J	P2	5	
SOLIDS HANDLING BUILDING	001A	SLUDGE PUMPING ROOM	NO WORK																	
SOLIDS HANDLING BUILDING	001B	SLUDGE PUMPING ROOM CORRIDOR	A	C	C	P2	5	X	P2	5	C	P2	5	C	P2	5	D	P2	5	
SOLIDS HANDLING BUILDING	002	VESTIBULE	A	C	C	P2	5	X	P2	5	C	P2	5	C	P2	5	D	P2	5	
SOLIDS HANDLING BUILDING	003	INCINERATOR AREA	NO WORK																	
SOLIDS HANDLING BUILDING	101	PLC ROOM	NO WORK																	
SOLIDS HANDLING BUILDING	103	INCINERATOR AREA	NIO WORK																	
SOLIDS HANDLING BUILDING	104	ELECTRICAL ROOM	A	X	X	P2	5	X	P2	5	X	P2	5	X	P2	5	X	P2	5	
SOLIDS HANDLING BUILDING	105	HOPPER AREA	A	C	X	P2	5	C	P2	5	C	P2	5	C	P2	5	M	P2	5	

1 ADDENDUM 7

COLOR KEY

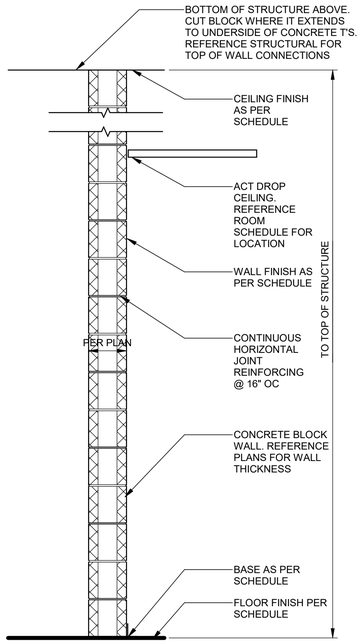
1	GRAY
2	TAN
3	WHITE
4	NO COLOR
5	SHALL BE SELECTED AFTER AWARD OF CONTRACT

FINISH KEY

E	EXISTING - NO WORK
P1	PAINTED - SEMI GLOSS
P2	PAINTED - FLAT
N	NO ADDITONAL FINISH
FF	FACTORY FINISH

MATERIAL KEY

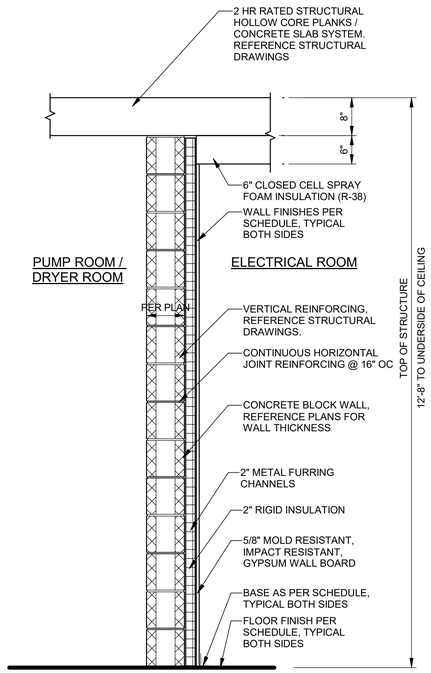
A	CONCRETE FLOOR HARDENER
B	CONCRETE COLUMN
C	CONCRETE BLOCK
D	PAINTED GYPSUM WALL BOARD
E	RUBBER COVE BASE
F	CONCRETE WALL
G	CONCRETE STRUCTURAL T'S
H	STRUCTURAL GLAZED TILE
I	2'-0" x 2'-0" ACOUSTICAL TILE CEILING
J	METAL DECK
K	GIRTS
L	METAL WALL PANEL
M	HOLLOW CORE PLANK
X	EXISTING



NOTE: REFERENCE STRUCTURAL DRAWINGS FOR VERTICAL AND HORIZONTAL REINFORCING BARS

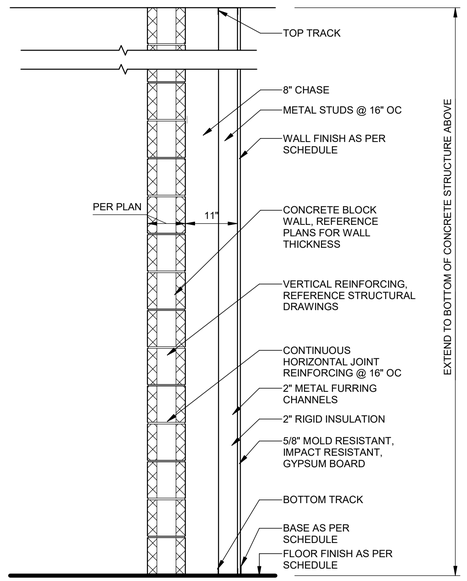
1 WALL TYPE A, A1
N.T.S.

A1 WALL TYPE: 2 HR RATED WALL ASSEMBLY IN ACCORDANCE WITH UL U905



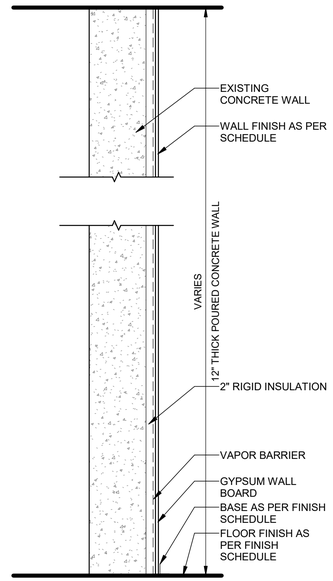
NOTE: REFERENCE STRUCTURAL DRAWINGS FOR VERTICAL AND HORIZONTAL REINFORCING BARS

2 WALL TYPE C, C1
N.T.S.

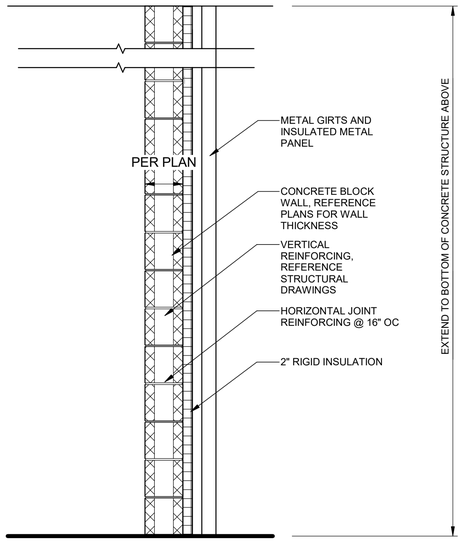


NOTE: REFERENCE STRUCTURAL DRAWINGS FOR VERTICAL AND HORIZONTAL REINFORCING BARS

3 WALL TYPE D
N.T.S.



4 WALL TYPE E, E1
N.T.S.



5 WALL TYPE F
N.T.S.

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CITY OF AUBURN NEW YORK

BIOSOLIDS PROCESS IMPROVEMENTS

AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	01/13/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: S. GRAMKOW
DRAWN: S. GRAMKOW
CHECKED: B. WILLIAMS
APPROVED: J. MINADEO

FILENAME

BC PROJECT NUMBER
154218

CLIENT PROJECT NUMBER
XX

ARCHITECTURAL

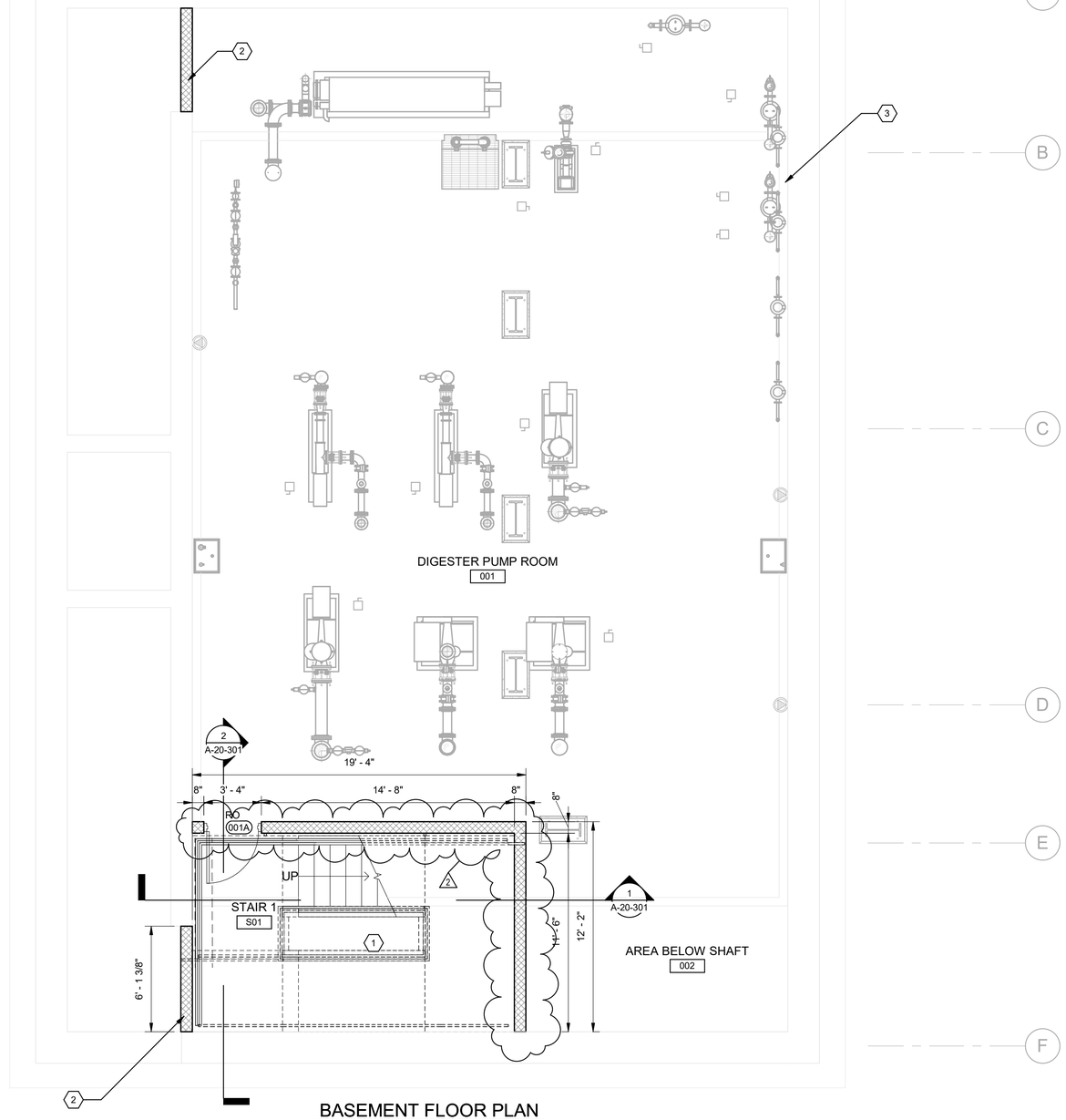
ROOM FINISH SCHEDULE AND WALL TYPES

DRAWING NUMBER
A-00-010

PLAN NORTH

KEYNOTES:

1. ALUMINUM STAIR WITH ALUMINUM GUARDRAIL AND HANDRAILS AS PER CODE. STAIRS SHALL BE DELEGATED DESIGN BY THE CONTRACTOR. REFERENCE DETAILS ON A-08-014, TYP.
2. INFILL OPENING IN CONCRETE WALL WITH CONCRETE/MASONRY TO MATCH EXISTING. REFERNCE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.
3. SUMP AND TRENCH GRATING. REFERENCE STRUCTURAL DRAWINGS



BASEMENT FLOOR PLAN

SCALE: 1/4" = 1'-0"

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CITY OF AUBURN NEW YORK

BIOSOLIDS PROCESS IMPROVEMENTS

AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	12/02/22	ADDENDUM 2
2	01/13/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: S. GRAMKOW
DRAWN: S. GRAMKOW
CHECKED: B. WILLIAMS
APPROVED: J. MINADEO
FILENAME

BC PROJECT NUMBER
154218

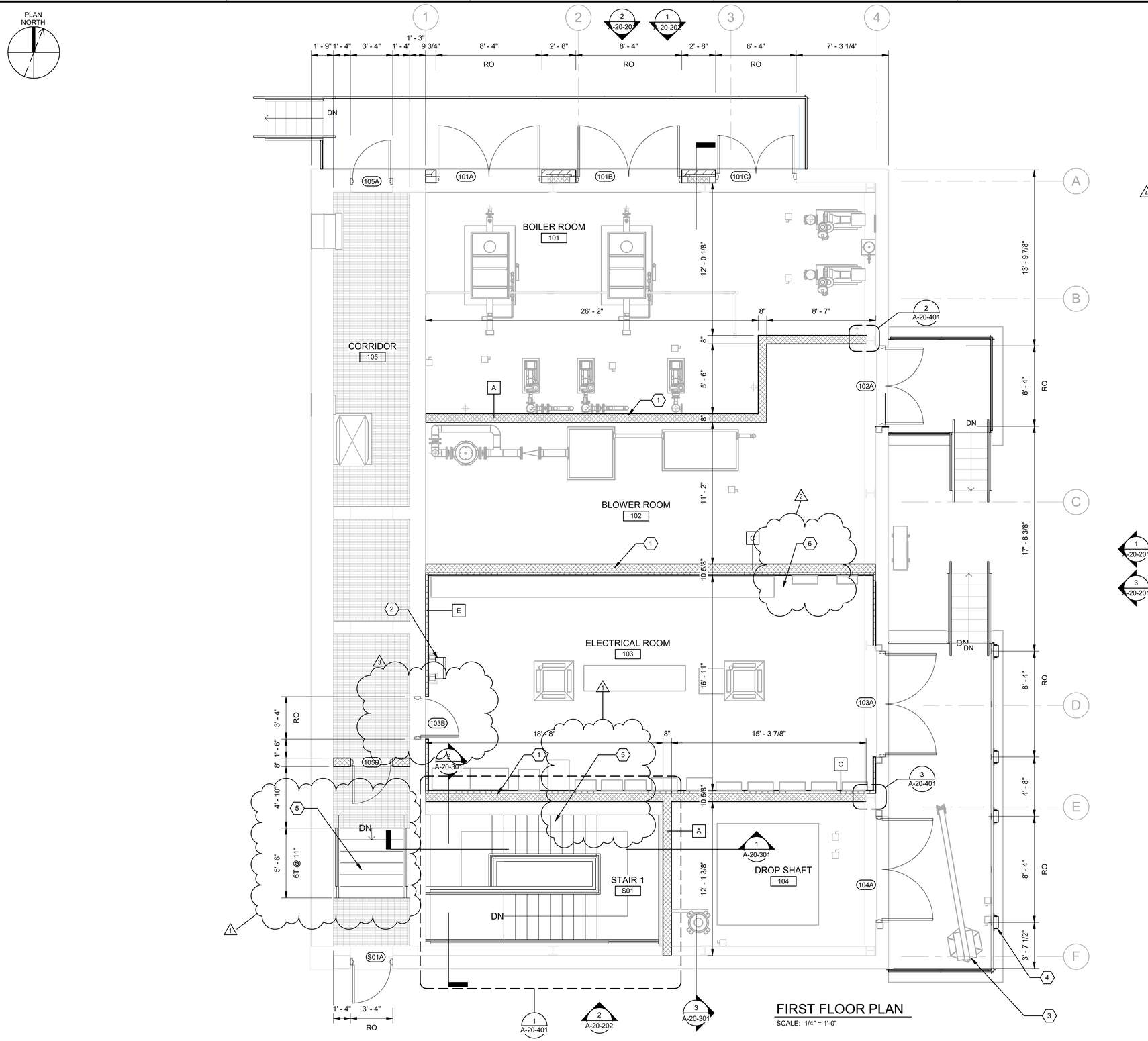
CLIENT PROJECT NUMBER
XX

ARCHITECTURAL

DIGESTER CONTROL BUILDING - BASEMENT PLAN

DRAWING NUMBER
A-20-101

Plot Date: 1/12/2023 1:03:54 PM Path: BIM 360://154218 - Auburn Biosolids Improvement Design/154218_A20_V19.rvt



FIRST FLOOR PLAN

SCALE: 1/4" = 1'-0"

KEYNOTES:

1 CONCRETE BLOCK
2 LADDER TO ROOF HATCH ABOVE WITH LADDER UP SAFETY POST. REFERENCE SPEC SECTION 05120. REFERENCE STRUCTURAL FOR SUPPORT DETAILS
3 CRANE. REFERENCE PROCESS DRAWINGS.
4 DOCK BUMPER
5 ALUMINUM STAIR WITH ALUMINUM GUARDRAIL AND HANDRAILS AS PER CODE. STAIRS SHALL BE DELEGATED DESIGN BY THE CONTRACTOR. REFERENCE DETAILS ON A-00-014 TYP.
6 PROVIDE SPRAY APPLIED 2 HR RATED CEMENTITIOUS FIRE PROOFING TO ALL SUPPORT STRUCTURE AND UNDERSIDE OF METAL DECK THAT SUPPORTS THE ELECTRICAL ROOM FLOOR AND WALLS.PROVIDE PYROCRETE 239 BY CARBOLINE OR APPROVED EQUAL, TYP. PRODUCT SHALL MEET UL 263/273 STANDARDS. PREPARE APPLICATION SURFACE, INSTALL, AND PROVIDE ACCESSORIES IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND UL DESIGNS N745 AND D768. REFERENCE DETAILS ON A-20-401 FOR REQUIREMENTS AT TOP OF WALL DETAILS

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BID DOCUMENTS

CITY OF AUBURN NEW YORK

BIOSOLIDS PROCESS IMPROVEMENTS

AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	12/02/22	ADDENDUM 2
2	12/16/22	ADDENDUM 4
3	12/22/22	ADDENDUM 5
4	01/13/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: S. GRAMKOW
DRAWN: S. GRAMKOW
CHECKED: B. WILLIAMS
APPROVED: J. MINADEO
FILENAME

BC PROJECT NUMBER
154218
CLIENT PROJECT NUMBER
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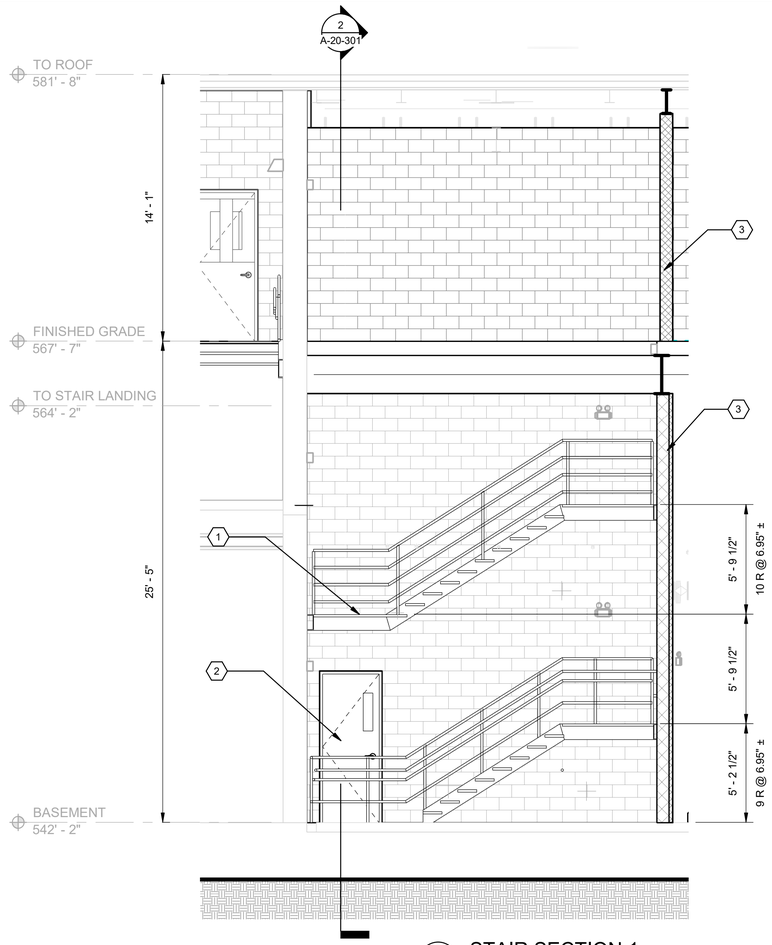
ARCHITECTURAL

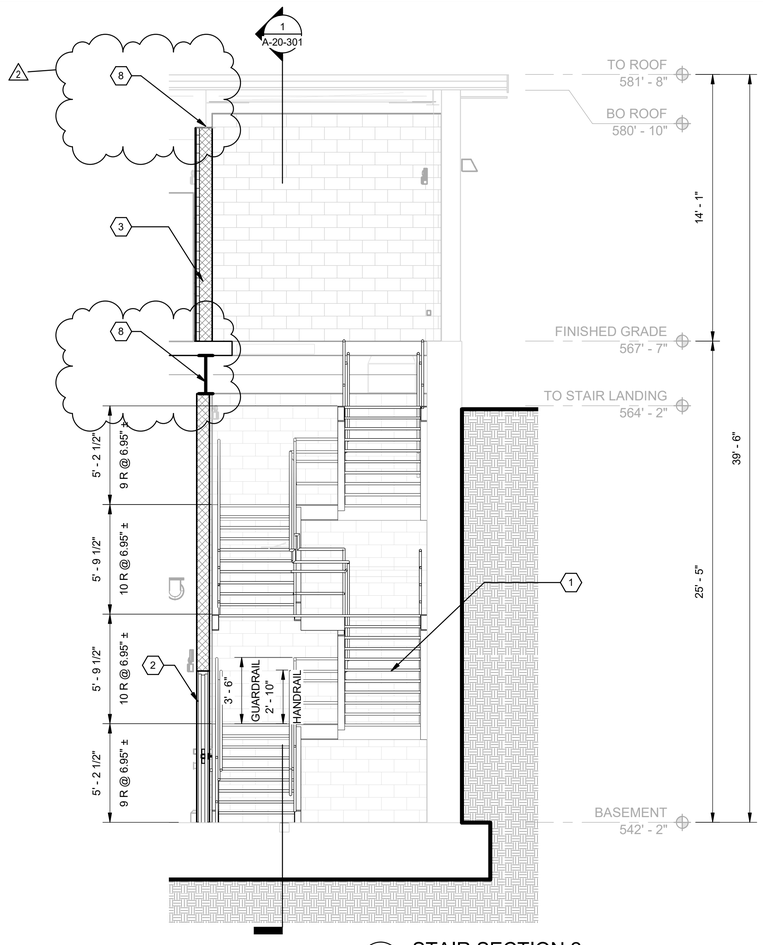
DIGESTER CONTROL BUILDING - FIRST FLOOR PLAN

DRAWING NUMBER
A-20-102

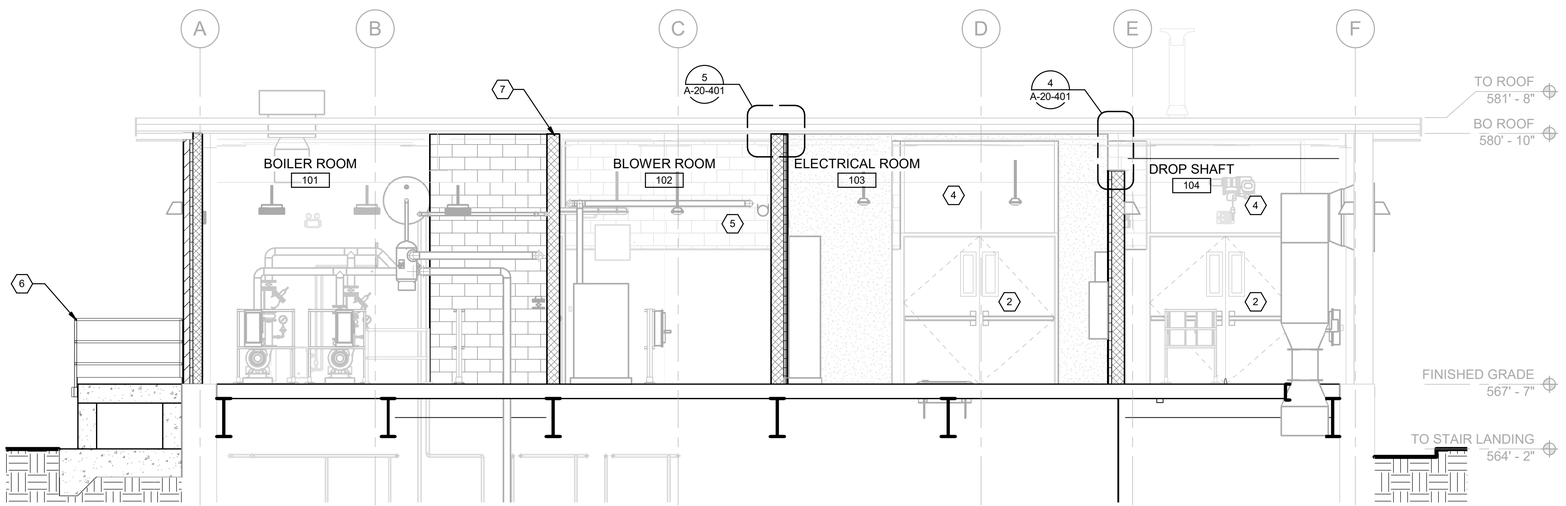
Plot Date: 1/12/2023 1:03:56 PM Path: BIM 360://154218 - Auburn Biosolids Improvement Design/154218_A20_V19.rvt



1 STAIR SECTION 1
A-20-101 SCALE: 1/4" = 1'-0"



2 STAIR SECTION 2
A-20-101 SCALE: 1/4" = 1'-0"



3 BUILDING SECTION
A-20-102 SCALE: 1/4" = 1'-0"

GENERAL NOTES

1. REFERENCE STRUCTURAL DRAWINGS FOR ALL FRAMING AND CONCRETE ELEMENTS.

KEYNOTES:

1. ALUMINUM STAIR WITH ALUMINUM GUARDRAIL AND HANDRAILS AS PER CODE. STAIRS SHALL BE DELEGATED DESIGN BY THE CONTRACTOR. REFERENCE DETAILS ON A-00-014, TYP
2. HOLLOW METAL DOOR AND FRAME
3. CONCRETE BLOCK
4. REMOVABLE TRANSOM
5. INFILL WITH BLOCK AND BRICK TO MATCH EXISTING
6. ALUMINUM GUARDRAIL, PROVIDE REMOVABLE SECTIONS AT ALL DOOR OPENINGS, COORDINATE SECTIONS WITH DOOR OPENING LOCATIONS AND WIDTHS
7. REFERENCE STRUCTURAL DRAWINGS FOR TOP OF WALL CONNECTIONS
8. PROVIDE SPRAY APPLIED 2 HR RATED CEMENTITIOUS FIRE PROOFING TO ALL STRUCTURAL MEMBERS ASSOCIATED WITH THE STAIR TO PROVIDE A 2 HR FIRERATED ENCLOSED STAIR ASSEMBLY. PROVIDE PYROCRETE 239 BY CARBOLINE OR APPROVED EQUAL, TYP. PRODUCT SHALL MEET UL 263/273 STANDARDS. PREPARE APPLICATION SURFACE, INSTALL, AND PROVIDE ACCESSORIES IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND UL DESIGNS N745 AND D768.

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BIOSOLIDS PROCESS IMPROVEMENTS

AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	12/02/22	ADDENDUM 2
2	12/16/22	ADDENDUM 4
3	01/13/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: S. GRAMKOW
DRAWN: S. GRAMKOW
CHECKED: B. WILLIAMS
APPROVED: J. MINADEO
FILENAME

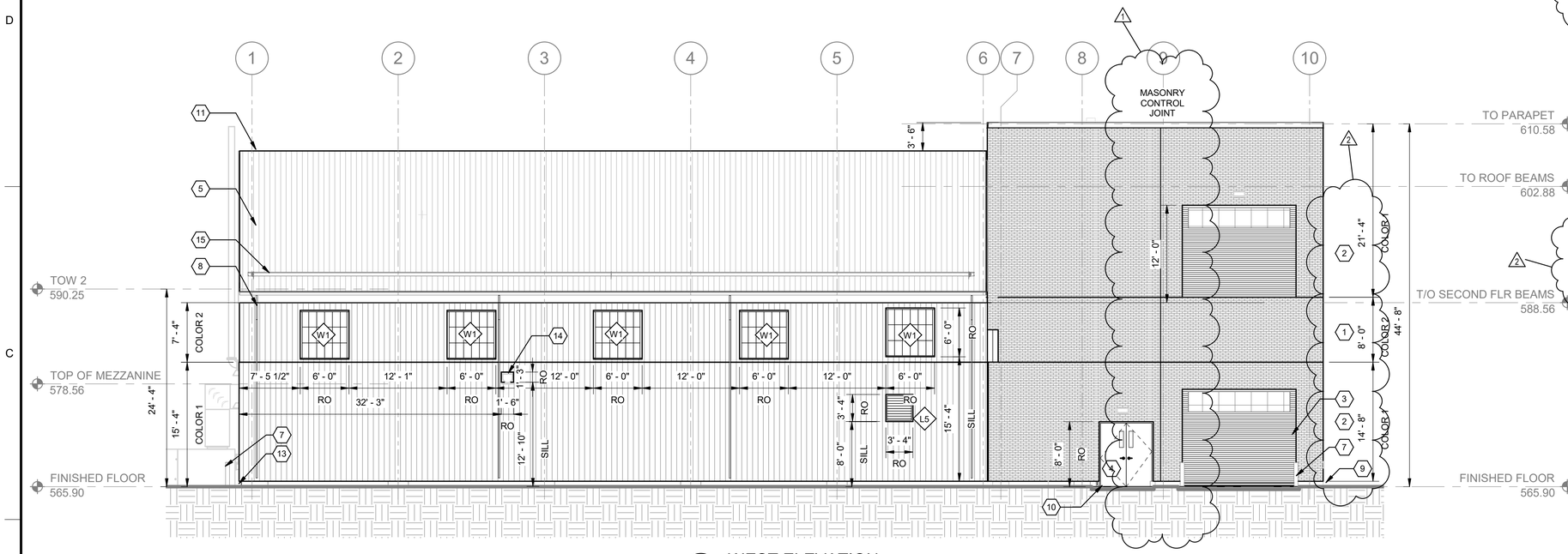
BC PROJECT NUMBER 154218
CLIENT PROJECT NUMBER XX

ARCHITECTURAL

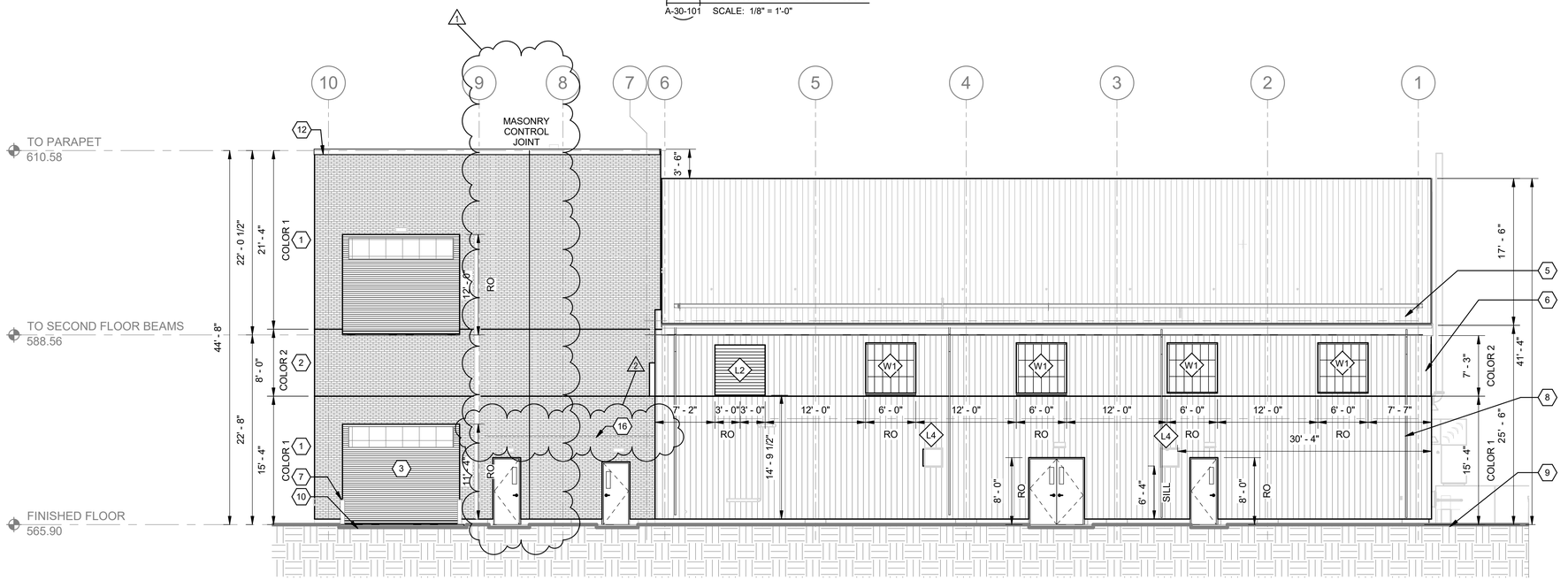
DIGESTER CONTROL BUILDING - SECTIONS AND DETAILS

DRAWING NUMBER
A-20-301

Plot Date: 1/12/2023 1:04:00 PM
Path: BIM 360://154218 - Auburn Biosolids Improvement Design/154218_A20_V19.rvt



1 WEST ELEVATION
A-30-101 SCALE: 1/8" = 1'-0"



2 EAST ELEVATION
A-30-101 SCALE: 1/8" = 1'-0"

GENERAL NOTES

1. FOR EXTERIOR COLOR SELECTION MATCH EXISTING BUILDINGS ON SITE, COORDINATE WITH OWNER

KEYNOTES:

1 BRICK VENEER. COLOR 2 TO MATCH EXISTING DARK BROWN COLOR OF EXISTING SOLIDS HANDLING BUILDING ON SITE
2 BRICK VENEER. COLOR 1 TO MATCH LIGHT TAN COLOR OF EXISTING SOLIDS HANDLING BUILDING ON SITE
3 OVERHEAD COILING DOOR
4 HOLLOW METAL DOOR AND FRAME
5 STANDING SEAM METAL ROOFING SYSTEM
6 PRE-ENGINEERED METAL BUILDING FRAME
7 BOLLARD, REFERENCE CIVIL DRAWINGS
8 ALUMINUM DOWNSPOUT
9 APPROXIMATE GRADE
10 CONCRETE APRON, REFERENCE CIVIL DRAWINGS
11 RIDGE VENT
12 METAL COPING
13 8" CONCRETE CURB. REFERENCE STRUCTURAL DRAWINGS
14 REMOVABLE BLANK OFF PANEL. COORDINATE LOCATION WITH PROCESS EQUIPMENT AND DRAWINGS. PROVIDE TOP AND BOTTOM OF PANEL COPED TO THE CONVEYOR AS SEPARATE PANELS THAT WHEN INSTALLED AS ONE PROVIDE A WEATHER TIGHT SEAL
15 ROOF SNOW GUARD
16 CANOPY STRUCTURE APPROXIMATELY 3'-4" WIDE X 1'-0" DEEP X 20'-0" WIDE. REFERENCE DETAIL 3 ON A-30-202. REFERENCE STRUCTURAL DRAWINGS FOR MORE INFORMATION.

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CITY OF AUBURN NEW YORK

BIOSOLIDS PROCESS IMPROVEMENTS

AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	12/02/22	ADDENDUM 2
2	01/13/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: B. GOMEZ
DRAWN: H. BYRNES
CHECKED: B. WILLIAMS
APPROVED: J. MINADEO
FILENAME

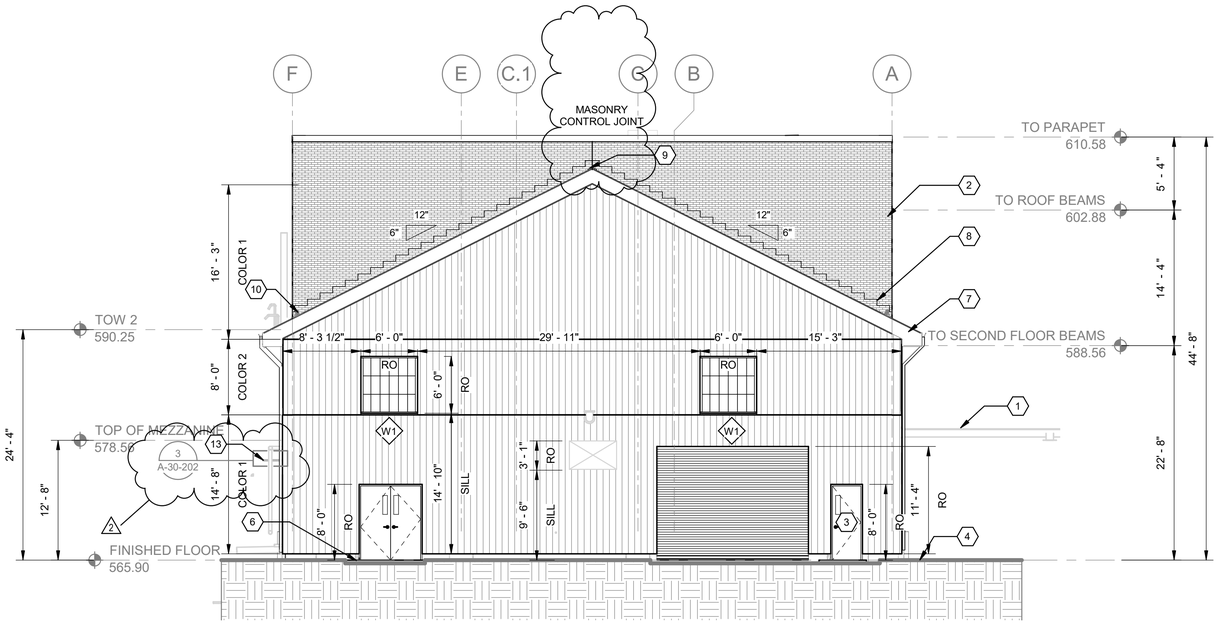
BC PROJECT NUMBER
154218
CLIENT PROJECT NUMBER
XX

ARCHITECTURAL

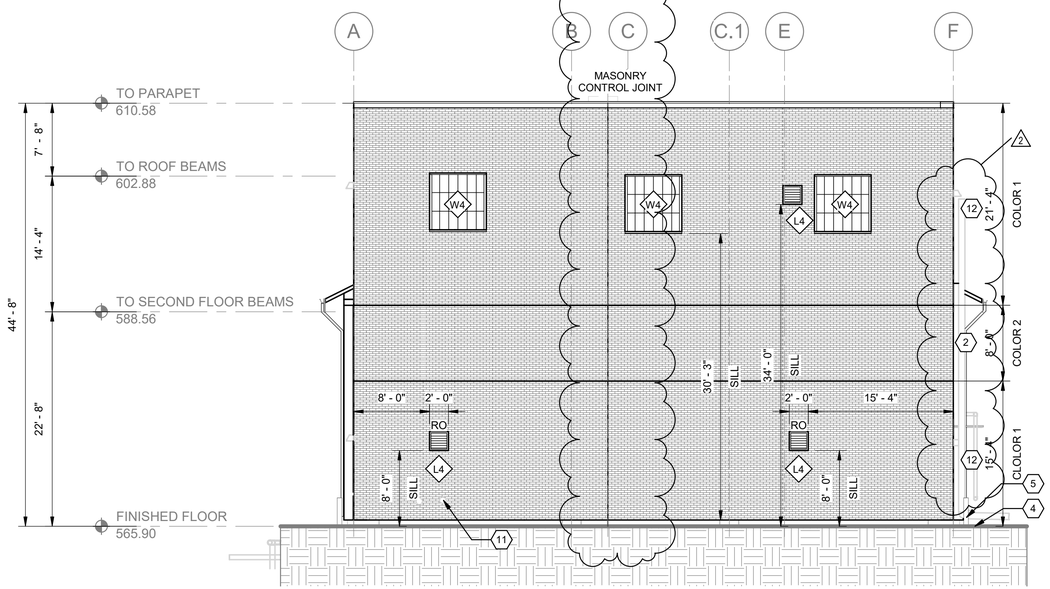
DEWATERING AND DRYER BUILDING - ELEVATIONS I

DRAWING NUMBER
A-30-201

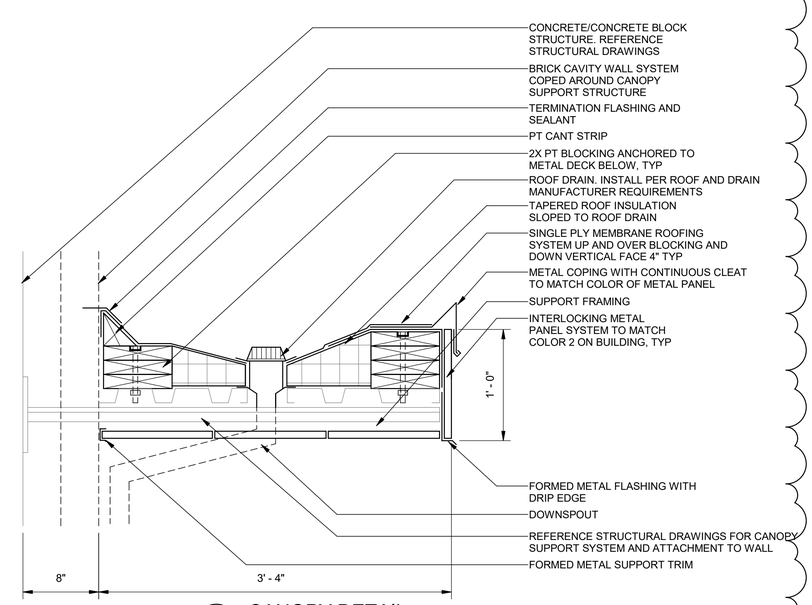
Plot Date: 1/12/2023 5:43:03 PM Path: BIM 360://154218 - Auburn Biosolids Improvement Design/154218_A30_V19.rvt



1 A-30-101 NORTH ELEVATION
SCALE: 1/8" = 1'-0"



2 A-30-101 SOUTH ELEVATION
SCALE: 1/8" = 1'-0"



3 A-30-202 CANOPY DETAIL
SCALE: 1 1/2" = 1'-0"

GENERAL NOTES

1. FOR EXTERIOR COLOR SELECTION MATCH EXISTING BUILDINGS ON SITE, COORDINATE WITH OWNER

KEYNOTES:

1. CONVEYOR. REFERENCE PROCESS DRAWINGS
2. BRICK VENEER. COLOR 2 TO MATCH EXISTING DARK BROWN COLOR OF EXISTING SOLIDS HANDLING BUILDING ON SITE
3. HOLLOW METAL DOOR AND FRAME
4. APPROXIMATE GRADE
5. BOLLARD, REFERENCE CIVIL DRAWINGS
6. CONCRETE APRON, REFERENCE CIVIL DRAWINGS
7. METAL FASCIA
8. 1.5" DEEP METAL EXPANSION JOINT SYSTEM BY PEMB MANUFACTURER/CONTRACTOR STEPPED AT EVERY 16" HORIZONTALLY AND 8" VERTICALLY. EXPANSION JOINT SYSTEM SHALL PROVIDE A WEATHER TIGHT SEAL BETWEEN BRICK AND PRE-ENGINEERED METAL BUILDING. PROVIDE THROUGH WALL FLASHING IN BRICK TO ACCOMMODATE EXPANSION JOINT SYSTEM. COLOR OF METAL FLASHING TO MATCH BUILDING COLORS.
9. RIDGE VENT
10. ROOF SNOW GUARD
11. PROVIDE SLIP ON DOWNSPOUT NOZZLE TO MATCH COLOR OF COPING. COORDINATE SIZE AND TYPE WITH DRAINPIPE MATERIAL AND SIZE. REFERENCE HVAC DRAWINGS. PROVIDE CAULKING AROUND NOZZLE AT EXTERIOR AND INTERIOR WALL INTERFACES. INSTALL PER MANUFACTURER'S RECOMENDATIONS. PROVIDE INTEGRATED STAINLESS STEEL BIRD SCREEN. DOWNSPOUT NOZZLE SHALL BE ZANB 199 BY ZURN OR APPROVED EQUAL.
12. BRICK VENEER. COLOR 1 TO MATCH LIGHT TAN COLOR OF EXISTING SOLIDS HANDLING BUILDING ON SITE
13. CANOPY STRUCTURE APPROXIMATELY 3'-4" WIDE X 1'-0" DEEP X 20'-0" WIDE. REFERENCE DETAIL 3 ON A-30-202. REFERENCE STRUCTURAL DRAWINGS FOR MORE INFORMATION.

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CITY OF AUBURN NEW YORK

BIOSOLIDS PROCESS IMPROVEMENTS

AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	12/02/22	ADDENDUM 2
2	01/13/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: B. GOMEZ
DRAWN: H. BYRNES
CHECKED: B. WILLIAMS
APPROVED: J. MINADEO
FILENAME

BC PROJECT NUMBER 154218
CLIENT PROJECT NUMBER XX

ARCHITECTURAL

DEWATERING AND DRYER BUILDING - ELEVATIONS II

DRAWING NUMBER
A-30-202

Plot Date: 1/12/2023 5:43:05 PM Path: BIM 360://154218 - Auburn Biosolids Improvement Design/154218_A30_V19.rvt

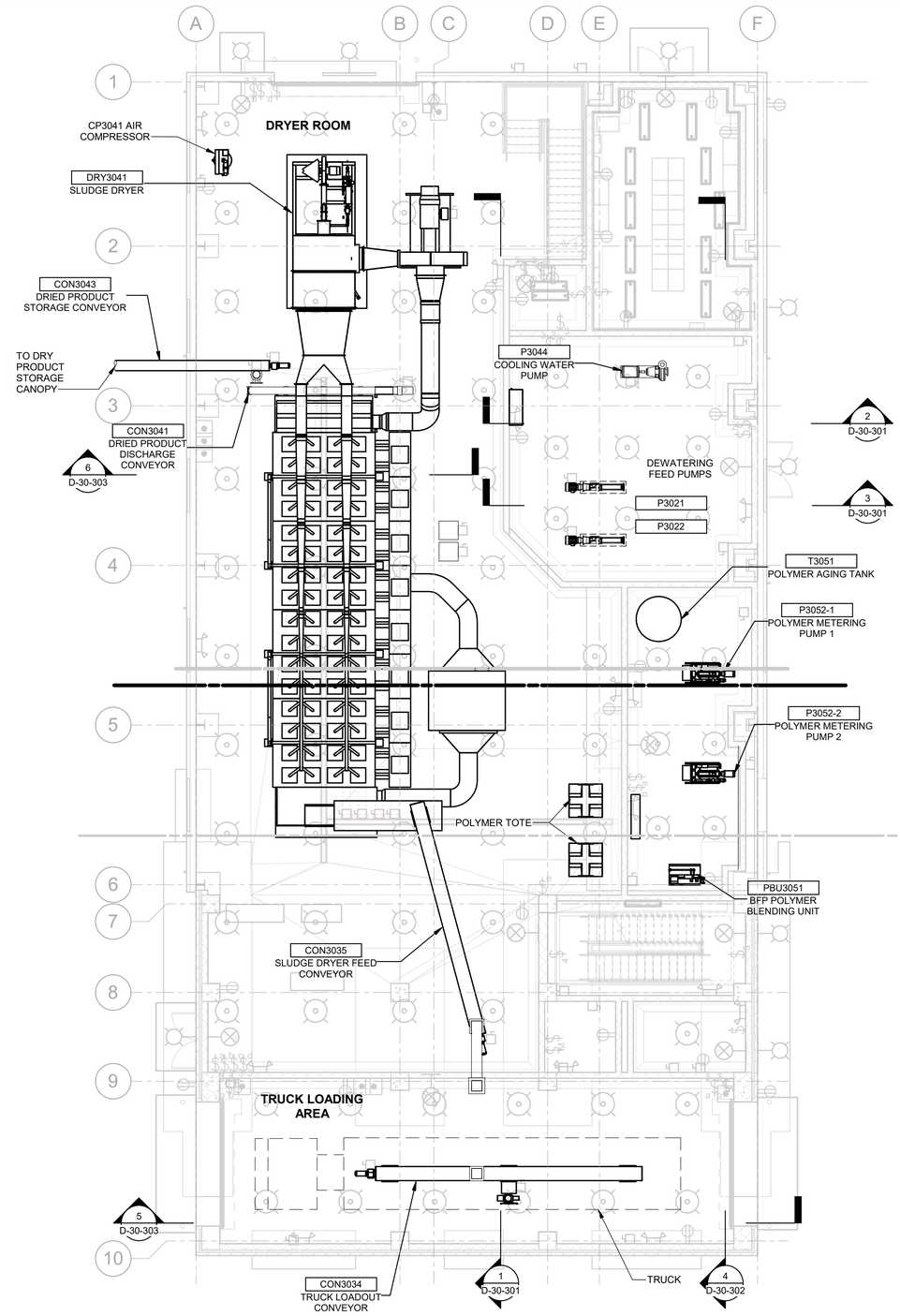
Addendum No. 7 to Contract Documents
Biosolids Process Improvements
The City of Auburn
Contract Nos. BPI-1A thru BPI-1D

January 13, 2023

ADDENDUM NO. 7

ATTACHMENT NO. 15

PLAN NORTH



FIRST FLOOR PLAN OVERALL EL 565.90

SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1. BELT DRYER, ASSOCIATED EQUIPMENT AND RELATED CONVEYORS SHALL BE BID AS ALTERNATE BID ITEMS A-A1, A-A2. SEE DRAWINGS I-30-103 AND 104 FOR BID ALTERNATE DELINEATION RELATED TO BELT DRYER AND BELT DRYER RELATED CONVEYANCE.

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SYRACUSE, NY 13202

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CITY OF AUBURN NEW YORK

BIOSOLIDS PROCESS IMPROVEMENTS

AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	1/9/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: N. STEVENS
DRAWN: L. WOLFORD
CHECKED: S. CLARK
APPROVED: N. STEVENS

FILENAME

BC PROJECT NUMBER
154218

CLIENT PROJECT NUMBER
XX

PROCESS MECHANICAL

DEWATERING AND DRYER BUILDING - OVERALL PLAN

DRAWING NUMBER
D-30-101

Plot Date: 1/9/2023 11:30:09 AM Path: BIM 360://154218 - Auburn Biosolids Improvement Design/154218_D30_V19.rvt

GENERAL NOTES:

1. NOT ALL SMALL PIPING AND APPURTUNANCES ARE SHOWN ON THE MECHANICAL DRAWINGS. REFER TO PROCESS AND INSTRUMENTATION DIAGRAMS FOR PROCESS LOCATIONS OF ADDITIONAL SMALL PIPING, VALVES, AND APPURTENANCES REQUIRED AS PART OF THECONTRACT DOCUMENTS TO COMPLETE THE SYSTEM INSTALLATION.
2. DRYER SYSTEM SUPPLIER SCOPE OF SUPPLY AND INTERFACE REQUIREMENTS ARE PROVIDED IN SPECIFICATION SECTION 46 76 53.
3. PIPE SUPPORT AND EXPANSION JOIN QUANTITY AND LOCATIONS ARE SHOWN FOR REFERENCE AND BIDDING PURPOSES ONLY. CONTRACTOR SHALL PROVIDE DESIGN PROFESSIONAL TO DESIGN ALL PIPE SUPPORT AND EXPANSION CONTROL FOR PIPING IN ACCORDANCE WITH SPECIFICATION 40 05 07.16.
4. BELT DRYER, ASSOCIATED EQUIPMENT AND RELATED CONVEYORS SHALL BE BID AS ALTERNATE BID ITEMS A-A1, A-A2. SEE DRAWINGS I-30-103 AND 104 FOR BID ALTERNATE DELINEATION RELATED TO BELT DRYER AND BELT DRYER RELATED CONVEYANCE.

KEYNOTES:

1. 4" PLUG VALVE
2. 6" DISMANTLING JOINT
3. 6" IN-LINE PRESSURE ANNULAR SEAL
4. 6" PLUG VALVE
5. 8" PLUG VALVE
6. EQUIPMENT CONNECTION FITTING
7. PLUG VALVE
8. DISINFECTION CABINET
9. TAP 6" CW FOR 3/4" DIS, PROVIDE 3/4" BV AT CONNECTION
10. REFER TO C-05-125 FOR CONTUNATION
11. RUN 8" DE PIPE 3 FEET ABOVE ROOF LINE
12. CONTRACTOR TO DESIGN AND PROVIDE THERMAL EXPANSION CONTROL FOR DE PIPE TO ACCOUNT FOR TEMPERATURES OF AT LEAST 500 DEGREES F PER SECTION 40 05 07.16.

CP3041 AIR COMPRESSOR
BNR3041 DUAL FUEL BURNER
B3041 PROCESS BLOWER
DRY3041 SLUDGE DRYER
CON3041 DRIED PRODUCT DISCHARGE CONVEYOR
CON3043 DRIED PRODUCT STORAGE CONVEYOR
TO DRY PRODUCT FACILITY
CON3042 DRIED PRODUCT STORAGE CONVEYOR
8" DE
6" DE
12
1 D-30-301
4 D-30-302
11
M005
7
M5050
6" CW
3/4" DIS
9
6" CW
M7008
7
M5050
6
P3044 COOLING WATER PUMP
17' - 0"
8
2 D-30-301
PUMP ROOM
M5030
PI/PSL 3021-1
6" DS
P3021 DEWATERING FEED PUMP 1
6" DS
P3042 CHAMBER RINSE PUMP
6' - 0"
P3022 DEWATERING FEED PUMP 2
PI/PSL 3022-1
4' - 8"
P3043 CONDENSATE REMOVAL PUMP
6 D-30-303
6" DS
3 D-30-301
8" DS
4" DS
M005
M005
T3051 POLYMER AGING TANK
3" POS
2" POS
DRYER ROOM
M7007
M7007
3" POS
2" POS
1 1/2" POS
P3052-1
HEX3041 CONDENSER
MATCHLINE
SEE DWG 1 / D-30-103

FIRST FLOOR PLAN ENLARGED PLAN 1 - EL 565.90
SCALE: 1/4" = 1'-0"

CHR3041 DRYER COOLING TOWER (SUPPLIED BY DRYER MFGR)
10
9' - 2 1/4"
6" CW
6" CW

2 D-30-301 PARTIAL PLAN
SCALE: 1/4" = 1'-0"

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BID DOCUMENTS

CITY OF AUBURN NEW YORK

BIOSOLIDS PROCESS IMPROVEMENTS

AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	12/16/22	ADDENDUM 4

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: N. STEVENS
DRAWN: L. WOLFORD
CHECKED: S. CLARK
APPROVED: N. STEVENS
FILENAME

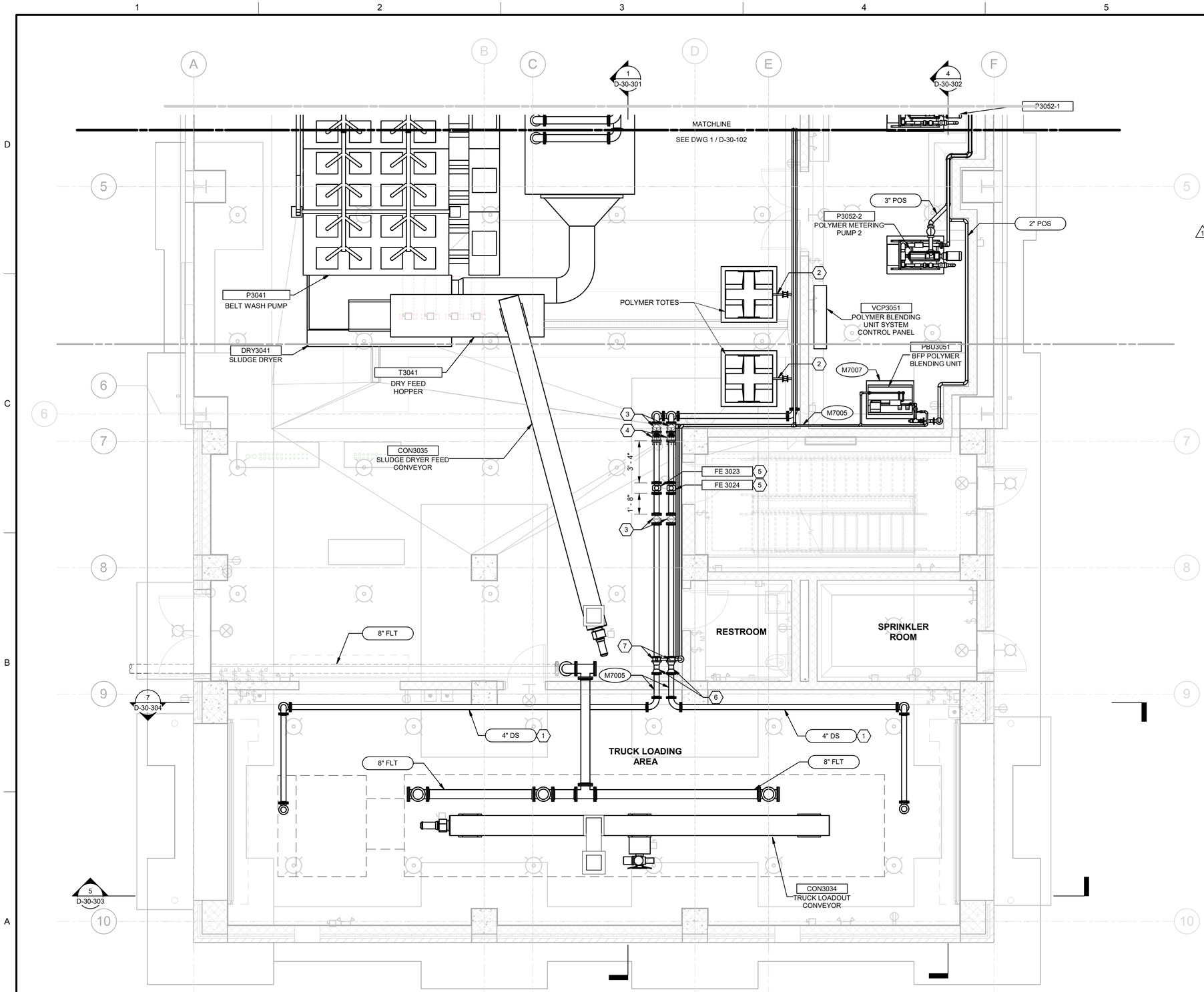
BC PROJECT NUMBER 154218
CLIENT PROJECT NUMBER XX

PROCESS MECHANICAL

DEWATERING AND DRYER BUILDING - ENLARGED PLAN I

DRAWING NUMBER
D-30-102

Plot Date: 1/9/2023 11:30:15 AM
Path: BIM 360:///154218 - Auburn Biosolids Improvement Design/154218_D30_V19.rvt



FIRST FLOOR PLAN ENLARGED PLAN 2 - EL 565.90

SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. COORDINATE DRYER SYSTEM LAYOUT WITH DETAILED DESIGN DRAWINGS FROM DRYER SYSTEM SUPPLIER.
2. DRYER SYSTEM SUPPLIER SCOPE OF SUPPLY AND INTERFACE REQUIREMENTS ARE PROVIDED IN SPECIFICATION SECTION 46 76 53.
3. PIPE SUPPORT AND EXPANSION JOIN QUANTITY AND LOCATIONS ARE SHOWN FOR REFERENCE AND BIDDING PURPOSES ONLY. CONTRACTOR SHALL PROVIDE DESIGN PROFESSIONAL TO DESIGN ALL PIPE SUPPORT AND EXPANSION CONTROL FOR PIPING IN ACCORDANCE WITH SPECIFICATION 40 05 07.16.
4. NOT ALL SMALL PIPING AND APPURTUNANCES ARE SHOWN ON THE MECHANICAL DRAWINGS. REFER TO PROCESS AND INSTRUMENTATION DIAGRAMS FOR PROCESS LOCATIONS OF ADDITIONAL SMALL PIPING, VALVES AND APPURTENANCES REQUIRED AS PART OF THE CONTRACT DOCUMENTS TO COMPLETE THE SYSTEM INSTALLATION.
5. BELT DRYER, ASSOCIATED EQUIPMENT AND RELATED CONVEYORS SHALL BE BID AS ALTERNATE BID ITEMS A-A1, A-A2. SEE DRAWINGS I-30-103 AND 104 FOR BID ALTERNATE DELINEATION RELATED TO BELT DRYER AND BELT DRYER RELATED CONVEYANCE.

KEYNOTES:

1. INSULATE AND HEAT TRACE 4"-DS AND 8" FILTRATE PIPING IN TRUCK LOADING AREA.
2. PROVIDE 2'-0" OF 2" PVC HOSE WITH QUICK CONNECTION FITTINGS FOR CONNECTION TO STANDARD IBC TO TOTE AND BALL VALVE
3. PLUG VALVE
4. DISMANTLING JOINT
5. MAGNETIC FLOW METER
6. VENTURI MIXER
7. POLYMER INJECTION RING

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BID DOCUMENTS

CITY OF AUBURN NEW YORK

BIOSOLIDS PROCESS IMPROVEMENTS

AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	1/9/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED:	N. STEVENS
DRAWN:	L. WOLFORD
CHECKED:	S. CLARK
APPROVED:	N. STEVENS

FILENAME

BC PROJECT NUMBER
154218

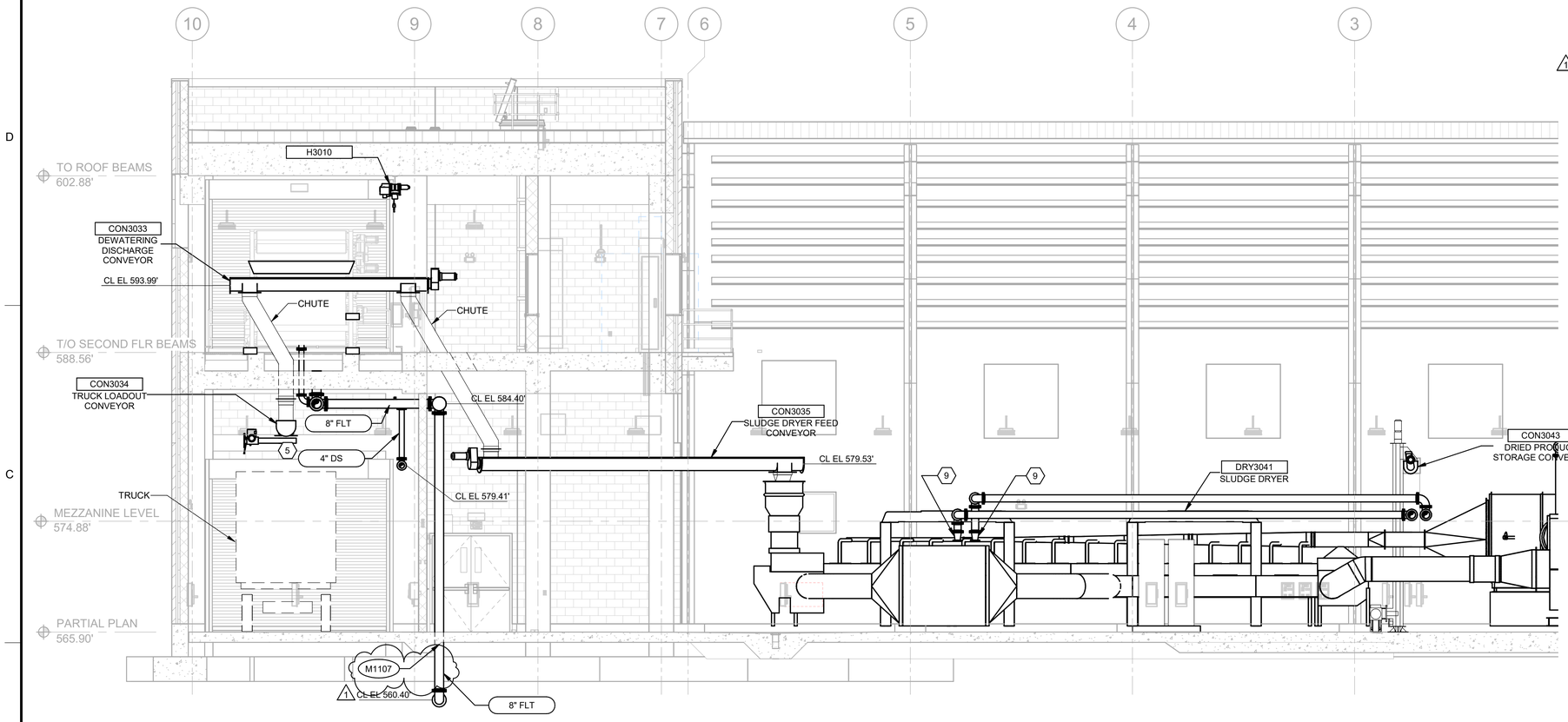
CLIENT PROJECT NUMBER
XX

PROCESS MECHANICAL

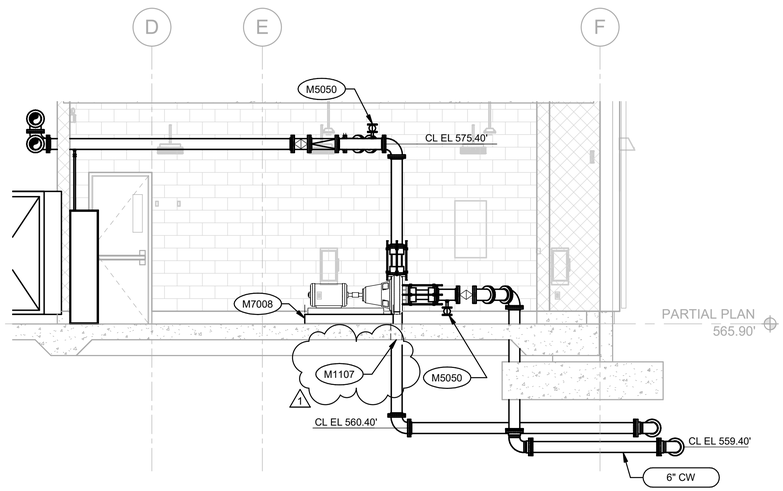
DEWATERING AND DRYER BUILDING - ENLARGED PLAN II

DRAWING NUMBER
D-30-103

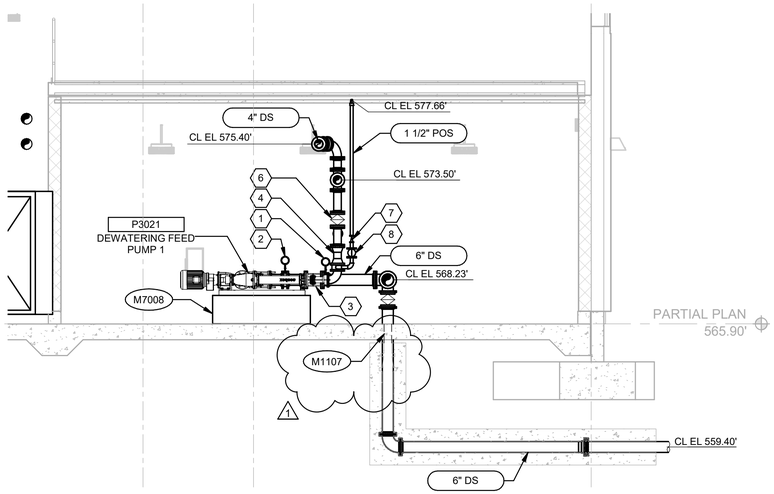
Plot Date: 1/9/2023 11:30:18 AM
Path: BIM 360://154218 - Auburn Biosolids Improvement Design/154218_D30_V19.rvt



1 SECTION
D-30-101 SCALE: 3/16" = 1'-0"



2 SECTION
D-30-101 SCALE: 1/4" = 1'-0"



3 SECTION
D-30-101 SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. NOT ALL SMALL PIPING APPURTENANCES ARE SHOWN ON THE MECHANICAL DRAWINGS. REFER TO PROCESS AND INSTRUMENTATION DIAGRAMS FOR PROCESS LOCATIONS OF ADDITIONAL SMALL PIPING, VALVES, AND APPURTENANCES REQUIRED AS PART OF THE CONTRACT DOCUMENTS TO COMPLETE THE SYSTEM INSTALLATION.
2. BELT DRYER, ASSOCIATED EQUIPMENT AND RELATED CONVEYORS SHALL BE BID AS ALTERNATE BID ITEMS A-A1, A-A2. SEE DRAWINGS I-30-103 AND 104 FOR BID ALTERNATE DELINEATION RELATED TO BELT DRYER AND BELT DRYER RELATED CONVEYANCE.

KEYNOTES:

1	4" IN-LINE PRESSURE ANNULAR SEAL
2	6" IN-LINE PRESSURE ANNULAR SEAL
3	4" DISMANTLING JOINT
4	POLYMER INJECTION ASSEMBLY AND VENTURI MIXER.
5	INSULATE AND HEAT TRACE 4"-DS AND 8" FILTRATE PIPING IN TRUCK LOADING AREA.
6	4" PLUG VALVE
7	BALL CHECK VALVE
8	BALL VALVE
9	6" X 5" REDUCER

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REV	DATE	DESCRIPTION
1	12/16/22	ADDENDUM 4

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DESIGNED: N. STEVENS
DRAWN: L. WOLFORD
CHECKED: S. CLARK
APPROVED: N. STEVENS
FILENAME

BC PROJECT NUMBER
154218
CLIENT PROJECT NUMBER
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PROCESS MECHANICAL

DEWATERING AND DRYER BUILDING - SECTIONS

DRAWING NUMBER
D-30-301

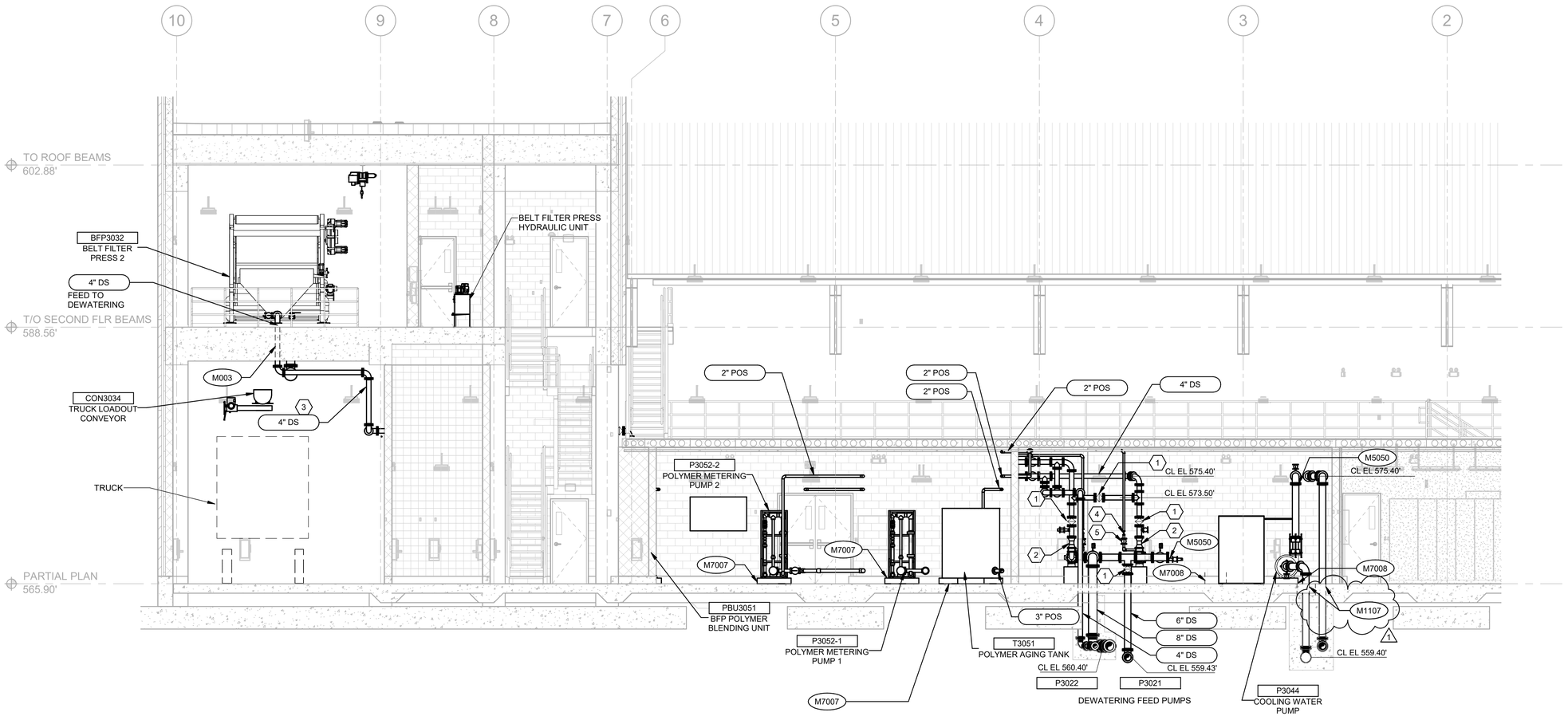
Plot Date: 1/9/2023 11:30:22 AM Path: BIM 360://154218 - Auburn Biosolids Improvement Design/154218_D30_V19.rvt

GENERAL NOTES:

1. NOT ALL SMALL PIPING APPURTENANCES ARE SHOWN ON THE MECHANICAL DRAWINGS. REFER TO PROCESS AND INSTRUMENTATION DIAGRAMS FOR PROCESS LOCATIONS OF ADDITIONAL SMALL PIPING, VALVES, AND APPURTENANCES REQUIRED AS PART OF THE CONTRACT DOCUMENTS TO COMPLETE THE SYSTEM INSTALLATION.
2. BELT DRYER, ASSOCIATED EQUIPMENT AND RELATED CONVEYORS SHALL BE BID AS ALTERNATE BID ITEMS A-A1, A-A2. SEE DRAWINGS I-30-103 AND 104 FOR BID ALTERNATE DELINEATION RELATED TO BELT DRYER AND BELT DRYER RELATED CONVEYANCE.

KEYNOTES:

1 6" PLUG VALVE
2 POLYMER INJECTION ASSEMBLY AND VENTURI MIXER.
3 INSULATE AND HEAT TRACE 4"-DS AND 8" FILTRATE PIPING IN TRUCK LOADING AREA.
4 BALL CHECK VALVE
5 BALL VALVE



4 SECTION
D-30-101 SCALE: 3/16" = 1'-0"

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1	12/16/22	ADDENDUM 4

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: N. STEVENS
DRAWN: L. WOLFORD
CHECKED: S. CLARK
APPROVED: N. STEVENS
FILENAME

BC PROJECT NUMBER
154218
CLIENT PROJECT NUMBER
XX

PROCESS MECHANICAL

DEWATERING AND DRYER BUILDING - SECTIONS

DRAWING NUMBER
D-30-302

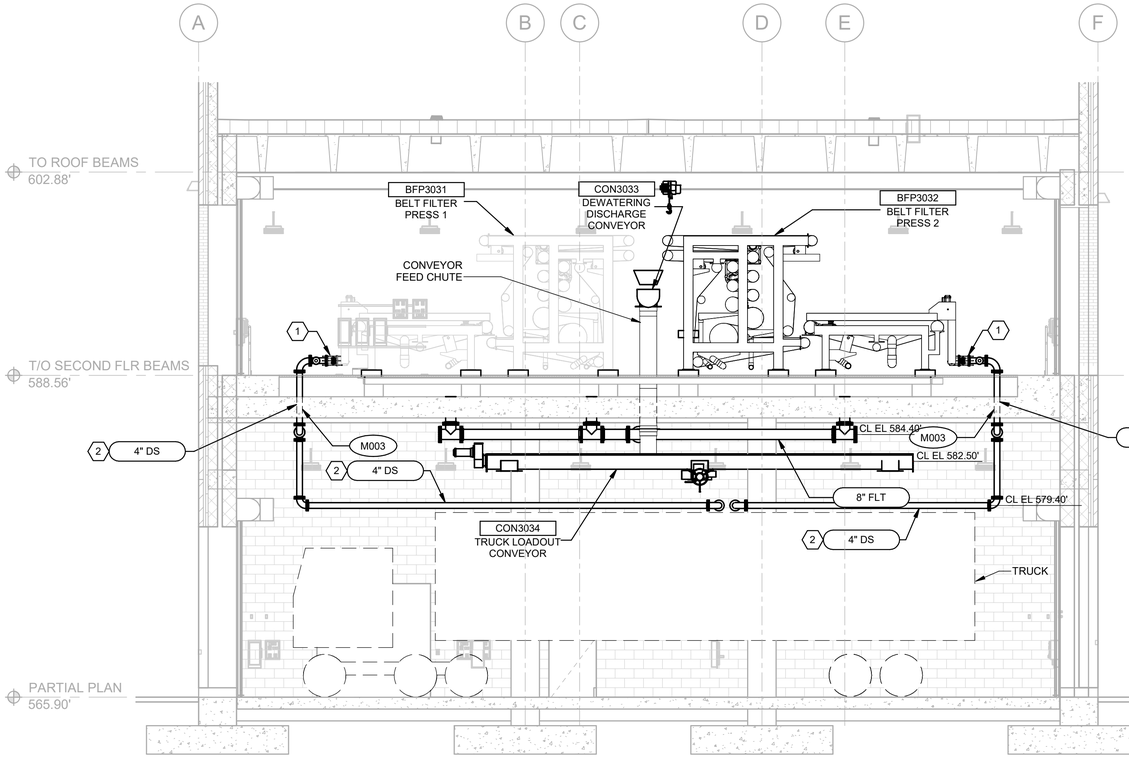
Plot Date: 1/9/2023 11:30:25 AM Path: BIM 360://154218 - Auburn Biosolids Improvement Design/154218_D30_V19.rvt

GENERAL NOTES:

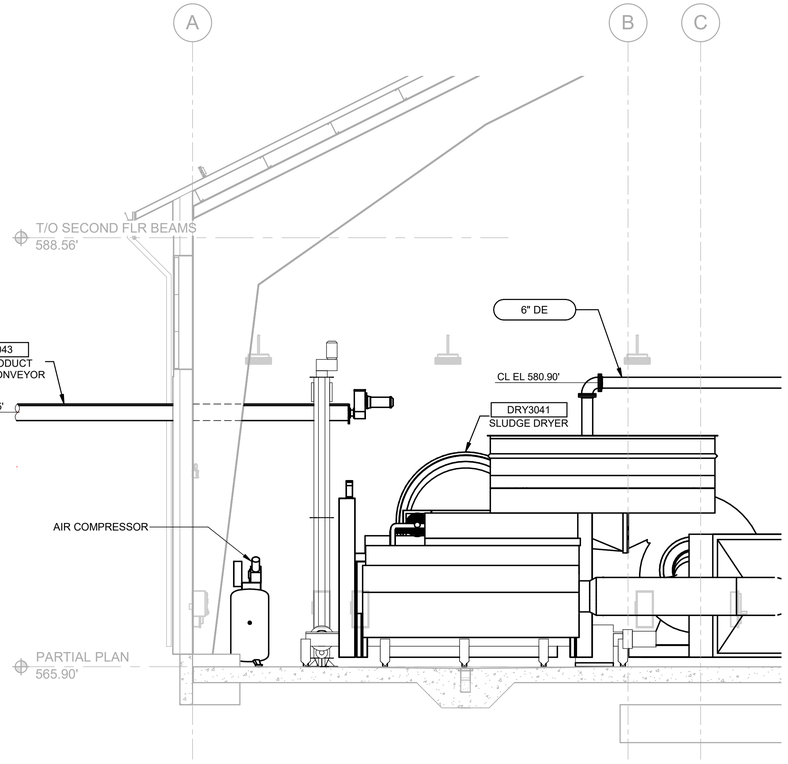
1. BELT DRYER, ASSOCIATED EQUIPMENT AND RELATED CONVEYORS SHALL BE BID AS ALTERNATE BID ITEMS A-A1, A-A2. SEE DRAWINGS I-30-103 AND 104 FOR BID ALTERNATE DELINEATION RELATED TO BELT DRYER AND BELT DRYER RELATED CONVEYANCE.

KEYNOTES:

1 4" DISMANTLING JOINT
2 INSULATE AND HEAT TRACE 4"-DS AND 8" FILTRATE PIPING IN TRUCK LOADING AREA.



5 SECTION
D-30-101 SCALE: 3/16" = 1'-0"



6 SECTION
D-30-101 SCALE: 1/4" = 1'-0"

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AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	1/9/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: N. STEVENS
DRAWN: L. WOLFORD
CHECKED: S. CLARK
APPROVED: N. STEVENS
FILENAME

BC PROJECT NUMBER
154218
CLIENT PROJECT NUMBER
XX

PROCESS MECHANICAL

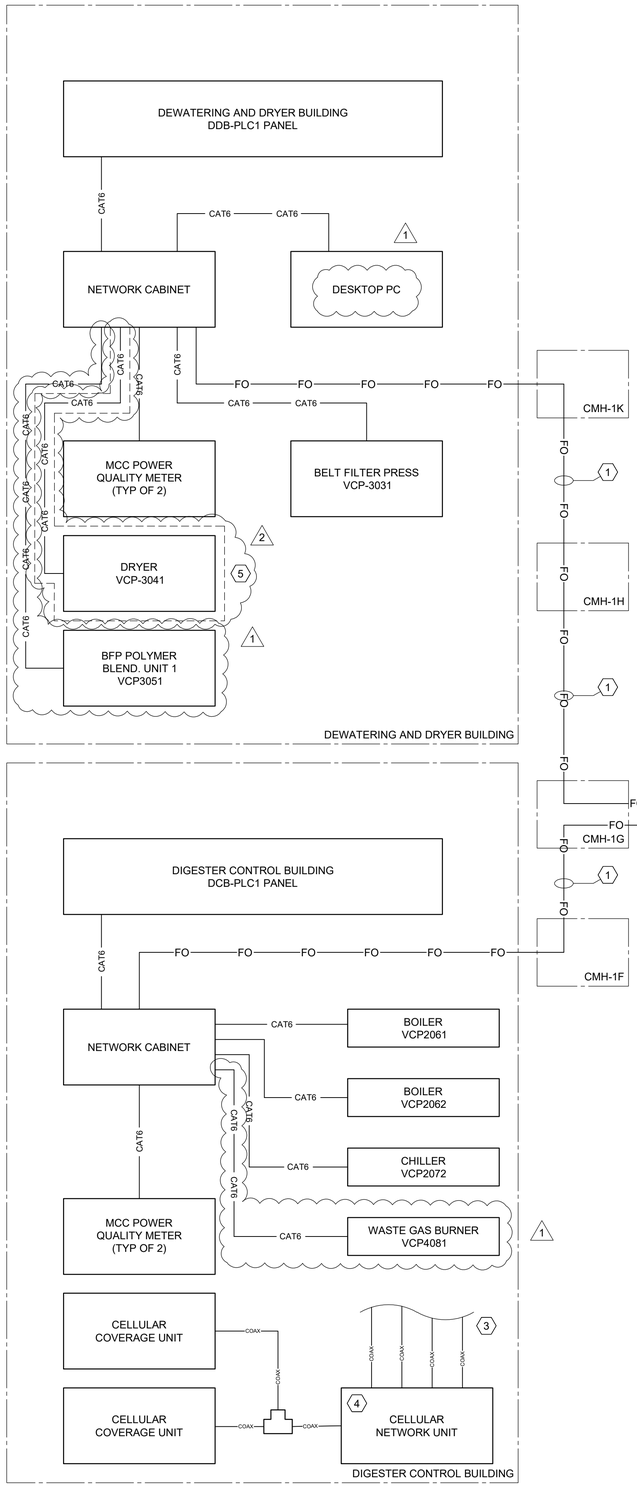
DEWATERING AND DRYER BUILDING - SECTIONS

DRAWING NUMBER
D-30-303

Plot Date: 1/9/2023 11:30:28 AM Path: BIM 360://154218 - Auburn Biosolids Improvement Design/154218_D30_V19.rvt

ADDENDUM NO. 7

ATTACHMENT NO. 16



GENERAL NOTES:

1. REFER TO DRAWING I-00-011 FOR NETWORK BLOCK DIAGRAM SHOWING ADDITIONAL WORK INSIDE BUILDINGS.
2. ALL FIBER OPTIC CABLES SHALL BE 24 STRAND UNLESS OTHERWISE INDICATED.
3. ALL CABLES SHALL BE ROUTED IN CONDUITS. PROVIDE CONDUIT SIZES INDICATED ON ONE LINE DIAGRAMS AND DETAIL DRAWINGS UNLESS OTHERWISE INDICATED. SIZE PER NEC, 1" MINIMUM FOR UNSCHEDULED CABLES.
4. REFER TO DRAWING I-00-014 FOR CELLULAR SIGNAL BOOSTER BLOCK DIAGRAM SHOWING ADDITIONAL WORK.

KEY NOTES:

1. ROUTED IN DUCTBANKS. REFER TO DRAWINGS E-00-101 AND E-00-102 FOR ELECTRICAL SITE PLAN.
2. ROUTE FIBER OPTIC CABLE FROM SOLIDS HANDLING BUILDING TO ADMINISTRATION BUILDING VIA UNDERGROUND DUCTBANK WITH ONE 4" CONDUIT, FIELD ROUTE. PROVIDE MINIMUM OF THREE PULL BOXES ALONG ROUTE. APPROXIMATE TOTAL LENGTH OF ROUTE IS 500 FT. SUBMIT PROPOSED ROUTING PRIOR TO BEGINNING WORK.
3. EXTEND TO CARRIER DONOR ANTENNAS MOUNTED ON BUILDING EXTERIOR.
4. SIMILAR CELLULAR SYSTEMS SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS:
   - SETTLING SEWAGE PUMP STATION
   - ORF PUMP BUILDING
   - GALLERY NO. 1
   - GALLERY NO. 2
   - GALLERY NO. 3
5. ITEMS WITHIN DASHED BOX SHALL BE PROVIDED UNDER BID ALTERNATE C-A2.

LEGEND:

- HARD WIRED SIGNALS
- CAT6 — CAT6 — CATEGORY 6 COPPER
- FO — FO — FIBER OPTIC CABLE
- COAX — COAX — COAXIAL CABLE

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AUBURN, NY

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REV	DATE	DESCRIPTION
1	12/21/22	ADDENDUM 5
2	1/9/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED:	R. ARMSTRONG
DRAWN:	G. AGUILAR
CHECKED:	W. DICKERSON
APPROVED:	R. ARMSTRONG

FILENAME

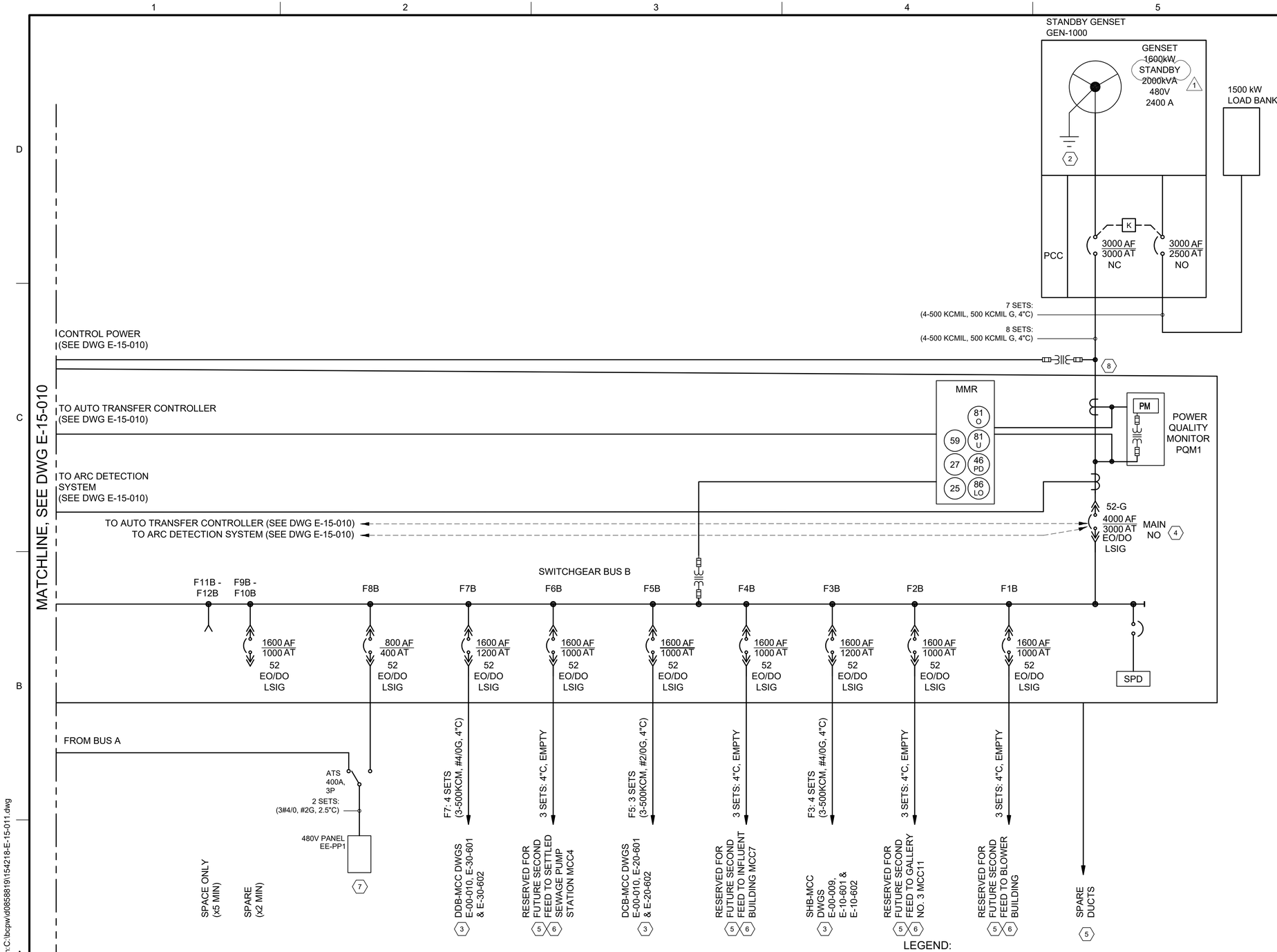
BC PROJECT NUMBER
154218
CLIENT PROJECT NUMBER

ELECTRICAL

NETWORK ARCHITECTURE DIAGRAM I

DRAWING NUMBER
E-00-019

Plot Date: 1/11/2023 8:27:40 AM Path:C:\bcpw\d0858819\154218-E-00-019.dwg



GENERAL NOTES:

1. PROVIDE WORK REQUIRED SHOWN IN NETWORK DWGS I-00-010, I-00-011, I-00-012, I-00-013, AND I-00-014.
2. SEE DWG E-15-010 FOR ADDITIONAL SWITCHGEAR FEATURES.

KEY NOTES:

1. NOT USED.
2. GROUND CONDUCTOR EXTENDS TO NEW AREA GROUND LOOP. SEE DWG E-15-102, BOND PER NEC 250.
3. PROVIDE REQUIRED POWER CIRCUIT SHOWN. EXTEND TO RESPECTIVE MOTOR CONTROL CENTER VIA NEW ELECTRICAL AND/OR EXISTING MAN HOLES SHOWN ON DWGS E-00-009, E-00-010, SITE PLANS E-00-101, E-00-102, AND SUBSTATION PLAN DWG E-15-102.
4. PROVIDE AUTOMATIC TRANSFER CONTROLLER. REFER TO SECTION 26 23 00 FOR SEQUENCE OF OPERATION.
5. PROVIDE SPARE DUCTS WITH FULL LENGTH NYLON PULL CORD TO NEARBY ELECTRICAL MAN HOLES.
6. CIRCUIT BREAKER RESERVED FOR SECOND FEED TO INDICATED BUILDING. PROVIDE WITH ADJUSTABLE TRIP UNIT.
7. PANELBOARD SHALL SUPPLY LIGHTING, HVAC, RECEPTACLE, AND RELATED LOADS FOR ELECTRICAL EQUIPMENT IPA. COORDINATE CIRCUIT REQUIREMENTS WITH IPA SUPPLIER.
8. PROVIDE NEUTRAL BUS IN MAIN SECTION ONLY.

RELAY FUNCTIONS:

25 SYNCHRONIZER
25A SYNC CHECK RELAY
27 UNDER VOLTAGE
32 DIRECTIONAL POWER
40 LOSS OF EXCITATION
47 PHASE SEQUENCE
50 RATE OF RISE OVERCURRENT
51 TIME OVERCURRENT
59 OVER VOLTAGE
65 GOVERNOR
81 OVER / UNDER FREQUENCY
86 LOCKOUT
90 VOLTAGE REGULATOR
87G DIFFERENTIAL RELAY
83 SOURCE SELECTOR

LEGEND:

AF	= BREAKER FRAME SIZE	LSIG	= LONG TIME SHORT TIME INSTANTANEOUS GROUND FAULT	PT	= POTENTIAL TRANSFORMER
AT	= BREAKER TRIP SETTING			SPD	= SURGE PROTECTION DEVICE
EO / DO	= ELECTRICALLY OPERATED / DRAW OUT	PCC	= POWER COMMAND CONTROL (SYNCHRONIZER)	NC	= NORMALLY CLOSED
GB	= GROUND BUS			NO	= NORMALLY OPENED
IO	= INPUT / OUTPUT SIGNALS	PLC	= PROGRAMMABLE LOGIC CONTROLLER	MMR	= MAIN MANAGEMENT RELAY

MAIN 480 VOLT SWITCHGEAR - SINGLE LINE DIAGRAM

SCALE: NONE

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1	1/12/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

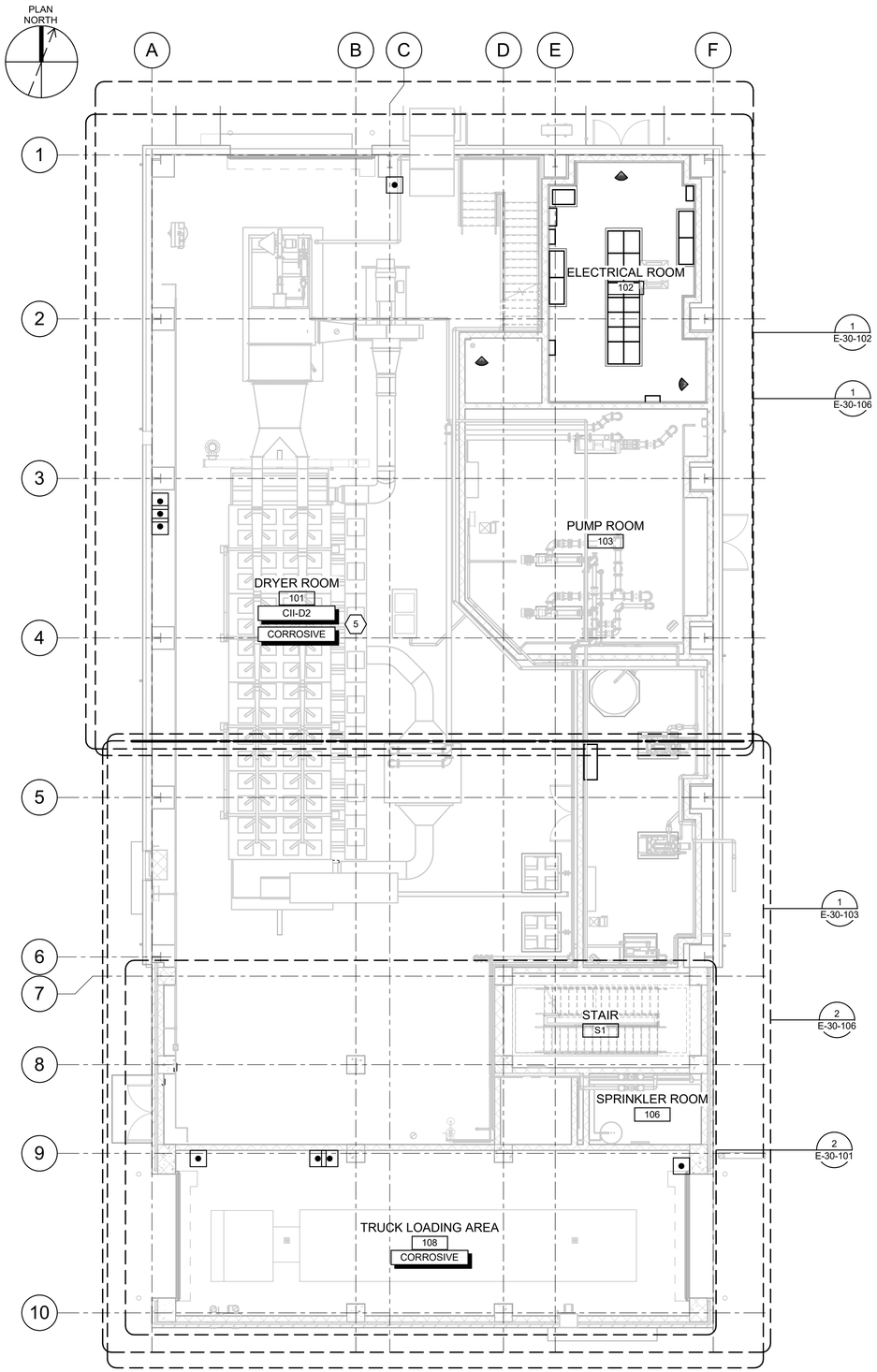
DESIGNED: R. ARMSTRONG
DRAWN: G. AGUILAR
CHECKED: W. DICKERSON
APPROVED: R. ARMSTRONG
FILENAME

BC PROJECT NUMBER
154218
CLIENT PROJECT NUMBER

ELECTRICAL
ELECTRICAL ENTRANCE GEAR, GENERATOR AND POWER TRANSFORMER - SINGLE LINE DIAGRAM - II

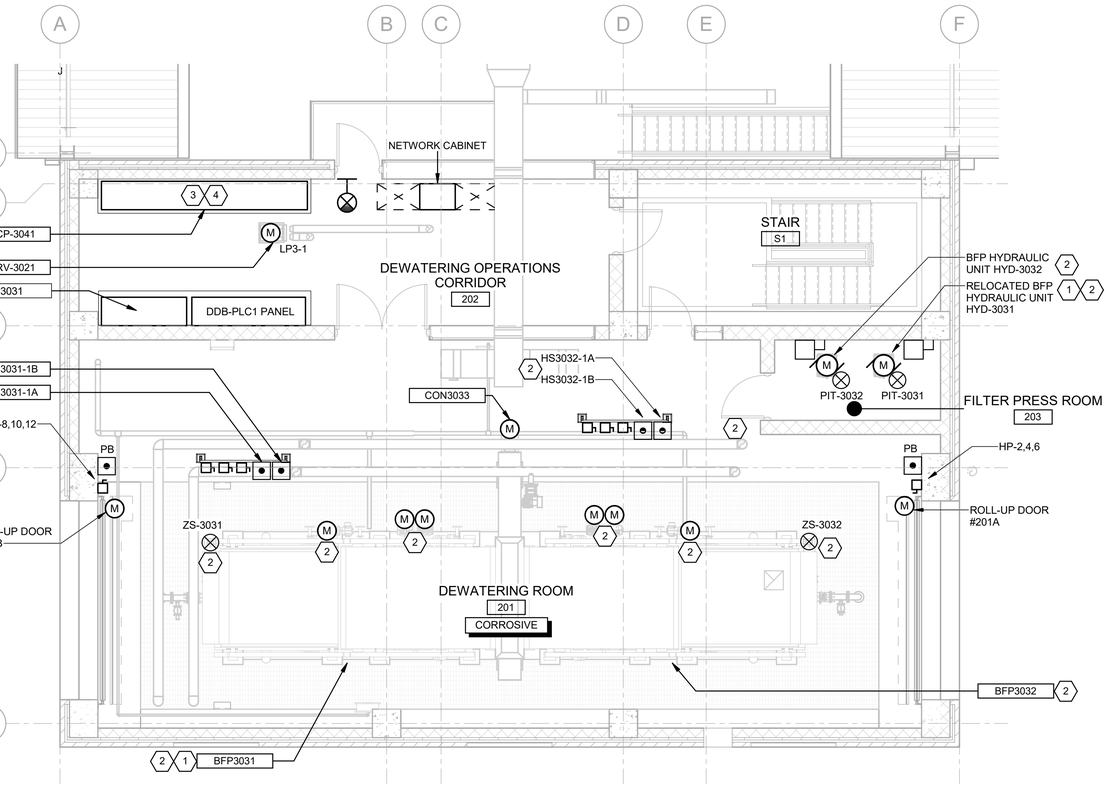
DRAWING NUMBER
E-15-011

Plot Date: 1/12/2023 11:17:44 AM Path:C:\bcpwid\08588191\154218-E-15-011.dwg



FIRST FLOOR PLAN

SCALE: 1/8" = 1'-0"



MEZZANINE OPERATIONS CORRIDOR AND DEWATERING ROOM - POWER AND CONTROL

SCALE: 3/16" = 1'-0"

GENERAL NOTES:

1. PROVIDE 4" HIGH CONCRETE HOUSEKEEPING PAD FOR ALL NEW FLOOR MOUNTED ELECTRICAL EQUIPMENT.
2. ELECTRICAL WORK AND MATERIALS FOR DRYER AND CONVEYANCE EQUIPMENT SHALL BE PROVIDED UNDER BID ALTERNATES C-A2 AND C-A3. REFER TO DRAWINGS E-30-601, E-30-604, E-00-019, I-30-103, AND I-30-104 FOR SPECIFIC EQUIPMENT.

KEYNOTES:

1. EXISTING BELT FILTER PRESS BFP-3031 AND HYDRAULIC UNIT ARE BEING RELOCATED FROM SOLIDS HANDLING BUILDING.
2. NOT ALL BELT FILTER PRESS ELECTRICAL AND INSTRUMENT DEVICES ARE SHOWN ON PLANS. REFER TO POWER AND CONTROL ONE LINE DIAGRAMS, SECTION 46 76 21, AND P&ID I-30-103 FOR QUANTITIES AND CIRCUIT INFORMATION FOR VENDOR FURNISHED EQUIPMENT TO BE WIRED. DEVICES SHALL BE LOCATED PER APPROVED VENDOR SHOP DRAWINGS. CONTRACTOR SHALL PROVIDE WIRING FOR A COMPLETE AND OPERABLE SYSTEM.
3. PROVIDE CONDUIT SLEEVES FOR 480V AND I&C CIRCUITS FROM VCP-3041 TO SLUDGE DRYER VENDOR EQUIPMENT LOCATED BELOW AT EL 565.90 VIA PULLBOXES PB1 AND PB2. SEE DWG E-30-103 FOR PROPOSED LOCATION OF SUSPENDED PULLBOXES. FINAL PLACEMENT AND CONFIGURATION OF THRU FLOOR SLEEVES SHALL BE PER ENGINEER APPROVED SUBMITTAL DRAWINGS.
4. PROPOSED PB1 (480V): (2) 3.5", (8) 1.5", (4) 2", (12) 1" CONDUIT SLEEVES AND FOR PROPOSED PB2: (4) 2", (8) 1.5", (8) 1" CONDUIT SLEEVES. SEE DWG E-30-103 FOR PROPOSED PULLBOXES.
5. CLASS II, DIVISION 2 CLASSIFIED AREA WITHIN 10 FT ENVELOPE AROUND DRYER EQUIPMENT AND APPURTENANCES.

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DRAWN: G. AGUILAR
CHECKED: W. DICKERSON
APPROVED: R. ARMSTRONG

FILENAME

BC PROJECT NUMBER
154218

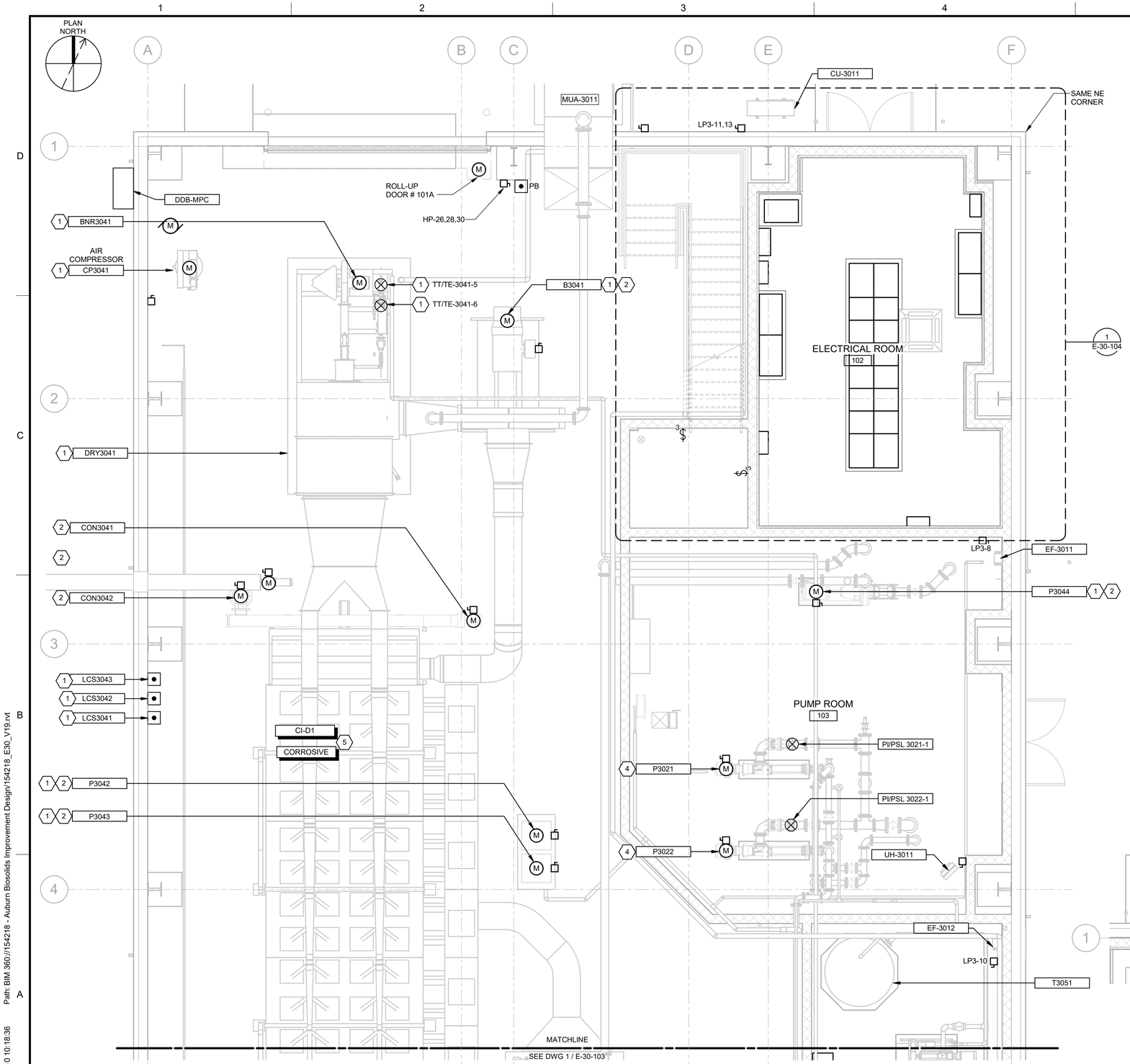
CLIENT PROJECT NUMBER
XX

ELECTRICAL

DEWATERING AND DRYER BUILDING - FIRST FLOOR AND OPERATIONS CORRIDOR - EQUIPMENT PLANS

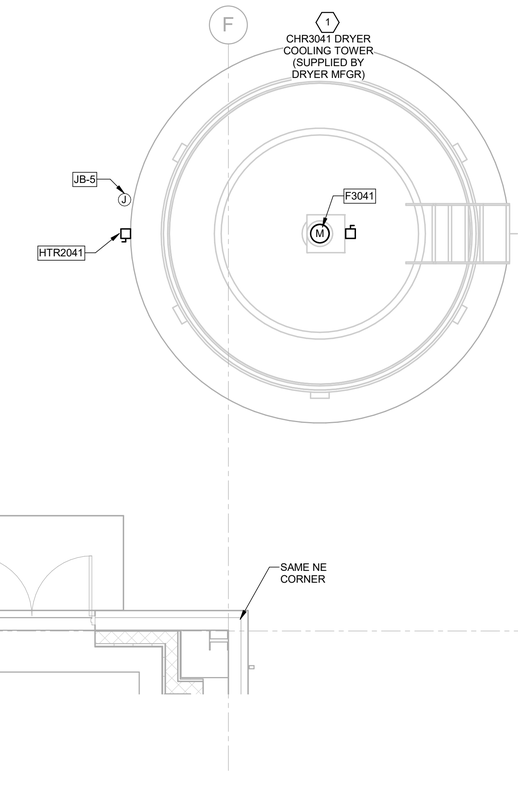
DRAWING NUMBER
E-30-101

Plot Date: 2023-01-10 10:18:33 AM
Path: BIM 360://154218 - Auburn Biosolids Improvement Design/154218_E30_V19.rvt



POWER AND CONTROL PLAN I

SCALE: 1/4" = 1'-0"



POWER AND CONTROL PLAN - COOLING TOWER

SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. ELECTRICAL WORK AND MATERIALS FOR DRYER AND CONVEYANCE EQUIPMENT SHALL BE PROVIDED UNDER BID ALTERNATES C-A2 AND C-A3. REFER TO DRAWINGS E-30-601, E-30-604, E-00-019, I-30-103, AND I-30-104 FOR SPECIFIC EQUIPMENT.

KEYNOTES:

1. VENDOR PROVIDED EQUIPMENT WITH COMPONENTS, MOTOR, INSTRUMENT, AND MISC ANCILLARY EQUIPMENT (NOT ALL IS SHOWN). LOCATION SHOWN IS PROPOSED. FIELD DETERMINE LOCATIONS BEFORE CONSTRUCTION ROUGH-IN PHASE, INSTALLATION SHALL BE PER ENGINEER ACCEPTED SUBMITTAL SHOP DRAWINGS. SEE PID I-30-104, D-30-102, AND D-30-103 FOR DETAILS.
2. FOR VENDOR PROVIDED SLUDGE DRYER EQUIPMENT, PROVIDE 480V POWER, I&C CIRCUITS BACK TO VCP-3041 LOCATED IN DEWATERING OPERATIONS CORRIDOR UPPER LEVEL, SEE DWG E-30-101.
3. FOR DRIED PRODUCT CONVEYORS POWER AND CONTROL, SEE DDB-MCC ONE LINE DIAGRAM E-30-601.
4. FOR DEWATERING FEED PUMPS 1 AND 2 POWER AND CONTROL CIRCUIT FROM DDB-MCC VIA VFDs, SEE MCC ONE LINE DIAGRAM E-30-601. SEE PROPOSED LOCATION FOR VFDs IN ELECTRICAL ROOM, DWG E-30-104.
5. CLASS II, DIVISION 2 CLASSIFIED AREA WITHIN 10 FT ENVELOPE AROUND DRYER EQUIPMENT AND APPURTENANCES.

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AUBURN, NY

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REV	DATE	DESCRIPTION
1	1/9/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED:	R. ARMSTRONG
DRAWN:	G. AGUILAR
CHECKED:	W. DICKERSON
APPROVED:	R. ARMSTRONG

FILENAME

BC PROJECT NUMBER 154218

CLIENT PROJECT NUMBER XX

ELECTRICAL

DEWATERING AND DRYER BUILDING - ENLARGED PLAN I - POWER AND CONTROL

DRAWING NUMBER

E-30-102

Path: BIM 360://154218 - Auburn Biosolids Improvement Design/154218_E30_V19.rvt
Plot Date: 2023-01-10 10:18:36 AM

PLAN NORTH

MATCHLINE

SEE DWG 1 / E-30-102

CII-D2

CORROSIVE

3

DRY3041

EF-3015

DRYER ROOM
101

1) FEED HOPPER LEVELING SCREW
2) FEED HOPPER FEED SCREW
3) SIFTER BRUSH
4) LEVELING AUGER

1 2

CON3035

480V AND I&C PULLBOXES UP AND SUSPENDED TO FLOOR ABOVE. PULLBOXES LOCATED AND ALLIGNED WITH VCP-3041 SLUDGE DRYER CONTROL PANEL.

PB-1

PB-2

FCU-3021

FCU-3022

POLYMER ROOM
104

P3052-1

VCP3052

EF-3021

P3052-2

LP3-14

VCP-3051

PBU3051

UH-3012

FE 3024

FE 3023

FIT-3023

FIT-3024

STAIR
S1

LP3-7

UH-3013

EF-3013

LP3-12

SPRINKLER ROOM
106

WH-3001

RESTROOM
105

UH-3015

LP3-9

HP-1,3,5

LP3-5

HP-14,16,18

UH-3014

EEW-1

RELOCATED VENTURI MIXERS

HP-20,22,24

PB

ROLL-UP DOOR #108D

ROLL-UP DOOR #108A

LCS3038

LCS3034

TRUCK LOADING AREA
108

CORROSIVE

GT3034

CON3034

EF-3014

LP3-6

SF-3011

POWER AND CONTROL PLAN II

SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. ELECTRICAL WORK AND MATERIALS FOR DRYER AND CONVEYANCE EQUIPMENT SHALL BE PROVIDED UNDER BID ALTERNATES C-A2 AND C-A3. REFER TO DRAWINGS E-30-601, E-30-604, E-00-019, I-30-103, AND I-30-104 FOR SPECIFIC EQUIPMENT.

KEYNOTES:

1. VENDOR PROVIDED EQUIPMENT WITH COMPONENTS, MOTOR, INSTRUMENT, AND MISC ANCILLARY EQUIPMENT (NOT ALL IS SHOWN). LOCATION SHOWN IS PROPOSED. FIELD DETERMINE LOCATIONS BEFORE CONSTRUCTION ROUGH-IN PHASE, INSTALLATION SHALL BE PER ENGINEER ACCEPTED SUBMITTAL SHOP DRAWINGS. SEE PID I-30-104, D-30-102, AND D-30-103 FOR DETAILS.
2. FOR VENDOR PROVIDED SLUDGE DRYER, PROVIDE 480V POWER, I&C CIRCUITS BACK TO VCP-3041 LOCATED IN DEWATERING OPERATIONS CORRIDOR UPPER LEVEL, SEE DWG E-30-101.
3. CLASS II, DIVISION 2 CLASSIFIED AREA WITHIN 10 FT ENCELOPE AROUND DRYER EQUIPMENT AND APPURTENCES.

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SYRACUSE, NY 13202

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BID DOCUMENTS

CITY OF AUBURN NEW YORK

BIOSOLIDS PROCESS IMPROVEMENTS

AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	1/9/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: R. ARMSTRONG
DRAWN: G. AGUILAR
CHECKED: W. DICKERSON
APPROVED: R. ARMSTRONG
FILENAME

BC PROJECT NUMBER
154218
CLIENT PROJECT NUMBER
XX

ELECTRICAL

DEWATERING AND DRYER BUILDING - ENLARGED PLAN II - POWER AND CONTROL

DRAWING NUMBER
E-30-103

Plot Date: 2023-01-10 10:18:37 AM
Path: BIM 360://154218 - Auburn Biosolids Improvement Design/154218_E30_V19.rvt

DDB-MCC, NEMA-12

DDB-MCC BUS A, 1200A, 480V, 3PH, 3W, 65KAIC

K 3P 1200AT 1200AF — MAIN SWGR DWG E-00-010

PM — DDB-PLC1

SPD

GND GRID

3P 100A TM — 3 #1, #8 G, 1-1/2"C — PID: I-40-105 — VFD-4051 — 3/C#1 w/G, 2"C (2) — 100A — 40 — SECONDARY DIGESTER MIXER MX-4051

3P 20A TM — 3 #12, #12 G, 3/4" C — PID: I-30-105 — 30A — VCP-3052 (3) (3) V* — POLYMER METERING PUMP P-3051-1 — POLYMER METERING PUMP P-3052-2

3P 15A MCP — F R — SSOL — 3 #12, #12 G, 3/4" C — PID: I-30-103 — 30A — 5 — DEWATERING DISCHARGE CONVEYOR CON-3033

3P 3A MCP — F R — SSOL — 3 #12, #12 G, 3/4" C — PID: I-30-103 — 30A — 1 — SLUDGE DRYER FEED CONVEYOR CON-3035 (5)

3P 15A MCP — S1 — SSOL — 3 #12, #12 G, 3/4" C — PID: I-30-104 — 30A — 1.5 — DRIED PRODUCT DISCHARGE CONVEYOR CON-3041

3P 15A MCP — S1 — SSOL — 3 #12, #12 G, 3/4" C — PID: I-30-104 — 30A — 1.5 — DRIED PRODUCT INCLINE CONVEYOR CON-3042 (4)

3P 15A MCP — S1 — SSOL — 3 #12, #12 G, 3/4" C — PID: I-30-104 — 30A — 1 — DRIED PRODUCT STORAGE CONVEYOR CON-3043 (5)

CONTINUES BELOW LEFT, THIS DWG

KEY NOTES:

1. REFER TO DWG E-00-101 AND E-00-102 FOR MAIN 480V SWGR LOCATION AND PROPOSED DUCT BANK ROUTING.
2. PROVIDE VFD SHIELDED CABLE BETWEEN VFD AND MOTOR LOAD, TYPICAL.
3. GATE CIRCUIT SHOWN IS PRELIMINARY. PROVIDE CIRCUIT REQUIRED BY EQUIPMENT MFR AND PER ACCEPTED ENGINEER SUBMITTAL DRAWINGS.
4. ITEMS WITHIN DASHED BOXES SHALL BE PROVIDED UNDER BID ALTERNATE C-A2.
5. ITEMS WITHIN DASHED BOXES SHALL BE PROVIDED UNDER BID ALTERNATE C-A3.

LEGEND:

V* VENDOR PACKAGED SKID

CONTINUED FROM ABOVE RIGHT THIS DWG

DDB-MCC (CONTINUED)

K TIE BRKR 1200AF 1200AT

DDB-MCC BUS B

3P 700A TM — (3) SETS: 3-250 kCMIL, #1/0G, 2-1/2"C — PID: I-30-104 — 800A — SLUDGE DRYER VCP-3041

3P 30A TM — 3P 30A MCP — S1 — SSOL — SPARE

3P 30A TM — 3P 30A MCP — S1 — SSOL — SPARES (x3)

3P 45A TM — 3 #6, #10 G, 1" C — PID: I-30-102 — VFD-3021 — 4/C#6, 1.5"C (2) — 60A — 20 — DEWATERING FEED PUMP 1 P-3021

3P 45A TM — 3 #6, #10 G, 1" C — PID: I-30-102 — VFD-3022 — 4/C#6, 1.5"C (2) — 60A — 20 — DEWATERING FEED PUMP 2 P-3022

SPARE

3P 100A TM — 3 #1, #8 G, 1-1/2"C — PID: I-40-105 — VFD-4052 — 3/C#1 w/G, 2"C (2) — 100A — 40 — SECONDARY DIGESTER MIXING PUMP P-4052

3P 15A MCP — F R — SSOL — 3 #12, #12 G, 3/4" C — PID: I-30-103 — 30A — 5 — TRUCK LOADOUT CONVEYOR CON-3034 — TRUCK DISTRIBUTION CONVEYOR CON-3034

3P 15A MCP — S1 — SSOL — 3 #12, #12 G, 3/4" C — PID: I-30-103 — 30A — M (3) — TRUCK LOADOUT CONVEYOR SLIDE GATE GT-3034

DDB-MCC - BUS B CONTINUES ON SHEET E-30-602

DDB-PLC1

SIFTER BRUSH	30A	2	
LEVELING SECTION	30A	1	DRYER FEED HOPPER (MIXERS)
SYSTEM DRIVE 1	30A	1	
FEED SCREW	30A	3	
FEED SCREW	30A	3	
COMBUSTION BLOWER	100A	50	
MAIN SYSTEM DRYER BELT	30A	3	
MAIN PROCESS BLOWER B3041	400A	250	
COOLING TOWER WATER PUMP P3044	100A	30	SLUDGE DRYER
LID LIFT 01	30A	2	
LID LIFT 02	30A	2	
COOLING TOWER FAN F3041	60A	10	
CONDENSATE REMOVAL PUMP P3043	30A	1	
CHAMBER RINSE PUMP P3042	60A	10	
BELT WASH PUMP P3041	60A	20	

V*

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AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	12/19/22	ADDENDUM 5
2	1/9/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: R. ARMSTRONG
DRAWN: G. AGUILAR
CHECKED: W. DICKERSON
APPROVED: R. ARMSTRONG
FILENAME
BC PROJECT NUMBER 154218
CLIENT PROJECT NUMBER

ELECTRICAL

DDB-MCC ONE LINE DIAGRAM I

DRAWING NUMBER
E-30-601

Plot Date: 1/11/2023 9:58:41 AM Path:C:\bcpw\d0858819\154218-E-30-601.dwg

DDB-MCC FEEDER BUCKET LEGEND:

NUMBER	NAME
1	MAIN BREAKER - BUS A
2	POWER METER PM
3	SURGE DEVICE SPD
4	MX4051 VFD FEEDER
5	VCP3052 FEEDER
6	CON3033 STARTER
7	CON3035 STARTER (3)
8	CON3041 STARTER (2)
9	CON3042 STARTER (2)
10	CON3043 STARTER (3)
11	SLUDGE DRYER VCP3041 FEEDER (2)
12	SPARE FVNR SZ 1 STARTER
13	SPARE 30 A CB
14	SPARE 30 A CB
15	SPARE 30 A CB
16	SPARE FVNR SZ 1 STARTER
17	P3021 VFD FEEDER
18	TIE BREAKER
19	BUS COMPARTMENT
20	P3022 VFD FEEDER
21	P4052 VFD FEEDER
22	CON3034 STARTER
23	GT3034 STARTER
24	BELT FILTER PRESS VCP3031 FEEDER
25	MAU-3011 FEEDER
26	EF-3021 STARTER
27	EF-3015 STARTER
28	SPARE 20 A CB
29	SPARE 20 A CB
30	SPARE 20 A CB

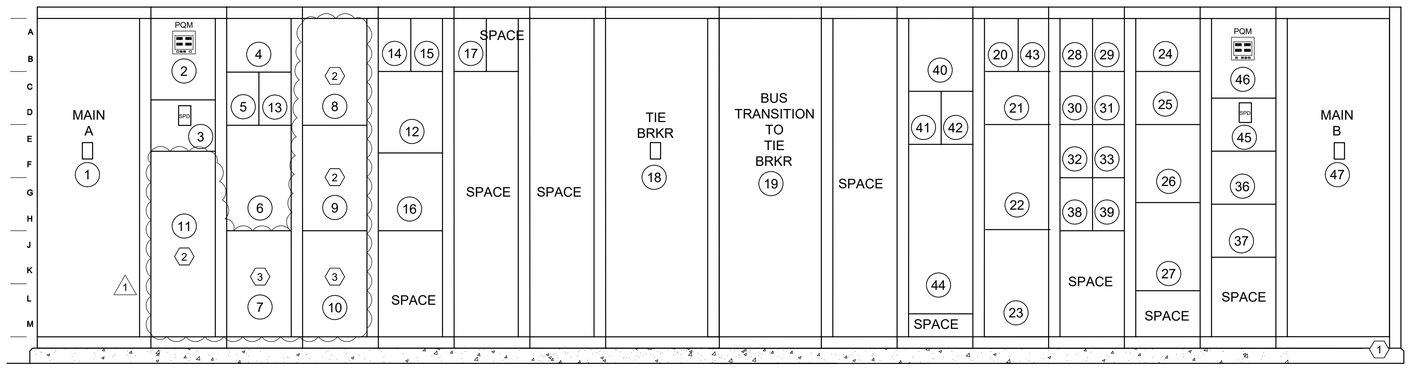
1

NUMBER	NAME
31	SPARE 20 A CB
32	SPARE 20 A CB
33	VCP3041 FEEDER
34	UH-3011 FEEDER
35	UH-3012 FEEDER
36	DDB-T1 FEEDER
37	PANELBOARD DDB-HP
38	DDB-T2 FEEDER
39	DDB-MPC FEEDER
40	EF-2014 STARTER
41	SPARE 20 A CB
42	SPARE 20 A CB
43	SPARE 20 A CB
44	FOR FUTURE PYROLYSIS
45	SURGE DEVICE SPD
46	POWER METER PM
47	MAIN BREAKER - BUS B

KEY NOTES

1. MINIMUM 4" THICK CONCRETE REINFORCED HOUSEKEEPING SLAB. HOUSEKEEPING PAD PER ENGINEER APPROVED SUBMITTAL DRAWINGS.
2. INDICATED CIRCUIT BREAKERS AND MOTOR STARTERS SHALL BE PROVIDED UNDER BID ALTERNATE C-A2. PROVIDE BLANK SPACES FOR INDICATED DEVICES UNDER BASE BID.
3. INDICATED CIRCUIT BREAKERS AND MOTOR STARTERS SHALL BE PROVIDED UNDER BID ALTERNATE C-A3. PROVIDE BLANK SPACES FOR INDICATED DEVICES UNDER BASE BID.

1



A DDB-MCC ELEVATION
NOT TO SCALE

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BIOSOLIDS PROCESS IMPROVEMENTS

AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	1/9/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: R. ARMSTRONG
DRAWN: G. AGUILAR
CHECKED: W. DICKERSON
APPROVED: R. ARMSTRONG
FILENAME

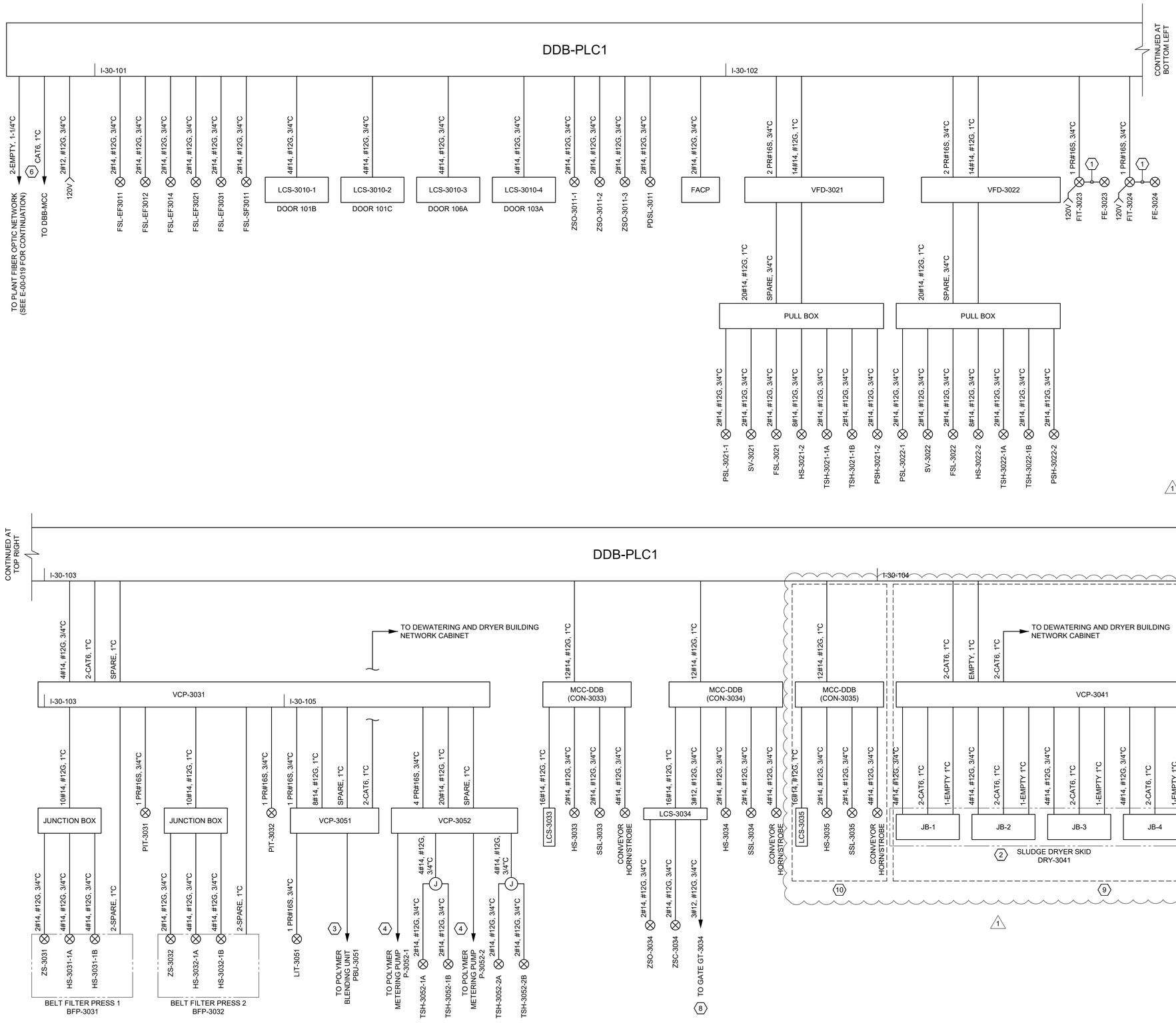
BC PROJECT NUMBER
154218
CLIENT PROJECT NUMBER

ELECTRICAL

DDB-MCC ELEVATION

DRAWING NUMBER
E-30-603

Plot Date: 1/10/2023 8:56:51 AM Path:C:\bcpw\d0858819\154218-E-30-603.dwg



GENERAL SHEET NOTES

1. CONTRACTOR SHALL HAVE THE OPTION OF COMBINING MULTIPLE CONTROL CIRCUITS OF LIKE TYPES INTO COMMON CONDUITS SIZED PER CODE, 1" MINIMUM. CONDUITS SHALL BE GROUPED BY TYPE AS FOLLOWS AND DIFFERENT TYPES OF CIRCUITS SHALL NOT BE ROUTED IN THE SAME CONDUIT OR RACEWAY. SUBMIT PROPOSED COMBINED CIRCUITS FOR REVIEW PRIOR TO BEGINNING WORK, AND PROVIDE AS-BUILT DRAWINGS SHOWING FINAL CIRCUITING FOR RECORD DRAWING DOCUMENTATION.
   - 120 VOLT AC CONTROL
   - ANALOG SIGNAL (4-20 mA)
   - ETHERNET / NETWORK COMMUNICATIONS
   - DC CONTROL
2. PROVIDE A LOCAL DISCONNECT SWITCH (SNAP SWITCH) FOR ALL 120 VAC CIRCUITS FOR INSTRUMENT POWER. SWITCH OTHERWISE SHALL BE NEMA 4X UNLESS OTHERWISE INDICATED.

KEY NOTES

1. MFR CABLE PROVIDED BY VENDOR. PROVIDE CONDUIT AND TERMINATION REQUIRED.
2. COORDINATE FIELD WIRING WITH DRYER VENDOR APPROVED SHOP DRAWINGS. PROVIDE WIRING AND RACEWAYS OF SIZES AND QUANTITIES AS REQUIRED BY VENDOR. TERMINATE WIRING AT INSTRUMENTATION JUNCTION BOXES FURNISHED WITH DRYER.
3. COORDINATE FIELD WIRING WITH BFP POLYMER BLENDING UNIT VENDOR APPROVED SHOP DRAWINGS. PROVIDE WIRING AND RACEWAYS OF SIZES AND QUANTITIES AS REQUIRED BY VENDOR.
4. COORDINATE FIELD WIRING WITH POLYMER METERING PUMP VENDOR APPROVED SHOP DRAWINGS. PROVIDE WIRING AND RACEWAYS OF SIZES AND QUANTITIES AS REQUIRED BY VENDOR.
5. VCP3031 SHALL CONTROL BELT FILTER PRESS 1 BFP3031 AND BELT FILTER PRESS 2 BFP3032.
6. FOR POWER QUALITY METER.
7. LOCATED AT COOLING TOWER CHR3041.
8. PROVIDE CIRCUITS AS REQUIRED BY GATE AND CONVEYOR MFR AND PER APPROVED VENDOR SUBMITTAL DRAWINGS.
9. ITEMS WITHIN DASHED BOXES SHALL BE PROVIDED UNDER BID ALTERNATE C-A2.
10. ITEMS WITHIN DASHED BOXES SHALL BE PROVIDED UNDER BID ALTERNATE C-A3.

1

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CITY OF AUBURN NEW YORK

BIOSOLIDS PROCESS IMPROVEMENTS

AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	1/9/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: R. ARMSTRONG
DRAWN: G. AGUILAR
CHECKED: W. DICKERSON
APPROVED: R. ARMSTRONG
FILENAME

BC PROJECT NUMBER 154218
CLIENT PROJECT NUMBER

ELECTRICAL

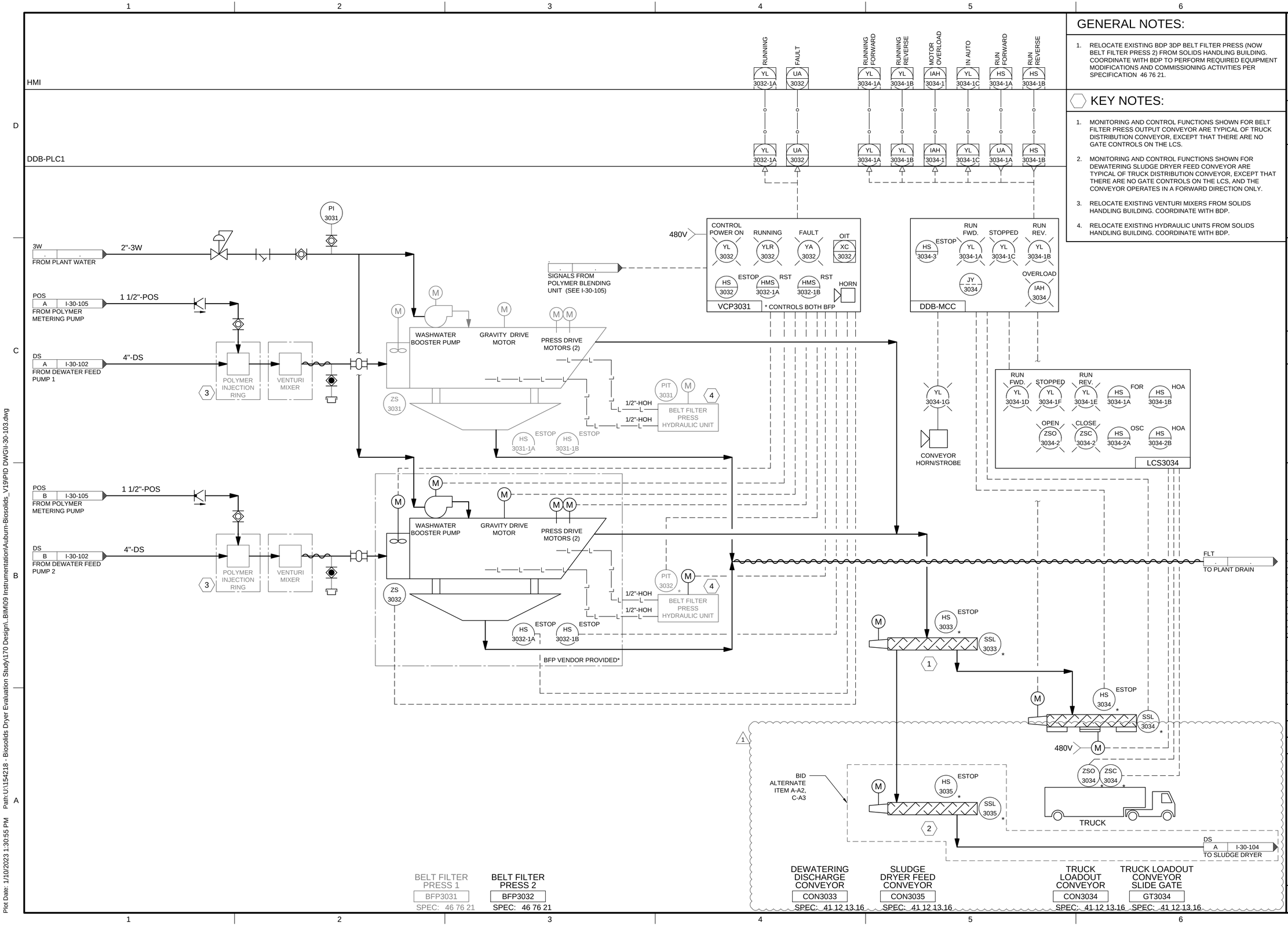
DDB-PLC1 CONTROL ONE-LINE DIAGRAM I

DRAWING NUMBER
E-30-604

Plot Date: 1/9/2023 3:57:08 PM Path: C:\bcpw\d0858819\1154218-E-30-604.dwg

ADDENDUM NO. 7

ATTACHMENT NO. 17



GENERAL NOTES:

1. RELOCATE EXISTING BDP 3DP BELT FILTER PRESS (NOW BELT FILTER PRESS 2) FROM SOLIDS HANDLING BUILDING. COORDINATE WITH BDP TO PERFORM REQUIRED EQUIPMENT MODIFICATIONS AND COMMISSIONING ACTIVITIES PER SPECIFICATION 46 76 21.

KEY NOTES:

1. MONITORING AND CONTROL FUNCTIONS SHOWN FOR BELT FILTER PRESS OUTPUT CONVEYOR ARE TYPICAL OF TRUCK DISTRIBUTION CONVEYOR, EXCEPT THAT THERE ARE NO GATE CONTROLS ON THE LCS.
2. MONITORING AND CONTROL FUNCTIONS SHOWN FOR DEWATERING SLUDGE DRYER FEED CONVEYOR ARE TYPICAL OF TRUCK DISTRIBUTION CONVEYOR, EXCEPT THAT THERE ARE NO GATE CONTROLS ON THE LCS, AND THE CONVEYOR OPERATES IN A FORWARD DIRECTION ONLY.
3. RELOCATE EXISTING VENTURI MIXERS FROM SOLIDS HANDLING BUILDING. COORDINATE WITH BDP.
4. RELOCATE EXISTING HYDRAULIC UNITS FROM SOLIDS HANDLING BUILDING. COORDINATE WITH BDP.

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REVISIONS

REV	DATE	DESCRIPTION
1	1/10/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: R. BOBKA
DRAWN: T. HILLIARD
CHECKED: J. ROSS
APPROVED: R. BOBKA

FILENAME

BC PROJECT NUMBER 154218

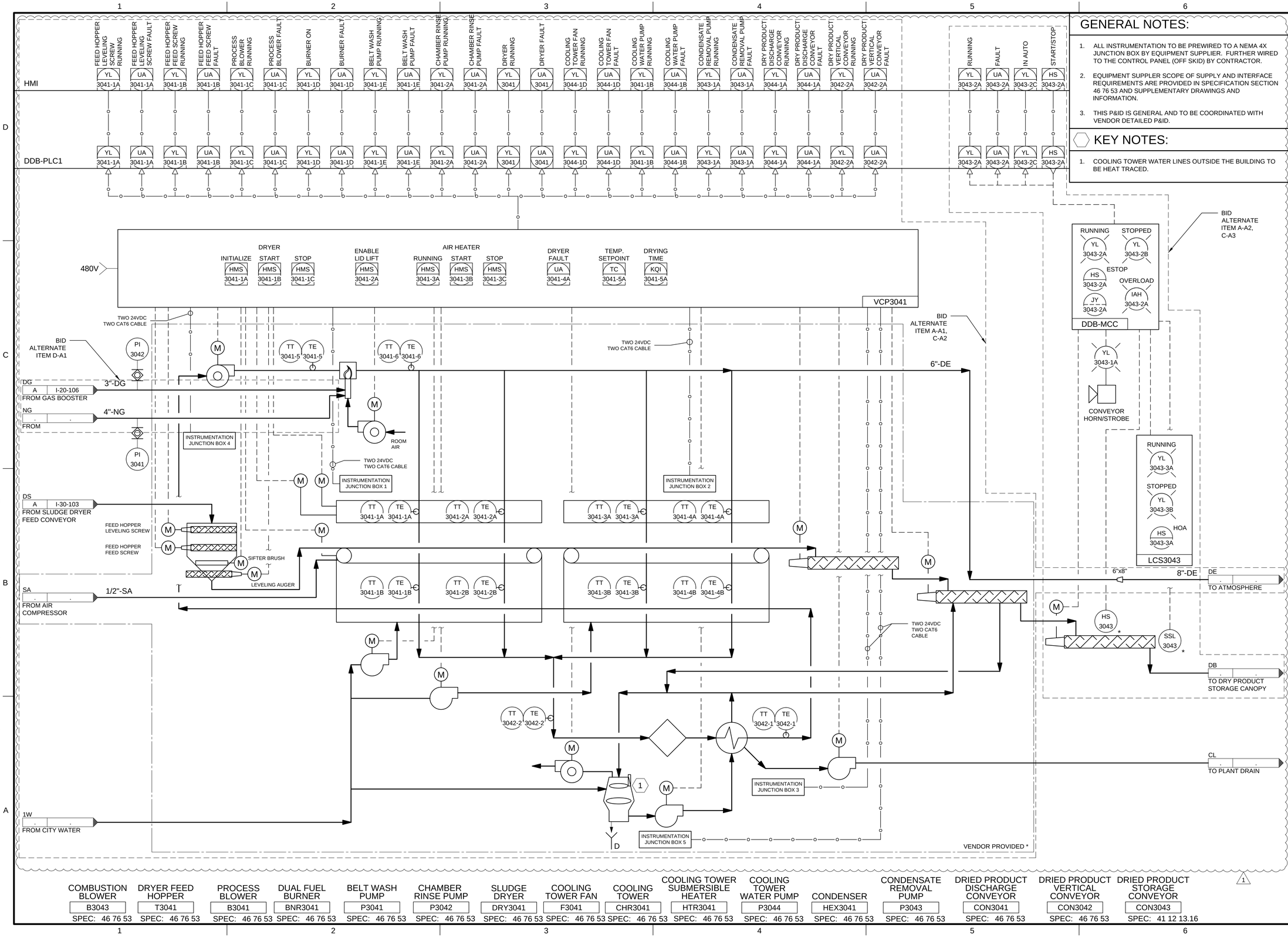
CLIENT PROJECT NUMBER

INSTRUMENTATION

BELT FILTER PRESSES - P&ID

DRAWING NUMBER
I-30-103

Plot Date: 1/10/2023 1:30:55 PM Path:\U\154218 - Biosolids Dryer Evaluation Study\170 Design\..BIM\09 Instrumentation\Auburn-Biosolids_V19\PID DWG\I-30-103.dwg



GENERAL NOTES:

1. ALL INSTRUMENTATION TO BE PREWIRED TO A NEMA 4X JUNCTION BOX BY EQUIPMENT SUPPLIER. FURTHER WIRED TO THE CONTROL PANEL (OFF SKID) BY CONTRACTOR.
2. EQUIPMENT SUPPLER SCOPE OF SUPPLY AND INTERFACE REQUIREMENTS ARE PROVIDED IN SPECIFICATION SECTION 46 76 53 AND SUPPLEMENTARY DRAWINGS AND INFORMATION.
3. THIS P&ID IS GENERAL AND TO BE COORDINATED WITH VENDOR DETAILED P&ID.

KEY NOTES:

1. COOLING TOWER WATER LINES OUTSIDE THE BUILDING TO BE HEAT TRACED.

COMBUSTION BLOWER	DRYER FEED HOPPER	PROCESS BLOWER	DUAL FUEL BURNER	BELT WASH PUMP	CHAMBER RINSE PUMP	SLUDGE DRYER	COOLING TOWER FAN	COOLING TOWER	COOLING TOWER SUBMERSIBLE HEATER	COOLING TOWER WATER PUMP	CONDENSER	CONDENSATE REMOVAL PUMP	DRIED PRODUCT DISCHARGE CONVEYOR	DRIED PRODUCT VERTICAL CONVEYOR	DRIED PRODUCT STORAGE CONVEYOR
B3043	T3041	B3041	BNR3041	P3041	P3042	DRY3041	F3041	CHR3041	HTR3041	P3044	HEX3041	P3043	CON3041	CON3042	CON3043
SPEC: 46 76 53	SPEC: 46 76 53	SPEC: 46 76 53	SPEC: 46 76 53	SPEC: 46 76 53	SPEC: 46 76 53	SPEC: 46 76 53	SPEC: 46 76 53	SPEC: 46 76 53	SPEC: 46 76 53	SPEC: 46 76 53	SPEC: 46 76 53	SPEC: 46 76 53	SPEC: 46 76 53	SPEC: 46 76 53	SPEC: 41 12 13.16

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BIOSOLIDS PROCESS IMPROVEMENTS

AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION
1	1/10/23	ADDENDUM 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: R. BOBKA
DRAWN: T. HILLIARD
CHECKED: J. ROSS
APPROVED: R. BOBKA
FILENAME

BC PROJECT NUMBER
154218
CLIENT PROJECT NUMBER

INSTRUMENTATION

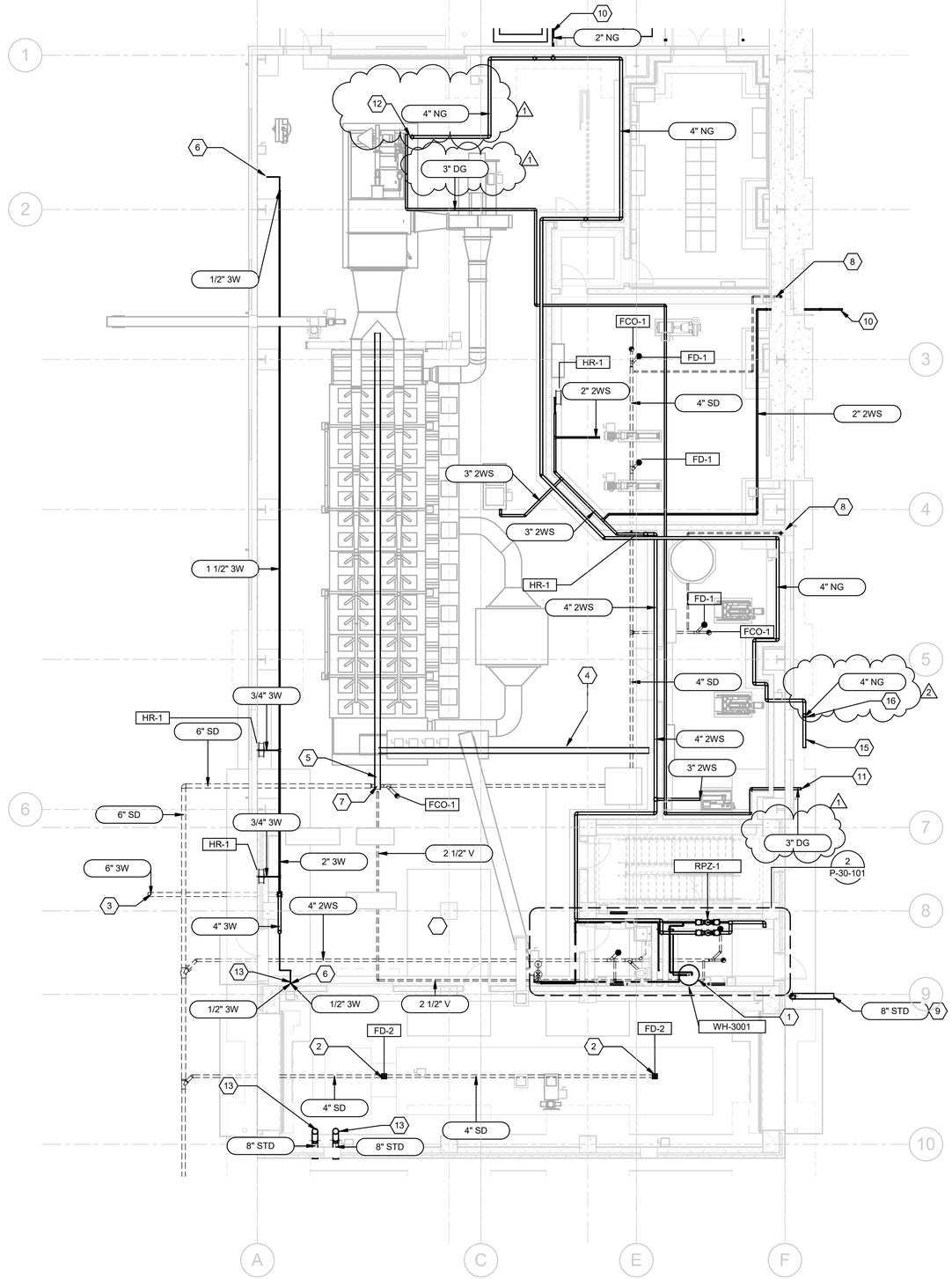
SLUDGE DRYER - P&ID

DRAWING NUMBER
I-30-104

Plot Date: 1/10/2023 1:43:40 PM Path:\U\154218 - Biosolids Dryer Evaluation Study\170 Design\.BIM\09 Instrumentation\Auburn-Biosolids_V19\PID DWG\I-30-104.dwg

ADDENDUM NO. 7

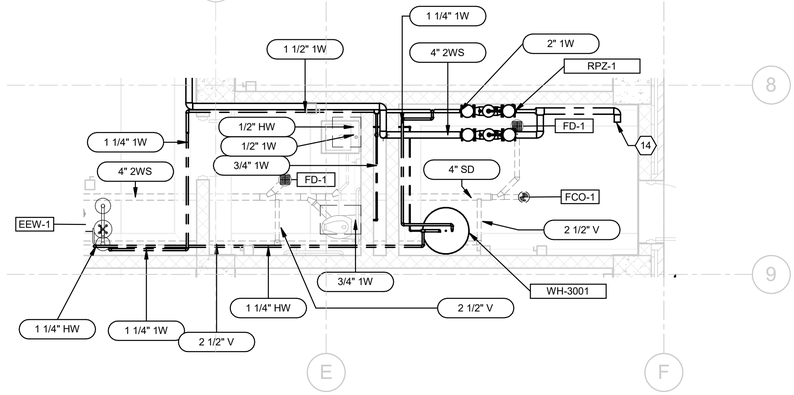
ATTACHMENT NO. 18



1 FIRST FLOOR PLUMBING PLAN
M-30-301 SCALE: 1/8" = 1'-0"

KEYNOTES:

1. NEW WATER HEATER, INSTALL ON 3/4" PAD.
2. STAINLESS STEEL COMBINED DRAIN AND OIL/DIRT SEPARATOR. ACCESSIBLE FROM THE TOP FOR CLEANING. SEE ARCHITECTURAL PLANS FOR FLOOR SLOPE.
3. NEW 6" 3W LINE. ROUTE UNDER SLAB THROUGH LOADING AREA, AND UP INTO SPACE AT LOCATION SHOWN. SEE CIVIL PLAN FOR CONTINUATION.
4. 6x6 TRENCH DRAIN.
5. 4" UP TO DRAIN RISE FOR FLUSH OUT.
6. 1/2" DN THRU SLAB W/BALL VALVE.
7. 4" CONNECTION TO SD BELOW.
8. VENT UP TO ABOVE ROOF LINE.
9. TERMINATE STORM DRAIN AT LEAST 5' AWAY FROM WALL OF BUILDING, 3" ABOVE SPLASH BLOCK.
10. 2" 2W TO COOLING TOWER. SEE PROCESS MECHANICAL FOR CONTINUATION.
11. 3" DIGESTER GAS PIPE IN, TO DIGESTER (ALTERNATE BID ITEM D-A1)
12. CONNECT NATURAL GAS PIPE TO DIGESTER
13. UP TO ABOVE (SEE P-30-102)
14. TIE TO FIRE PROTECTION RISER BEFORE VALVE WHERE IT ENTERS BUILDING.
15. 2 PSI NATURAL GAS PIPE FROM NEW NATURAL GAS METER. PROVIDE PRESSURE REGULATOR AT EACH PIECE OF EQUIPMENT, SIZE SPRING AND ORIFICE PER MANUFACTURER'S RECOMMENDATION. COORDINATE METER LOCATION WITH CIVIL DRAWINGS AND NATURAL GAS AUTHORITY. PROVIDE PRESSURE REDUCER TO 14" W.C.
16. 4" NG (ALTERNATE BID ITEM D-A1)



2 FIRST FLOOR PLUMBING EXPANDED PLAN
P-30-101 SCALE: 1/4" = 1'-0"

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REVISIONS

REV	DATE	DESCRIPTION
1	12/21/22	Addendum 5
2	01/10/23	Addendum 7

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: K. RICE
DRAWN: K. RICE
CHECKED: D. STEWART
APPROVED: K. RICE
FILENAME
BC PROJECT NUMBER 154218
CLIENT PROJECT NUMBER XX

PLUMBING

DEWATERING AND DRYER BUILDING - FIRST FLOOR PLAN

DRAWING NUMBER
P-30-101

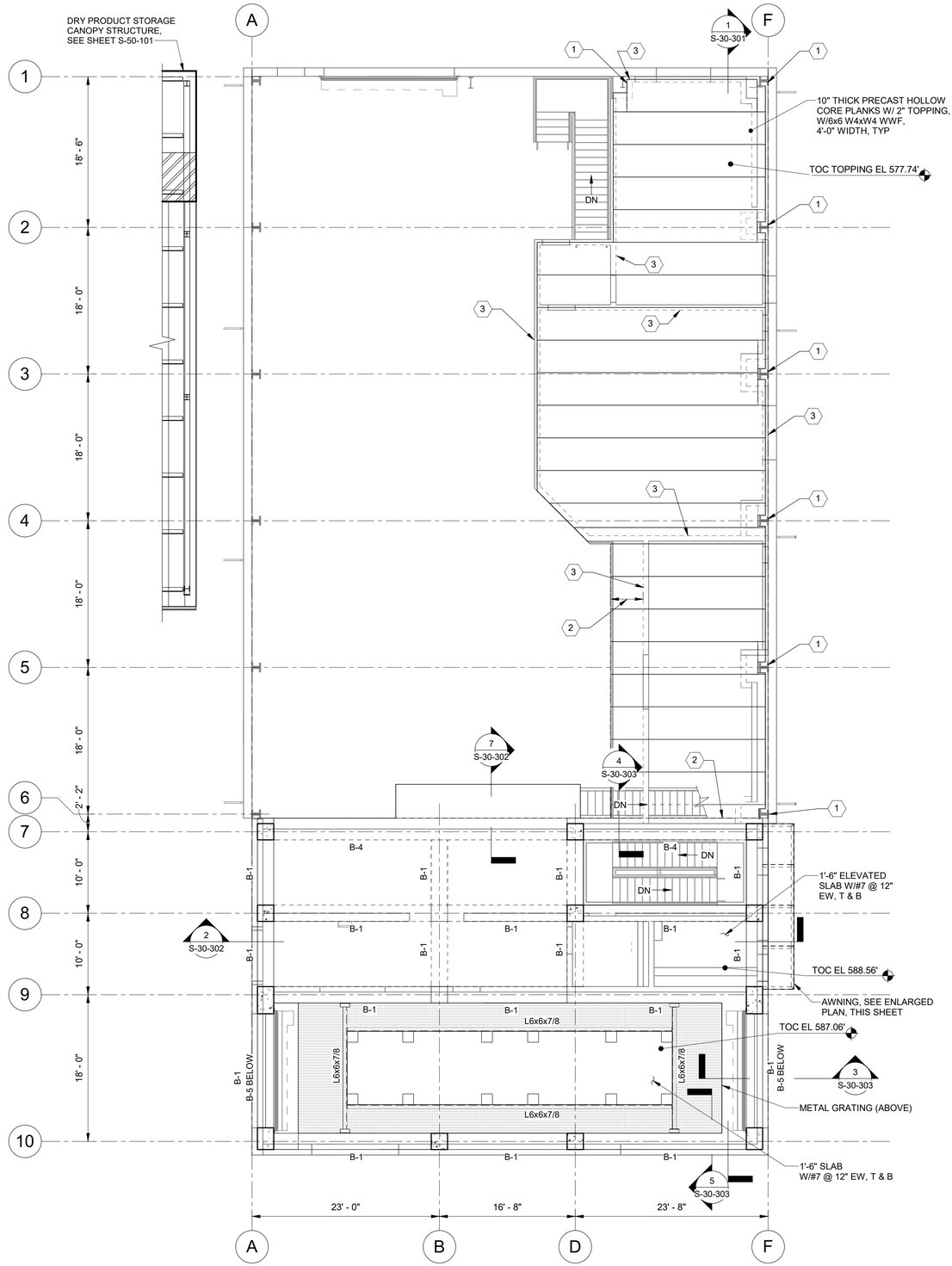
Plot Date: 1/10/2023 2:26:10 PM Path: BIM 360://154218 - Auburn Biosolids Improvement Design/154218_H30_V19.rvt

ADDENDUM NO. 7

ATTACHMENT NO. 19

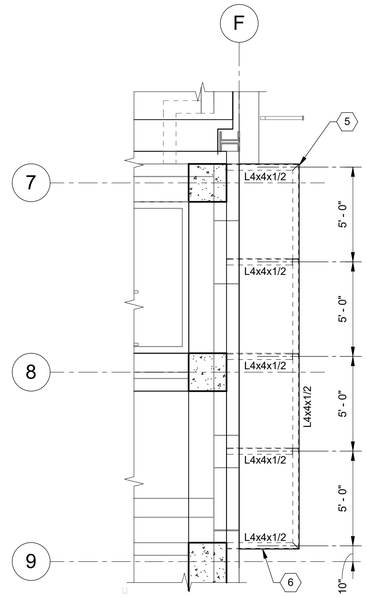
PLAN NORTH

DRY PRODUCT STORAGE CANOPY STRUCTURE, SEE SHEET S-50-101



SECOND FLOOR PLAN AT EL 588.56'

SCALE: 1/8" = 1'-0"



SECOND FLOOR PLAN AT EL 588.56'

SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. PRECAST HOLLOW CORE PLANK MANUFACTURER TO SIGNE AND SEAL PRECAST DESIGN.
2. FLOOR LIVE LOAD RATING:
   A. PRECAST PLANK MEZZANINE AT EL 578.90' = 150 PSF.
   B. DEWATERING ROOM AT EL 588.56' = 250 PSF.

KEYNOTES:

1 CONTRACTOR TO COORDINATE CUTOUTS IN PRECAST PLANKS WITH PRE-ENGINEERED BUILDING COLUMN SIZES. PLANK MANUFACTURER TO DESIGN AND PROVIDE STEEL HEADER IF REQUIRED.

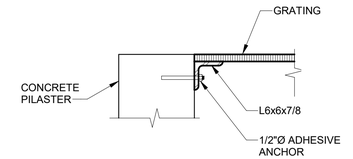
2 4'-0" CANTILEVER OF PRECAST PLANK WITH TOPPING.

3 BEARING CMU WALL BELOW, SEE DETAILS 1908, 1909, AND 1910 ON SHEET S-30-503 FOR CONNECTION DETAILS.

4 NON-BEARING CMU WALL BELOW, PROVIDE 1" EXPANSION JOINT BELOW PRECAST PLANKS.

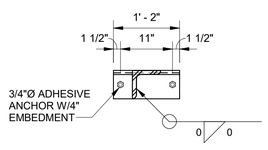
5 AWNING SUPPORT BEAMS SHALL BE GALVANIZED STEEL, WELDED TOGETHER WITH 1/4" FILLET WELDS. ATTACH L4 AWNING SUPPORT BEAMS TO CONCRETE BEAM WITHIN WALL USING FOUR (4) MASONRY ADHESIVE ANCHORS PER CONNECTION. CONCRETE BEAM SHALL BE 24"x24" (WxD), REINFORCED WITH (3) #6 LONGITUDINAL BARS TOP AND BOTTOM WITH #4 TIES SPACED AT 12-INCHES FOR THE FULL LENGTH OF THE BEAM. TOP OF BEAM ELEVATIONS SHALL BE AS FOLLOWS:
   A. TOP OF STEEL BEAMS = EL 576.40'
   B. TOP OF CONCRETE BEAM = EL 577.23'.

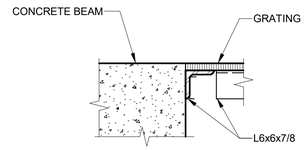
6 METAL DECK: DECK SHALL BE VULCRAFT TYPE 1.5B PROFILE, 1 1/2" DEEP, 18 GAGE, GRADE 50 GALVANIZED, OR EQUAL AS APPROVED BY THE ENGINEER.



A S-30-104 SUPPORT ANGLE TO PILASTER

SCALE: 3/4" = 1'-0"





B S-30-104 SUPPORT ANGLE TO CONCRETE WALL

SCALE: 3/4" = 1'-0"

Brown AND Caldwell

327 W FAYETTE ST #409
SYRACUSE, NY 13202

BID DOCUMENTS

CITY OF AUBURN NEW YORK

BIOSOLIDS PROCESS IMPROVEMENT

AUBURN, NY

REVISIONS

REV	DATE	DESCRIPTION

LINE IS 2 INCHES AT FULL SIZE

DESIGNED: A. TOLLSTRUP
DRAWN: R. BLUMENSHINE
CHECKED: D. HABEREK
APPROVED: A. TOLLSTRUP
FILENAME

BC PROJECT NUMBER 154218
CLIENT PROJECT NUMBER

STRUCTURAL

DEWATERING AND DRYER BUILDING - PLAN AT EL 586.00

DRAWING NUMBER
S-30-103

Plot Date: 1/13/2023 10:48:58 AM Path: BIM 360://154218 - Auburn Biosolids Improvement Design/154218_S30_V19.rvt

ADDENDUM NO. 7

ATTACHMENT NO. 20

Questions Received During Bidding

Biosolids Process Improvements
The City of Auburn

Last Update: **1/13/2023**

Contract No. BPI--1A: **General**
Contract No. BPI--1B: **Heating and Ventilation**
Contract No. BPI--1C: **Electrical**
Contract No. BPI--1D: **Plumbing**

No.	Question Received	Received From	Question	Response	Addendum Required?	Addendum No.	Item No.
1	11/8/22	Motion AI (Don Payne)	The package I downloaded did not have any of the INSTRUSPEC sheets or Instrument Index, can you forward or add as an addenda please.	Schedules were intended to be included at the end of 40 06 70 and 40 61 93. Added 40 06 70 Schedules for Instrumetnation of Process Systems Attachment and added 40 61 93 PSC IO List via Addendum. "Instruspec" is just referencing the specification for each instrument type. These specifications are included in the project project manual.	Yes	1	1, 2
2	11/9/22	Motion AI (Don Payne)	Regarding Spec Section 00 41 00 Page 4: SCHEDULE BPI-1C –BASE BID: Contract BPI-1C: Electrical and Instrumentation Bid Item C-5 SCADA Software Allowance and C-6 SCADA Hardware Allowance. Do you have a list of what will be included in each of the allowances listed above. For example, Drawings I-00-010, and I-00-011 show a Qty. 6 Thin Client Terminals are these items included the SCADA Hardware Allowance? We are quoting as Systems Integrator to Prime EC.	The four “desktop” style thin client terminals in Admin Building, Dewatering and Dryer Building, and Solids Handling Building Electrical Room would be the ones covered under allowance. The other hardware items are indicated as covered by allowance in the block diagrams. A list is not available. The engineer will submit a request for pricing during the construction period to obtain the latest hardware and software.			
3	11/11/22	Motion AI (Don Payne)	Ref Spec Section 43 24 41 PD Rotary Lobe Pumps. Will the Pump Supplier be providing the VFD’s? VFD7031 and VFD7032 are not listed in Section 262923 Variable Frequency Motor Controllers.	VFD will be provided per contractor per section 26 29 23. VFD7031 and VFD7032 have been added to Section 26 29 23 Variable Frequency Motor Controllers via Addendum 1	Yes	1	3
4	11/11/22	Schultz Construction (Liam Ragigan)	We are interested in knowing the Engineer’s Estimated value for the project. Specifically, we are interested in knowing the value for each individual Contract. We formally request the engineer’s estimate for each of the four contracts be made available.	The engineer's estimate will not be made available as part of the bidding process.			
5	11/11/22	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	01 00 00 states the "Contractor" shall pay and obtain all applicable NYSEG Utility Permits and agreements. Please clarify which contract (GC, Electrician, etc.) is responsible for this.	The General Contractor will be responsible for natural gas related utility permits and agreements and the Electrical Contractor will be responsible for electrical related utility permits and agreements.	Yes	1	7
6	11/11/22	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	01 11 00 states the General Contractor is responsible for all startup and testing per 01 45 20. Does this mean the General Contractor is responsible to coordinate and perform the startup on equipment provided and installed by other Prime Contractors, such as the HVAC equipment, electrical transformer and gear, etc.?	No, each contractor is responsible for start-up and testing as indicated 01 45 20. Language will be added to 01 11 00 providing clarification via addendum.	Yes	1	5
7	11/11/22	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Which Milestones do Liquidated Damages apply to? Specifically, do they apply only to Final Completion, or any/all of Milestones 1,2, and 3?	As stated in paragraph 9, within Information for Bidders, liquidated damages apply to milestone dates.			

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No.	Question Received	Received From	Question	Response	Addendum Required?	Addendum No.	Item No.
8	11/11/22	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Milestone 1 includes work in the Primary and Final Settling Tanks that can only be done between June-October. Given when this job will be bid, allowing time for contracts and awarding the job, it seems impossible to have all the equipment necessary to work in these tanks available to work in time for the June-October window. As a result, it will be impossible to do this work within the Milestone 1 duration of 365 days from NTP. You should consider either revising the window of time in which this work can be performed, or revise the time allowed for Milestone 1.	Your suggestion is being considered and may be addressed in future addenda	Yes	2	4
9	11/11/22	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Please confirm the Contract responsible for providing temporary power associated with constructing the Electrical Entrance Gear and tieing in the new main switchgear	The Electrical Contractor is responsible for providing temporary power associated with constructing the Electrical Entrance Gear and tieing in the new main switchgear			
10	11/11/22	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Division 13 - Special Construction is not listed in the bid item descriptions for any of the prime contracts - please clarify which prime contractor is responsible for Div 13.	The General Contractor shall be responsible for Div 13. Div 13 will be added to the description for Bid Item A-2 via addendum	Yes	1	6
11	11/11/22	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Division 35 is listed as included in Bid Item A-2 per 01 20 00 - there does not appear to be a Division 35 listed in the Table of Contents, however. Please clarify.	This listing is an accidental carry-over and shall be deleted via addendum	Yes	1	6
12	11/11/22	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Cellular Boosting System (Spec 40 90 11) is described in Bid Item CA-1 as being by the Electrical contract. However, the biditem A-2 does not exclude 40 90 11, implying that it is included in the GC Contract. Please clarify which contract this Specification belongs to.	bid item A-2 excludes 40 90 11, exclusion will be added to 01 20 00 via addendum	Yes	1	6
13	11/11/22	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Can we please receive a digital copy of the Subsurface Exploration and Foundation Report?	Yes, a link has been posted to the project bidding page on the City's website			
14	11/11/22	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Can we please receive a digital copy of the "Pre-Renovation Asbestos-Containing Materials and Lead Based Paint Inspection Report"	Yes, a link has been posted to the project bidding page on the City's website			
15	11/11/22	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	What Contract is responsible for Asbestos Abatement? The Bid Item descriptions place it under multiple Prime Contractors.	**Although the report findings identified the presence of hazardous materials primarily in locations that would fall under the general contractors scope of work, Each contractor is responsible for proper abatement of hazardous materials per Div 02**		2	22
16	11/11/22	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Please confirm if the Asbestos Abatement Project Monitor is being contracted and paid by one of the Prime Contractors or by the Owner.	The Asbestos Abatement Project Monitor will be contracted separately as stated in 02 82 00			

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17	11/11/22	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	The Bid Item Descriptions place 09 90 00 Painting under multiple prime contracts (GC, Electrician, HVAC, and Plumbing). Please clarify who is responsible for the field painting, or where the division of responsibility lies.	Each contractor is responsible for field painting of materials/equipment included within their scope of work.			
18	11/11/22	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	The finish schedule in 09 90 00 seems to contain areas that are not relevant to this project - please advise if there is an updated finish schedule	09 90 00 represents BC standard coating schedule. Contract shall utilize the specification to understand the requirements of the relavent areas.			
19	11/16/2022	Motion AI (Don Payne)	Re: Section 46 24 23 Sludge Grinders. Panels VCP1021, 1022,1071,1072, do these really require a PLC, and if yes, what PLC would you like us to provide?	Yes, The VCP should include a PLC provided by the manufacturer meeting the requirements of 40 63 43.			
20	11/16/2022	Motion AI (Don Payne)	Re: Addenda 1, Instrument Index, this really helps with tag numbers and quantities, but information regarding process connections, ranges and area classification are missing, will these be added?	All of the pressure instruments use the same process connections as described in 40 73 00 and shown on the Instrumentation Detail sheets.			
21	11/16/2022	M.A. Bongiovanni, Inc. (Mike Bongiovanni)	Drwg S-30-104, sec 1 on 303 shows a concrete parapet wall on top of the roof beams. The Arch drwg A-30-303, section 1+2, details a block and brick parapet wall. Please clarify what you want for the parapet.	The parapet should be concrete per the structural drawings. Revised drawings will be provided via addendum.	Yes	2	21
22	11/16/2022	Unison (Eric Wilgenbusch)	I would like to be named as an acceptable system packager for the Gas Compression/Moisture Removal Equipment specified in Section 43 31 13.13. Brown and Caldwell have named us on other municipal projects as a preferred vendor for these types of systems. Would it possible to add Unison in by Addendum? Please see our attached statement of qualifications.	It was our intent to list Unison as a named manufacturer. Unison will be added to 43 31 13.13 via Addendum.	Yes	2	16
23	11/16/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Please confirm who provides the VFDs for equipment. Specification 26 29 23 is in the Electrical Contract's responsibility per 01 20 00 (Bid Item C-2), however the specification sections for equipment (Divisions 43 + 46, responsibility of GC Contract per Biditem A-2) can also list VFDs and refer to 26 29 23.	The electrical contractor shall provide the VFDs listed within 26 29 23. All other equipment utilizing integral VFDs shall be provided by the general contractor.			
24	11/17/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Addendum 1 clarified that each Contract is responsible for testing their own equipment per the requirements of 01 45 20, but please confirm if each contract is also responsible for their startup and commissioning as described in 01 91 00.	Yes, confirmed			
25	11/18/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Bid Item A-2 lists specifications 40 75 00 + 40 76 00 as part of the GC Contract, but all other instrumentation is by the electrical contract - please confirm if these specifications should be in the GC or Electrician's responsibility	They should be under the electrical contractors responsibility. Addendum will be issued to address	Yes	2	5

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26	11/18/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Section 01 91 00 calls for each Contractor to provide a commissioning manager with extensive credentials, including experience working in a similar capacity on a wastewater project over $50M and with more than 400 pages of drawings. These credentials seem excessive, and there are no recent examples of projects our area that would meet those criteria. As a result, it is highly unlikely there are candidates to perform this function available locally. You should consider revising the required qualifications to a more reasonably available experience level.	The qualifications will be adjusted in an upcoming addendum. The intent is to have a commissioning manager with comparable experience.	Yes	2	6
27	11/18/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Specification 09 90 00 and the Coatings System Checklist call for a representative of the coatings manufacturer be present and sign off on all phases of coatings application, which has the effect of requiring a full time representative from the manufacturer on site while painting is occurring. It is going to be very expensive to secure someone like this from a manufacturer, if it is even possible - the manufacturers may not have anyone available locally for such a long term project. You should consider revising the requirement to a more intermittent inspection from the manufacturer, such as one inspection per area / paint system when complete. Keep in mind that the painter is required to be trained and approved by the coatings manufacturer so it is not the case that untrained personnel could apply the coating systems, and that the progress of the work is being inspected already by the applicator and Construction Manager.	These are fair points. The requirements related to the presence of manufacturers rep will modified in an upcoming addendum. An owner's representative will be present on a daily basis overseeing painting activities and providing spot checks.	Yes	2	11
28	11/18/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	The Rigid Equipment Mount Installation Checklist 43 05 13-A calls in several places for the Grout Manufacturer's Technical Rep to sign off. This form and inspection would need to be done at all equipment pads on the project. It seems that it will be impossible to coordinate the presence of a manufacturer's rep (from BASF, Euclid, etc.) for so many equipment pad placements, which will occur sporadically throughout the project. You should consider removing the requirement for a manufacturer's rep to be present for these installations.	The requirement for epoxy anchors as scheduled within this specification has been eliminated. This change will be reflected in an upcoming addendum	Yes	2	15
29	11/18/2022	M.A. Bongiovanni, Inc. (Mike Bongiovanni)	Drwg S-10-105 sec 1,2+3 shows geofoam under the elect room slab. What is lower limit/bottom elevation of this geofoam	Bottom elevation is 542.20’			
30	11/18/2022	M.A. Bongiovanni, Inc. (Mike Bongiovanni)	Same drwg- sec 2+3 calls out the trenches to be prefabricated trenches with cover plate. Provide spec/info re: materials of this prefabricated trench.	Prefabricating trench shall be of concrete construction meeting the requirements of 03 30 00 2.02. Cover plate shall be of aluminum construction and designed for 200 PSF loading.			
31	11/18/2022	M.A. Bongiovanni, Inc. (Mike Bongiovanni)	Drwg c-05-121- left side, the southern round tank (the gravity thickener) shows a bold 6” TPS, indicating proposed work. On the D-10-101, this line is not bold..it looks as if to be left in place. Is this 6” TPS to be left in place and only connected to at the thickener? Note that this pipe appears to enter the solids bldg. at about elev 535.. about 20’ cut if it was to be replaced.	The 6” TPS is to be replaced up to the restrained coupling adapter where the pipe is below the existing GT. D-10-101 does indicate this work. Dashed lines were utiized in an attempt to help provide understanding of how the piping in the area was layered. The callout in the plan view is incorrectly grayed out.			

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32	11/18/2022	M.A. Bongiovanni, Inc. (Mike Bongiovanni)	Drwg c-05-121, same question applies to the 8"PS , from the 8*8 wye to the solids bldg.-- C drwg sems to indicate proposed work, while D drwg seems to indicate its existing, and not replaced. Verify scope required. If new work, elevations on the C drwgs would be helpful as well.	The 8" PS is replaced up to the WYE. The elevation of the Wye is shown on the provided Section 1. D-10-101 does indicate this work. Dashed lines were utiized in an attempt to help provide understanding of how the piping in the area was layered.			
33	11/18/2022	M.A. Bongiovanni, Inc. (Mike Bongiovanni)	On drwg C-05-123, where the 36/30" PE ties in to the existing pipe, the drawing seems to show a 30" valve on the "dead" side of the tee. See below image. This is also shown on the tie in at the other end of the pipeline on drwg C-05-124. On drwg c-05-203, for those same 2 locations, Key Notes 2 + 7 call out using a temporary line stop tap so a blind flange can be installed, but no mention nor call out for a valve on the dead side of the tees. Please clarify which method is required.	The "valve" is a representation of the remaining tee associated with the temporary line stop.			
34	11/18/2022	M.A. Bongiovanni, Inc. (Mike Bongiovanni)	On drwg D-30-103, just above col line 9, there is a pipe labeled 8" FLT It is also shown in section 1/d 30-301. But I don't find the continuation of this line on C-05-124 addm 1. Please clarify.	The line in question connects to the 10" FLT/SD as the second tap upstream from the sanitary manhole.			
35	11/18/2022	M.A. Bongiovanni, Inc. (Nate Bongiovanni)	I don't see any specs for the windows or the coiling overhead doors. Will those be issued in an upcoming addendum	Will provide the following specification sections 08 33 00 Overhead Coiling Doors, 08 51 13 Aluminum Windows, 08 81 00 Glass Glazing. The translucent panels shall meet energy code requirements, have an extended sill, and be thermally broken at the dryer building. Product shall be by Kalwall or an approved equal.	Yes	2	9
36	11/18/2022	M.A. Bongiovanni, Inc. (Nate Bongiovanni)	Detail 1/A-20-301 Keynote 19 – calls out closed cell sprayfoam insulation. I don't see a spec section for sprayfoam, nor can I find this in any other drawing for a better idea of where its supposed to be applied. Can you provide a spec section and clarify the area of application?	At the electrical room provide R-7 per polyisocyanurate insulation equaling a minimum of about 1.5" (to meet the R-10 outlined in the energy conservation table on A-00-003) with vapor retarder, 1.5" z clips at 16" OC and 5/8" mold resistant/abuse resistant gypsum board. The closed spray foam product is to be installed beneath the ceiling/floor systems in conditioned spaces at the underside of the dewatering room and dewatering operations corridor. Spray foam shall be closed cell spray foam with an R-7 per inch by Tiger Foam insulation.	Yes	2	21

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37	11/18/2022	M.A. Bongiovanni, Inc. (Nate Bongiovanni)	There's no spec/schedule for the door hardware, will that be coming soon as well? How about rigid insulation and drywall?	Will provide the following specifications: 08 71 00 Door Hardware, 07 10 00 Damproofing, 07 21 00 Building Insulation, 07 22 16 Roof Board Insulation, 07 62 00 Sheet Metal Flashing and Trim, 07 71 00 Roof Specialties, 07 84 00 Firestopping, 09 21 16 Gypsum Board Assemblies, 09 22 16 Non-Structural Metal Framing.	Yes	2	9
38	11/18/2022	M.A. Bongiovanni, Inc. (Nate Bongiovanni)	In the solids handling building, new corridor 001B + vestibule – 3/A-10-301 shows two layers of sheetrock on the ceiling. Drawings to not show what framing the drywall is being fastened to, whether existing or new. Is the contractor to install new framing, or is there an existing framework for the new drywall to be attached to?	Contractor to install new framing.	Yes	2	21
39	11/18/2022	Drafting & Design Dept. (Taylor Coffelt)	Robbins Lightning Inc. received this project today and we are not listed as an Approved Lightning Protection Manufacturer. I have attached an approval letter about our company. Our websites are listed in the letter where you may view our products and services. We would like to be listed as an Approved Lightning Protection Manufacturer on this project and future projects.	If Robbins Lightning Inc. can meet the requirements of the specification, we encourage that they be submitted for consideration to be an accepted equal during the construction phase.			
40	11/21/2022	M.A. Bongiovanni, Inc. (Nate Bongiovanni)	I don't see any plans or details on the stair landings for the new stairs at the digester control building or at the dewatering/dryer building showing member shapes, sizes, how they're being supported, etc. Can you provide these?	The interior stairs at the dewatering and dryer building are deferred design by the contractor reference details on A-00-014 and specification section .			
41	11/21/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Can you confirm the intent is for CON3041 "Dried Product Discharge Conveyor" is being provided by the Belt Dryer Equipment supplier? CON3041 is not listed in the equipment schedule for the Shafted Screw Conveyors	Confirmed. It shall be supplied with the Dryer			
42	11/21/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Specification 41 22 23.19 Monorail Hoists calls for the Digester Bldg Hoist and Trolley to have a 1T capacity. Drawing S-20-103 calls out a 2.5T capacity. Please confirm the desired capacity for this monorail hoist.	The hoist and trolley shall have a 1T capacity as specified. The monorail capacity is 2.5T to assist in rigging in/out HEX equipment			
43	11/21/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	There are a few differences between the Pre Engineered Metal Building Specification loads and S-00-001. See below, please confirm what you want us to use: a. Specs have IBC 2015; Drawings have IBC 2018 b. Specs have Ground Snow of 30 psf; Drawings ask for 40 psf c. Specs have Wind Speed as 120 mph; Drawings have it as 116 mph d. Specs have Ss – 0.153g and S1 – 0.055; Drawings have Ss – 0.136 and S1 – 0.049	a. use IBC 2018. b. Drawings are correct, use 40 psf for ground snow load. c. Drawings are correct, use 116 mph as wind speed. d. Drawings are correct, Ss=0.136 and S1=0.049.			

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44	11/21/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	What are the insulation requirements for the roof system of the Drying Building and the Storage Building?	The Dryer Building roof insulation requirements and thickness are as needed to meet the required R value R-30 in accordance with the energy code chart on A-00-003. Insulation is not required at the Dry Product Storage Canopy.	Yes	2	21
45	11/21/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	What are the insulation requirements for the wall system of the Drying Building and the Storage Building? Drawings show insulated metal panel in the details but do not define thickness.	Dryer Building wall insulation requirements and thickness are as needed to meet the required R value (11.4 for mass walls) and (R-13 + R13ci or U-0.052(R-20) for metal building walls) in accordance with the energy code chart on A-00-003. The masonry cavity wall for the Dryer Building shall be 8” concrete block/concrete structure, 2” of rigid insulation, 2” air space and 4” brick for a total wall thickness of 1’-4”. Insulation is not required at the Dry Product Storage Canopy.	Yes	2	21
46	11/22/2022	Performance Construction Company (Karl Rice)	After looking through the bid documents we are requesting a 3 week extension as there is not enough time to properly review and assemble the bid especially considering a 20% goal for DBE participation. Can the bid date and question date be extended by 3 weeks?	**Extended per Addendum 6 to January 20th, 2023 (Updated 12/29/22)**	Yes	**6**	**1**
47	11/22/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	The PEMB Specification calls for FM Global compliance. Please confirm this is for the roof only.	Confirmed this is for the roof only.			
48	11/22/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	The PEMB Specification calls for G60 galvanized primary structurals. Does this apply to both buildings?	This applies to both buildings.			
49	11/22/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Re: the Dewatering and Drying Metal Building - Note 6:12 is very steep for a pre-engineered building and may not be feasible depending on purlin rollover conditions	Multiple preengineered building manufacturers BC has worked with offer 6:12 roofing options			
50	11/27/2022	VP Sales (Pete Kundin)	The motor operated specification has a list which shows most of all the actuators require a maximum of 1 amp. The 6” valves show 38 amps. Is that correct?	The 38 amps was included incorrectly as the starting current. The table will be updated. Contractor to assume a 20A circuit per actuator	Yes	2	14
51	11/27/2022	VP Sales (Pete Kundin)	The slide gates name three vendors but one of them is not very common up here in Upstate NY. Could you consider adding Dynamic Water Control gates as they are a common player up here please.	If Dynamic Water Control can meet the requirements of the specification, we encourage that they be submitted for consideration to be an accepted equal during the construction phase.			
52	11/27/2022	VP Sales (Pete Kundin)	For the HP butterfly valves please add Kennedy Valve (Elmira NY) -Tri Seal – they are also very good at producing AIS valves.	If Kennedy Valve can meet the requirements of the specification, we encourage that they be submitted for consideration to be an accepted equal during the construction phase. They are a listed manufacturer in other specifications			

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Contract No. BPI--1D: **Plumbing**

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53	11/27/2022	VP Sales (Pete Kundin)	For pressure regulating valves and lined plug valves we ask you to consider Flowmatic out of Glens Falls NY	If Flomatic, can meet the requirements of the specification, we encourage that they be submitted for consideration to be an accepted equal during the construction phase.			
54	11/28/2022	Shier Martin Process Equipment (Jim Coyne)	We are the Upstate NY Swaby representative, & I'm reaching out to ask for our Lobeline pump to be considered as an equal to the other manufactures listed in paragraph 2.01.	If lobeline, can meet the requirements of the specification, we encourage that they be submitted for consideration to be an accepted equal during the construction phase.			
55	11/28/2022	HMI Mechanical (Jim Goodenough)	Can you provide a pipe schedule for HVAC?	Please see section 40 05 02.			
56	11/28/2022	HMI Mechanical (Jim Goodenough)	Drawing M-20-102 shows 2 boilers and 5 pumps, ET and an AS that doesn't appear in the schedule. Are these being provided?	Yes, they are. Drawings have been revised to highlight	Yes	2	18
57	11/28/2022	HMI Mechanical (Jim Goodenough)	Drawing M-20-101 shows a pump between column lines 2 & 3 that's not in the schedule. Is this a new pump? Who's providing it?	The HVAC Contractor is to provide. Drawing M-20-101 will be revised to clarify.	Yes	2	18
58	11/28/2022	M.A. Bongiovanni, Inc. (Mike Bongiovanni)	Drwg P-10-101 shows the 6.25" STD pipe, coming from inside the solids bldg./screenings hopper area, noted to be the roof drains.. and they appear to merge.. and its noted to see civil drwg for continuation. Is the piping shown on P-10-101, outside of the bldg, the work of contract 1D-Plumbing? If not, where is the breakline between 1D-Plumbing and 1A-General?	GC's contract terminates 5' from the building foundation where continuation of the piping is shown on P or M sheets.			
59	11/28/2022	M.A. Bongiovanni, Inc. (Mike Bongiovanni)	Spec 40 50 02-1.01C piping sys schedule.. there is the 1W line ID, potable water, referring to 40 05 02.23. We have no section 40 05 02.23.. ours goes from 2.17 to 2.29. Please provide missing info.	Section to be added via Addendum	Yes	2	12
60	11/28/2022	M.A. Bongiovanni, Inc. (Mike Bongiovanni)	On C-01-124 there is the 6" 1W line coming from existing 8" 1W line over to the east side of the Dewatering and Dryer bldg. The continuation of this 6" 1W line does not show up on D-30-101,102,103, while there are various 1W lines on the plumbing drwg P-30-101. Please advise where the GC's contract terminates and the Plumbing contract begins.	GC's contract terminates 5' from the building foundation where continuation of the piping is shown on P or M sheets. See FP drawing for additional information			
61	11/28/2022	M.A. Bongiovanni, Inc. (Mike Bongiovanni)	I believe the same situation/question would apply to the west side of the bldg., where the 6" 3w comes to the bldg. on C-05-124 . And the plumbing drwg P-30-101 shows various sizes of 3W lines spread throughout the bldg.	GC's contract terminates 5' from the building foundation where continuation of the piping is shown on P or M sheets.			
62	11/29/2022	M.A. Bongiovanni, Inc. (Nate Bongiovanni)	The roofing spec 07 53 23 references spec section 07 22 16 for the insulation component. This is not included in the contract documents. Can you put one out w/ A2?	07 22 16 Roof Board Insulation will be provided.	Yes	2	8

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63	11/29/2022	M.A. Bongiovanni, Inc. (Nate Bongiovanni)	Dwg A-20-103, Notes 1-5 indicate that all modifications to the current roof on the digest control building (assuming this means patching in around the new hatch, exhaust stacks, etc) is to be performed by an approved installer of the existing roof system. Who is the manufacturer of the existing?	The manufacturer is Firestone.			
64	11/29/2022	M.A. Bongiovanni, Inc. (Mike Bongiovanni)	Drwg c-05-115+116 show a storm drain from existing PD-1 to new PD-1,2 and then 3 and is labeled 15” STD. The profile on C-05-210 calls out 15” pipe size. On C-05-125+126 this line is called as 12” STD. Same 12” STD noted on c-05-145+146. Please clarify pipe sizing. Also provide pipe material spec for PD pipes (there is no PD listed in spec 40 05 02)	Piping shall be 15". PD will be added to the schedule via addendum	yes	2	19
65	11/29/2022	M.A. Bongiovanni, Inc. (Mike Bongiovanni)	Re: the buried heat reservoir supply and return lines (HRS +HRR) ..spec 23 21 16 in the pipe schedule, please confirm these are the responsibility of the HVAC contractor, including the excavation and backfill for them.	GC's contract terminates 5' from the building foundation where continuation of the piping is shown on P or M sheets. Lump sum item A-2 has been updated accordingly	Yes	2	5
66	11/29/2022	M.A. Bongiovanni, Inc. (Mike Bongiovanni)	Where is the spec for the 8*6, 36*36 and 30*30 tapping sleeves and valves?	Tapping sleeves are provided in specification 02 01 30 to be added via addendum	Yes	2	7
67	11/29/2022	M.A. Bongiovanni, Inc. (Joe Bongiovanni)	Section 467621 calls for the belt press to have an access platform to provide operator access to two sides of the press. Does this requirement also apply to Press #1? What is the minimum width of this platform?	Provide this platform per the belt filter press manufacturer's instructions.			
68	11/29/2022	M.A. Bongiovanni, Inc. (Joe Bongiovanni)	Reference 46 76 53-2.07.A, calls for interconnecting wiring and conduit for sludge dryer system to be provided by Contractor. Is this the General Contractor, or Electrical Contractor?	Interconnecting wiring and conduit from sludge dryer to juction boxes furnished by the Dryer System Supplier is provided by the General Contractor. Wiring and conduit from the junction to the box to the eletrical systems is provided by the Electrical Contractor.			
69	11/29/2022	M.A. Bongiovanni, Inc. (Joe Bongiovanni)	Reference 46 76 53-3.03 Field Tests. Per section G, the integrated systems test is to process biosolids and operate continuously, yet G.6 calls for this duration to be 10 business days, which infers that the test would be suspended during the weekend. Is this correct, or should that duration be changed to calendar days? After this test period, the Owner has the option to run the system for three weeks, which then leads into a 120 hour acceptance test period. Paragraph H.7 calls for Contractor to bear all costs such as power, natural gas, disposal, etc. Does Contractor bear this cost only during the initial integrated System Test, or through all the testing, up until Acceptance?	The integrated system test period will be 10 calender days (e.g. it will be suspended on the weekend).			

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70	11/29/2022	M.A. Bongiovanni, Inc. (Joe Bongiovanni)	Reference 01 50 00-1.04.A. States that Contractor shall provide temporary power for construction at the site. Which Contractor-General, or Electrical? Which Contractor is responsible for providing temporary lighting within uncompleted buildings for daytime work?	01 50 00 will be revised to provide clarification	Yes	4	3
71	11/29/2022	Tek-Sales (John Braun)	I wanted to check to see that the owner would accept Crispin and/or Pratt/Millken round ported plug valves per the plug valve spec on Biosolids Process Improvements - Auburn NY. These types of valves have failed repeatedly in various applications most recently in Syracuse Metro amongst other locations and cost the owner and municipality quite a bit of money. I can provide owner references if desired.	This issue will be investigated as part of the submital review process			
72	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Section 23 52 33.16, 1.02, A, 3 – Packaged Watertube Hot Water Boilers specification calls for digester gas pressure to be 3-6" WC. However [Section 43 31 13.13, 1.05, B, 1] states that compression equipment should have a discharge pressure of 6psig. Please confirm if we can reduce the blower discharge pressure to a more reasonable pressure for boiler operations or if 6psig is necessary.	The digester gas compression system is required to operate at a discharge pressure of 6psig to meet the pressure requirements at the sludge dryer. Boiler DG inlet pressure is correct			
73	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Drawing I-20-106 – shows the Gas Compression System & Moisture Removal system as pre-cooling then compressing, however this does not match the all of the text description in Section 43 31 13.13 nor drawing G-00-007. To meet the boiler specs in Section 23 52 33.16 Unison Solutions would recommend pre-cooling and compressing. Please clarify what equipment arrangement is preferred.	The gas compression and moisture removal spec was included to provide biogas at >5 psig with no free water as required by the sludge dryer. The original project concept was to use a gas blower followed by a HEX and chiller to compress and remove moisture. Alternative configurations may be considered before submittals are approved.			
74	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Section 43 31 13.13, 1.05, b, 1 - states that LSG will be treated to reduce hydrogen sulfide upstream of the blowers, however there is no H2S Treatment shown on the P&IDs. Is an H2S Removal system needed? Additionally, the boiler specification section indicates a maximum H2S concentration of 400ppmv. Please verify which parameters we should use when designing the gas compression system.	No hydrogen sulfide removal system is included in the project for biogas conditioning. The WWTP will have the option to dose ferric chloride to prevent its formation in the liquid stream. Boiler design input is conservative.			
75	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Section 43 31 13.13, 1.02 – Unison would suggest using 50% propylene glycol over ethylene glycol as it is nontoxic, please confirm if this is acceptable.	Propylene glycol is acceptable. Will be changed in spec via addendum.	Yes	5	**20**
76	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Section 43 31 13.13, 1.05, A, 1 – Table indicates that the H2S concentration in the raw gas ranges from 20 to 150ppmv which conflicts with the percentages listed in paragraph 1.06, A where it's specified as 5 to 50ppmv. Please confirm the required design limits.	This will be clarified via addendum.	Yes	5	**20**

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77	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Section 43 31 13.13, 1.06, B, 1 – Are the heat exchanger tables relevant to the specification? Drawing I-20-106 – shows the Gas Compression System & Moisture Removal system as pre-cooling then compressing as defined by the equipment numbers in the specification Table 1.02, C: HEX2060 and B2060. There is no Gas-to-Gas Heat exchanger specified in the P&IDs or anywhere else in the specification document. Pre-cooling and heating will be the most cost-effective solution to meet the parameters of the boiler specification section. Please confirm if downstream cooling and a Gas-to-Gas Heat Exchanger is needed for this project.	This will be clarified via addendum.	Yes	5	**20**
78	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Drawing D-20-102 shows a sediment trap, but it is not shown on the P&ID drawing I-40-107 or I-20-106. Unison would recommend also installing a moisture particulate filter between HEX2060 and B2060 on drawing I-20-106 for the removal of condensed water vapors. Please confirm this is an acceptable.	This will be clarified via addendum.	Yes	5	**20**
79	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Drawing D-20-102 shows the gas blower and moisture removal system as skids. Can Unison combine this into a single skid base?	Yes. This will be clarified via addendum.	Yes	5	**20**
80	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Section 43 31 13.13, 2.03 – This paragraph lists a regenerative blower, can Unison supply a more efficient positive displacement blower, it will be lower the discharge temperature and lower required horsepower for the same flow and pressure rating. The blower manufactured by Gardner Denver and will be cast iron with a corrgard coating for corrosion resistance. Please confirm if this is acceptable.	Spec requires hermetically sealed units with magnetic drive. If lobe blower equipment can meet this requirement it would be considered as a substitution.			
81	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Section 43 31 13.13, 1.08 – Gas blower/moisture removal equipment is located indoors on drawing D-20-102, however paragraph 1.08 states that the equipment be designed for outdoor environment. Please confirm the indoor temperature rating for the equipment room.	Location for blower and heat exchanger is indoors, chiller is outdoors. Design of the chilller must meet outdoor environment quality requirements as noted.			
82	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Section 43 31 13.13, 1.11, B, 1 – please provide clarification on the sentence “The warranty shall include proper drainage of condensate that forms within the System and all heat trace hardware required to prevent condensate freezing” if the system is located indoors.	This is a blanket requirement. No heat trace will be required on this project since it is indoors.			

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83	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Section 43 31 13.13, 1.11, C – Can the 48-hour onsite requirement be extended to 72-hours?	This is aceptable. This will be clarified via addendum.	Yes	5	**20**
84	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Section 43 31 13.13, 1.13 – This paragraph says the system shall be installed outdoors. Please clarify the area of installation as indoors CI, D1 area, with the chiller mounted outdoors in an unclassified area. The control panel should be mounted in an unclassified climate controlled electrical room (Room 103).	Location for blower and heat exchanger is indoors, chiller is outdoors. This will be clarified via addendum. Control panel may be located in the unclassified electrical room.	Yes	5	**20**
85	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Section 43 31 13.13, 2.02, H – Can powder coated carbon steel be used in lieu of the galvanized steel for skid base and structural supports call out in this section?	This is aceptable. This will be clarified via addendum.	Yes	5	**20**
86	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Section 43 31 13.13, 3.04, F – Please confirm the required number of days for on-site support. 36 days of technical support for a gas blower system feeding a boiler seems a little excessive. This is typically only needed on a renewable natural gas specification. Unison would recommend a single five-day trip for start-up and commissioning, and a two-day trip for additional training if necessary. Please confirm the required days on-site.	This will be clarified via addendum.	Yes	5	**20**
87	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Section 43 31 13.13, 2.05, Q – Unison recommends removing the reference to the PLC in the chiller control panel. Local chiller/refrigeration technicians are not trained for working on PLC based chillers and for the size chiller required on this project, no major chiller manufacturer will have a commercially available chiller with PLC for the controls. Unison would recommend replacing this language with a “Refrigeration controller” which is commercially available and serviceable by local technicians. Additional markups from Johnson Thermal Systems are listed in Comment # 23 below.	This will be clarified via addendum.	Yes	5	**20**
88	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Section 40 61 96.24, D, d – Due to the complex nature of the control scheme, Unison advises against Hand-Off- Auto control for the blower and chiller. The system is automated to control discharge pressure through the HMI setpoint. The PLC will control the Blower speed VFD and the position of the recirculation valve. In place of H-O- A, Unison recommends Local-Off-Remote (L-O-R) switch and control via the HMI on the panel. Changing the discharge pressure will ramp up/down the VFD speed and recirculation valve accordingly. The HMI will also be equipped with “jog” functions on the maintenance screen for troubleshooting.	This will be clarified via addendum.	Yes	5	20
89	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Drawings I-20-106 & I-20-107 do not show the control panel specified in Section 43 31 13.13 and controls the recirculation valve listed in 43 31 13.13 paragraph 2.03, C, 1, c and miscellaneous level switches and alarms. Unison systems have a dedicated control panel for the blower/moisture removal system, and a secondary standalone control panel for the glycol chiller. Is this acceptable?	This approach is acceptable. This will be clarified via addendum.	Yes	5	**20**

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90	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Drawing I-20-106 does not show the blower recirculation valve and piping. Unison this will need to tie in downstream of the blower, and upstream of the inlet precooler. Please confirm if the drawings will be updated accordingly.	Yes, recirculation valve should be included and tie in upstream of cooling. This will be clarified via addendum.	Yes	5	**25**
91	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Is it the intent of the engineer to have the systems integrator monitor instrumentation & provide control for instruments provided by the system packager for Section 43 31 13.13, as shown on Drawing I-20-106? Drawing I-20-106 shows instruments TIT-2060 and PIT-2060 wired directly to DCB-PLC1. Please verify if these instruments should be controlled and wired to the system packagers control panel?	This will be clarified via addendum.	Yes	5	**25**
92	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Section 43 31 13.13, 2.05, Q, 4 – Calls for a second OIT located on the Gas Conditioning System Control Panel (GCSCP). Typically, Unison only has a single Rockwell OIT installed on the GCSCP and not on the glycol chiller. Chiller is provided with a Carel HVAC controller is this acceptable?	This will be clarified via addendum.	Yes	5	**20**
93	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Drawing G-00-007, condensate sediment trap, digester gas booster and moisture removal heat exchanger do not match the gas flow on P&ID drawing I-20-106. Please confirm the correct flow configuration of this equipment.	This will be clarified via addendum.	Yes	5	**25**

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94	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Below are questions/clarifications from Johnson Thermal Systems, Unison's standard chiller supplier regarding the specification description in Section 43 31 13.13. Can the chiller language be less stringent since the unit is so small? a.2.05, A, 2: JTS pump package is integral to the chiller, not in a compartment under the chiller b.2.05, C, 2: Scroll compressors don't have discharge and suction service valves. BLDC compressors do not have crankcase heater, they have crankcase heater function that produces heat but no dedicated heater. None of our chillers include suction strainer on the compressor, please remove from specification. c.2.05, C, 3 & 4: BLDC compressors are variable speed and can modulate between 20 RPS (1200 RPM) and 120 RPMS (7200 RPM). All other compressors would be fixed speed with unloading. d.2.05, C, 5: scroll compressors don't have external oil management systems, this looks like copy & paste from an industrial spec. Please remove if not needed. e.2.05, C, 7: we have price adder for sound attenuation compressor blanket. f.2.05, F, 3: EEV & no muffler g.2.05, I, 3: BPHE not ASME as noted h.2.05, J: we have hydronic heat tracing available as adder. Our standard recommendation is to use enough glycol % to protect evaporator from low ambient freeze ups. i.2.05, K, 1: we use micro channel condensers rated at 700 PSIG. j.2.05, L: we use ECM condenser fans k.2.05, P: our standard phase loss monitor only monitors rotation and under voltage. No fault log or digital data available. l.2.05, Q, 1: control will be Carel if using BLDC compressor. m.2.05, Q, 2: Carel HMI, not panelview touchscreen, see question # 16 above n.2.05, T, 1: Modbus standard. BacNet IP available with adder. o.2.05, V, 1: flow switch integral to chiller (not field installed) p.2.05, V, 2: service ports per compressor (pressure gauge w/ shutoff valve unavailable). q.2.05, V, 3: main circuit breaker by others located in MCC. r.2.05, V, 4: JTS uses punched holes in cabinet to protect the condenser. s.2.05, V, 5: Frame vibration isolators by installation contractor t.2.05, W, 2: heresite & powder coating is the only coating available, is this acceptable?	These are acceptable.This will be clarified via addendum.	Yes	5	**20**
95	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Drawing G-00-007 is there a primary sediment trap for condensate between the Primary Digester 1 and the condensate sediment trap located in the Blower Room 102, similar to the Secondary Digester Condensate Sediment Trap?	Yes, DG piping has condensate removal before entering the Blower Room.			
96	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Drawing E-20-602 shows separate 480V feeds to the chiller, gas blower VFD and chiller pump. Unison proposed a single 480V feed to our control panel and distributing 480V power to the two devices (gas blower & glycol chiller control panel) is this acceptable?	This approach is acceptable. This will be clarified via addendum.	Yes	5	**20**
97	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Drawing I-00-011 – No gas conditioning control panel is shown on the Digester Control Building Network, please confirm if this is correct, or an additional connection is needed.	This will be clarified via addendum.	Yes	5	**25**

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98	11/29/2022	Unison Solutions (Eric Wilgenbusch)	Drawing E-20-102 – Keynote 1 on this drawing indicates the gas blower equipment to be Class I, Division 1, while equipment 5' away to be Class I, Division 2. I would assume this is due to room air exchanges per hour, no ambient temperature is provided for the Blower Room 102 in Section 43 31 13.13. Can you please verify ambient room temperatures for the equipment design?	Room air changes will be sufficient for the classifications as indicated. Ambient temperature will be as described in 43 31 13.13 1.08 B, while interior room temperatures will be typical for an industrical facility.			
99	11/29/2022	Unison Solutions (Eric Wilgenbusch)	In place of a pre-cooling shell and tube heat exchanger for HEX 2060 will a heat exchanger manufactured by Xchanger Inc, with 316SS Tubes and Aluminum fins mounted in a 316SS housing be acceptable?	Yes. This will be clarified via addendum.	Yes	5	20
100	11/29/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	42 13 19.16 Paragraph 2.03.E calls for outdoor service insulation and a weather resistant sloped roof for weather protection on the concentric tube heat exchanger. This equipment is to be installed in the Digester Building basement - please confirm you want exterior grade protections included with this equipment.	This will be revised to interior grade protections.	Yes	7	17
101	11/29/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	01 45 00 outlines Contractor Quality Control requirements. Is each Prime Contractor responsible for their own QC and for fulfilling the requirements of this Specification Section, or is this to be done by a single Prime Contractor (and if so, which one)?	Yes, each prime is responsible			
102	11/29/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Please confirm if the requirements described in Section 01 45 20 apply to all Prime Contractors for their work, or if the requirements are to be carried by a single Prime Contractor (and if so, which one)?	Yes, each prime is responsible for commissioning			
103	11/29/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	To amend an earlier question I asked re: the requirements for 01 91 00 - There is some overlap between 01 91 00 and 01 45 20, as well as some discrepancies between them (including the length of operation tests, etc.). We would suggest this be simplified by eliminating Specification Section 01 91 00, and instead using the requirements from 01 45 20 which cover many facets of startup and commissioning/planning/sequencing and seems more applicable to a multi-prime contractor project of this size.	Conflicts between the two specifications will be resolved via addendum	Yes	4	2
104	11/29/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	43 13 43 Paragraph 2.04.B calls for the drip traps to be provided with the waste gas burner per the requirements of 43 13 39.53. Is it your intent that both sections be supplied by the same supplier? Does this apply to all four drip traps, or just the two on the waste gas burner?	Flare supplier is required to provide the drip traps per spec 43 13 39.53. Manufacturer for the drip traps may be different than for the flare, but would be supplied by the same packager.			
105	11/29/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	I-40-108 shows a combustion air blower within the waste gas burner's scope of supply. There is no equipment # and I cannot find where this equipment is described in the Specification 43 13 43. Can you provide clarity on what this equipment is?	If a combustion air blower is required for proper flare operation, supplier shall provide it.			
106	11/29/2022	M.A. Bongiovanni, Inc. (Andrew Bongiovanni)	Can you provide more detail on what fittings and specialties should be installed on the waste gas burner Pilot Valve and Regulator Station? It does not seem to be listed in the specification.	System supplier shall provide a complete and code compliant pilot system.			
107	11/30/2022	Siewert Equipment (Mike Lannon)	will the belt filter press be broken out of the lump sum GC bid so as to instill greater competition?	No			

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108	11/30/2022	Quandel Construction (Karl Rice)	Does the new final settling tank floc well get supported from the bridge or the center cage?	The intent is for the feedwell to be supported from the bridge framework.			
109	11/30/2022	Quandel Construction (Karl Rice)	Which contract is responsible for excavation, concrete install, bedding and or backfill for the electric duct banks, handholes, manholes and any other underground work associated with the electrical work?	The electrical contractor shall be responsible			
110	11/30/2022	Quandel Construction (Karl Rice)	Detail DC1605 on C-00-004 shows pavement restoration to match existing, are contractors to pave back flush even though detail L on C-00-005 shows to leave the 2” top course for others to complete?	Contractor shall leave 2" top course for other to complete			
111	11/30/2022	Quandel Construction (Karl Rice)	Stormwater plan Phase 1 & Phase 2 show the same e&s controls in the same locations. What is the purpose of showing Phase 1 & Phase 2?	There are slight differences. The first phase is for the demo grading phase, and the second phase is for when pavement is established, but vegetation has not been established. ESC plans are living documents, the contractor is responsible for adjusting where needed with Engineer approval.			
112	11/30/2022	Quandel Construction (Karl Rice)	Per spec section 31 25 13, will the approved “Biosolids Process Improvements SWPPP” permit be provided as part of the bidding documents?	The SWPPP has been approved by DEC. The NOI has not been submitted until a known construction start date has been established			
113	11/30/2022	Quandel Construction (Karl Rice)	Please provide spec section 40 05 07.13 as called out in 40 05 01 or tell us it is not required.	Delete the reference to 40 05 07.13.	Yes	4	8
114	11/30/2022	Quandel Construction (Karl Rice)	Drawing S-30-301 has a note stating “EXCAVATE TO FIRM SUBGRADE, USE SHEETING AS NEEDED TO AVOID UNDERMINING EXISTING FOUNDATIONS, BACKFILL TO SUBGRADE WITH COMPACTED MATERIAL” can additional details be provided so contractors can properly quantify the amount of sheeting and backfill material required? And if sheeting is needed will a PE stamped SOE plan be required?	Per note 1/S-30-101 excavation up to 10'-0" is anticapted. If sheeting is required a PE stamped SOE plan is required per note SDS 1.8/S-00-002.			
115	11/30/2022	Quandel Construction (Karl Rice)	The table of contents notes Prevailing Wage Rates and Davis Bacon Wage Rates. Only the New York prevailing wages are included in the specifications. Please provide the Davis Bacon wage rates for this project.	Davis Bacon wage rates are currently included following prevailing wage rates			
116	11/30/2022	Quandel Construction (Karl Rice)	What kind of media is in the tricking filters? What do we need to remove?	The trickling filters are filled with crushed stone (washed drainage stone) to an approximate elevations of 565.00 ft. All crushed stone should be removed per general note 2/SD-05-101. The total depth of crushed stone about 5.5ft.			

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117	11/30/2022	Quandel Construction (Karl Rice)	Drawing D-60-101 calls out new aeration equipment for the aeration tank which is to meet specification 46 51 33. Please provide specification section 46 51 33 as it was not included.	See Specification Section 46 51 33 attached to this Addendum (TOC also needs updating, do we want to included new one attached to addendum?)	Yes	4	12
118	12/1/2022	Bio-Handling (Greg Hyde)	Concerning spec: 41 12 13.36, 1.05, B CON3035 is shown as 3,000 wet lbs./hr. capacity. Shouldn't that match CON3033 which feeds it (11,500 wet lbs.)? CON3042 & 3043 is shown as 3,000 wet lbs./hr. at 50 & 20 lbs./cf. The dryer design is listed at 2,000 wet lbs./hr. I don't think the dryer function is to add water. Can we get output confirmed in wet lbs./hr. at the wettest (50 PPCF) and driest (20 PPCF), or CFH?	Question 1: No, CON3035 can only feed the dryer. CON3033 can reverse and direct cake to loadout instead. Question 2: CPN3042 and 3042 should be designed to handle the cake if it passes through the dryer and the heater has operational issues (so 3,000 wet lbs/hr at 50 lb/cf).			
119	12/1/2022	M.A. Bongiovanni (Mike Bongiovanni)	The Post type indicating valve detail on c-00-005, for fire main.. where is this required? Please provide a hydraulic profile of the plant.	We have located the PIV in Addendum 2 package.	Yes	2	19
120	12/2/2022	M.A. Bongiovanni (Mike Bongiovanni)	Drwg SD-05-101 keynote 1 about the 6" core holes. Why must the filter media remain in place during the core drilling? Why have to core thru 6+ feet of media as well as the slab? Its much easier to core the slab once media is removed, or at least removed from the area of the core.	The contractor can remove media as they see fit to facilitate coring.			
121	12/2/2022	M.A. Bongiovanni (Dennis Sexton)	Drawing D-10-104, 6" DIP WAS from Storage Tank, between where it enters the wall and P1041, there is an object drawn adjacent to the offsets bends – please identify this object. I-10-104 does not show the 6" Plug valve on the suction line to each of the 3 pumps P1041, P1042, P1043 that is shown on D-10-104. I-10-104 shows what appears to be an "Elastomer and Fabric Expansion Joint (D-00-001) on the suction and discharge of P1041. D-10-104 identifies this as an "Equipment Connection Fitting" (Note 3) – confirm these are the same. The discharge of pumps P1071 and P1072 show the pipe as "DS" = glass lined. D-10-105 shows it as 6" TPS/ TWAS (ceramic epoxy lined), then changing back to "DS". Drawing I-10-107 shows the discharge as 6" TPS / TWAS – please confirm required lining. D-10-104 shows a dismantling joint just upstream of GDR1071 and GDR1072. I-10-107 shows this as a flanged rubber expansion joint. Same for upstream and downstream sides of GDR1021 and GDR1022.	The object will be removed. It should be a short stick of pipe. I-10-104 will be update to include the plug valves. The fitting is an equipment connection fitting. refer to 40 05 06.16-2.02.D The pipe should be DS, glass lined. The fitting should be dismantling joint.	Yes	4	14

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122	12/2/2022	M.A. Bongiovanni (Dennis Sexton)	D-10-112 indicates some new piping labeled “PSC”. We find “PSC” in the table in 40 05 02-1.01.C which refers to section 46 25 41, but we do not find this piping identified within that section. We do not find “PSC” within the piping schedules in 40 05 02. Please confirm required pipe spec and lining. D-10-112 shows two new 4” Plug valves (Keynote 3). This drawing also shows valve control stations 1040-1 (Keynote 4) and 1040-2 (Keynote 3). We do not find valve actuators ID # 1040-1 or 1040-2 in the schedule in section 40 06 20.13, Part 4 – please clarify. Please confirm the limit of piping replacement as it exits the room toward the North.	D-10-112 was deleted as part of Addendum 2	Yes	2	17
123	12/2/2022	M.A. Bongiovanni (Dennis Sexton)	Drawings D-20-101 and I-20-102 identify EMO valves V-2021, V-2022, V-2023 which we don’t find in the actuated valve schedule in 40 06 20.13 Part 4. D-20-101 shows a dismantling joint on the suction of P2021 and P2022. D-20-302 shows the suction side dismantling joint, and nothing on the discharge side. Drawing I-20-102 shows a flanged rubber expansion joint on the suction and discharge side. The discharge of P2021 and P2022, on D-20-101, shows a Check valve and Plug valve, then one Plug valve on the stub pipe for the flushing connection going toward the West side. I-20-102 also shows the Check valve and Plug valve on the discharge of each pump, but shows two plug valves prior to the discharge pipe continuing.	The drawing will be updated to show the VCP for the valves and 40 06 20.13 will be updated to include the valves in the schedule. D-20-302 will be revised to include a dismantling joint on the discharge. Both D-20-101 and I-20-102 will be revised to eliminate the plug valve to the west of the header and the two plug valves prior to the discharge pipe continuing.	Yes	4	14
124	12/2/2022	M.A. Bongiovanni (Dennis Sexton)	There appears to be discrepancies between the piping as shown on D-20-101 for the Primary Digester # 1 foam suppression pump 4012 and Primary Digester # 2 foam suppression pump 4032, and drawings I-40-101 and I-40-103. I-40-101 and I-40-103 show flanged rubber expansion joints at the pumps, while D-20-101 (section 1 on D-20-301) shows dismantling joints. I-40-101 (P4012) and I-40-103 (P4032) show discharge Check valves, which are not shown on D-20-301 or D-20-302.	Question 1: They are dismantling joings- drawings will be updated to reflect dismantling joints, **Question 2: The foam suppression pumps do not require a check valve (Updated 12/15/22)**	Yes	5	25
125	12/2/2022	M.A. Bongiovanni (Dennis Sexton)	I-30-102 shows flanged rubber expansion joints before and after the inline PI/PSL instruments on the suction side of pumps P3021 and P3022. D-30-102 shows only a dismantling joint adjacent to the pump on the suction side. I-30-102 shows flanged rubber expansion joints on the discharge side of the pumps. D-30-301 shows dismantling joints.	All fittings and instruments on P&IDs are reqired. **The rubber expansion joints however should be dismantling joings - symbology does not diferentiate. P&ID notes have been revised to highlight (update 1-9-23)**	Yes	5	25
126	12/2/2022	M.A. Bongiovanni (Dennis Sexton)	D-30-301 and D-30-302 show a floor penetration detail of M1110. We do not find this detail number on D-00-002.	The callout should read Detail M1107	Yes	4	14
127	12/2/2022	M.A. Bongiovanni (Dennis Sexton)	D-30-102 references a detail M7005. We do not find a detail for M7005.	The callout should read Detail M005	Yes	4	14
128	12/2/2022	M.A. Bongiovanni (Dennis Sexton)	D-30-102 shows a plan view of the Cooling Tower. Can a detail be provided for the 6” CW supply and return piping connections for the Cooling Tower ? Will this exposed piping be heat traced and insulated ?	The sludge dryer vendor will supply the cooling tower and provide piping connection details. Exposed piping is to be heat traced and insulated.			

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129	12/2/2022	M.A. Bongiovanni (Dennis Sexton)	D-20-101 at the Digester Control Building shows flowmeter FE2013 in the discharge header (DS) from pumps P2011 and P2012. After the flowmeter, the single pipe exits the building toward the Secondary Digester as shown in Section 6 on D-20-305. I-20-101 shows a valve on each of two branch lines down stream of the flowmeter, which we interpret to be the two buried valves shown on D-40-104. Per I-20-101, the line to the Secondary Digester continues on I-40-105, which shows an additional valve, and a 6" quick connect hose fitting. Please confirm this valve and tee with quick connect are in the vertical riser to the Secondary Digester, as no section view is found through this line on D-40-104.	This is correct, they should be on the vertical riser.			
130	12/2/2022	M.A. Bongiovanni (Dennis Sexton)	Section 4 on D-10-302 shows the 6" TPS line reducing to 4" with a 4" valve and an "Equipment Connection Fitting", which per D-00-001 seems to be a sleeve coupling. This is similar for the inlet and outlet piping. I-10-103 shows the valve to be 6", with a symbol of an "Elastomer and Fabric Expansion Joint" (per D-00-001). Please confirm the required valve size, and if a mechanical coupling or flanged expansion joint is required to connect to the equipment.	An equipment connection fitting is required, refer to 40 05 06.16-2.02.D. The valve should be 4".			
131	12/2/2022	M.A. Bongiovanni (Dennis Sexton)	Section 1 on D-20-301 shows a dismantling joint on the suction side of P4012. I-40-101 appears to show this as a flanged rubber expansion joint – please confirm which is required. I-40-101 shows a check valve and a plug valve on the discharge of P4012. Section 4 on D-20-303 shows only a Plug valve on the discharge.	All fittings and instruments on P&IDs are reqired. **The rubber expansion joints however should be dismantling joings - symbology does not diferentiate. P&ID notes have been revised to highlight (update 1-9-23)**	Yes	5	25
132	12/2/2022	M.A. Bongiovanni (Dennis Sexton)	The Digesters per D-40-102 and D-40-103 have piping labeled "FS" which we do not find in the pipe schedules in section 40 05 02 – please confirm required pipe spec.	This will be corrected to DS.	Yes	4	14
133	12/2/2022	M.A. Bongiovanni (Dennis Sexton)	C-05-114 shows the finish floor of Primary Digester # 1 as 564.5. D-40-302 shows this elevation as 565.50.	All of the digesters shall be set to the same elevation of 565.5.	Yes	3	3
134	12/2/2022	M.A. Bongiovanni (Dennis Sexton)	Drawings D-40-102, D-40-301, D-40-302 show the 12" DG (stainless steel) line transitioning to 12" D underground. Per the pipe schedule in section 40 05 02, the D designation = schedule 40 PVC. Note 13 on D-40-302 indicates the transition is to HDPE. Drawings C-05-123 and C-05-124 identify this pipe as "OF", which is not in the schedules in 40 05 02. Please confirm the pipe material for the buried portion of this line, and provide a transition detail and transition CL elevation	OF shall be ductile iron per 40 05 02.53. Detail and CL elevation to be provided.			
135	12/2/2022	M.A. Bongiovanni (Dennis Sexton)	At the Digesters, the 12" pipe from the Standpipe to the Digester Tank is labeled DG on D-40-102, DS on D-40-104, DG on D-40-301 and D-40-303, DS on D-40-305. The 3" for the LIT is labeled DG on D-40-102, DS on D-40-103 and D-40-104.	This will be corrected to DS throughout.	Yes	4	14

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136	12/2/2022	D.A. Collins Companies (Rob Montague)	Due to the bid date proximity to Christmas/News Years holidays, many suppliers and subcontractors have stated that they may not have enough time to provide responsible proposals for this bid. It is for this reason we respectfully request a bid extension to January 12, 2023.	The bid opening date has been revised per **Addendum 6 to January 20th, 2023 (Updated 12/29/22)**	Yes	**6**	**1**
137	12/2/2022	D.A. Collins Companies (Rob Montague)	Who is the manufacturer of the existing Final Settling Tanks Clarifiers?	Envirex Inc.			
138	12/2/2022	D.A. Collins Companies (Rob Montague)	Specification 43 23 88.11 is listed under the GC responsibilities, but it seems as though it should be under the HVAC contract. Please confirm. (as a side note, manufacturers rep testing and training durations are not listed)	This was addressed as part of Addendum 2. Added to the B-2 description under 01 20 00 Lump Sum Items			
139	12/2/2022	D.A. Collins Companies (Rob Montague)	What is the NYS DOL determination of work classification of Laborers vs Plumber/Pipefitters for this specific project relative to NYS DOL Notification Case ID No. PW01 2021023470. This notification states “Any pipe, pump and/or plumbing appurtenance work done within 5 feet of the property line/fence and in on all waste-water treatment plant or water treatment plant projects is the work of the plumber.”	This project has been organized to meet the requirements of Wick's law and SRF			
140	12/2/2022	D.A. Collins Companies (Rob Montague)	Drawing A-30-303 wall section 2 calls out a 12” CMU wall and drawing A-30-101 shows a 8” CMU wall, concurrently drawing S-30-102 shows a 12” CMU wall on line 7. Which is the correct size of the CMU wall?	**provide 8” CMU in accordance with table 2002 on S-30-504. (Updated 12/15/22)**	Yes	4	13
141	12/2/2022	D.A. Collins Companies (Rob Montague)	Drawing A-30-301/2/3 wall section 1 calls out a brick cavity wall system but doesn’t show which type of wall section as indicated on drawing A-00-010	**Brick cavity wall system’ shall be of construction as indicated on addendum 2 drawing of A-30-303 wall section 1. (Updated 12/15/22)**	Yes	2	21
142	12/4/2022	M.A. Bongiovanni (Andrew Bongiovanni)	Where is the Glycol chiller to be physically located? Which drawing is this shown on?	The chiller is located just outside of the digester control building near the northwest corner. It shall be installed on the pad shown on C-05-124			
143	12/4/2022	M.A. Bongiovanni (Andrew Bongiovanni)	43 31 13.13 described a stand alone PLC for the Glycol chiller to be provided by the System Supplier. The Specification also states the Chiller PLC shall communicate with Plant PLCs with Ethernet/IP. I don't see this PLC shown on the P+IDs, and I don't see where the wiring for it to the Plant PLCs is shown - could you clarify who is responsible for this?	**Related instrumentation drawing will be updated via addendum to provide clarification. (Updated 12/15/22)**	Yes	5	**25**

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144	12/4/2022	M.A. Bongiovanni (Andrew Bongiovanni)	43 31 13.13 Paragraph 2.07 states for all "interconnecting piping (between equipment skids), condensate drains, and exhaust vents that are not specifically specified as System Packager provided shall be provided by Contractor in accordance with 40 05 01 and 23 31 13. All interconnecting wiring and conduit shall be provided by Contractor". This would seem to cover material that is otherwise provided by at least three prime contracts - process piping, HVAC piping and accessories, and electrical conduit and wiring. Please clarify which contract is expected to provide what - the GC is providing the equipment specified in this section, but this paragraph refers to material not being supplied by the System Packager (and in some cases not shown on the Contract documents)	Materials not defined as provided by the 43 31 13.13 supplier will be provided by the contractor. Contractor to coordinate the suppliers.			
145	12/4/2022	M.A. Bongiovanni (Andrew Bongiovanni)	What contract provides the Glycol Expansion tank shown on I-20-107?	This is covered in 43 31 13.13			
146	12/4/2022	Quandel Construction (Karl Rice)	If Table A and B on DD-00-003 are used to layout and support pipes, what is required to be designed by specification section 400507.16?	Table A and B are minimum requirements.			
147	12/4/2022	Quandel Construction (Karl Rice)	Many Types of Pipe attachments and building attachments labeled in Table B on D-00-003 are missing from details. Please provide them.	The table and details will be updated to only include relevant details and include missing ones.	Yes	4	14
148	12/4/2022	Quandel Construction (Karl Rice)	Drawing D-00-003, Table A Note 6 refers to Specification 15096. Please provide the specification.	Specification 15096 should read 40 05 07.16	Yes	4	14
149	12/4/2022	Quandel Construction (Karl Rice)	Only specific drawings call out for pipe supports and expansion joints to be laid out and designed. Are those the only drawings that require design per Specification Section 400507.16? DWG D-40-102, D-40-103, D-40-104, D-40-304.	Pipe support design requirements per Specification Section 400507 apply to all piping on this project.			
150	12/4/2022	Quandel Construction (Karl Rice)	Aerobic digester piping interior and exterior connecting into the tank. Are those to be per the tank manufacturer?	Pipe flanges are provided by the tank supplier.			
151	12/4/2022	Quandel Construction (Karl Rice)	There is no foundation shown for the Primary digester Standpipe. Is that to be per tank manufacturer?	General contractor to supply standpipe foundation. **To be provided in accordance with detail S5007 (Updated 12/21/22)**			
152	12/4/2022	Quandel Construction (Karl Rice)	Are structural as-built record dwg's available of existing structure(s) that will need to support non-structural components and non-building structures?	Yes, as-built drawings will be made available to the Contractor by request.			

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153	12/4/2022	Quandel Construction (Karl Rice)	Per requirement of Section 017324, Part 3, paragraph 3.01.A, the extent of effort (Construction and Engineering) to transfer loads to the existing structure's lateral force-resisting system cannot be made without knowing what the existing structure's lateral force-resisting system is? Is the Contractor's Engineer to determine what the existing lateral force-resisting systems are?	Yes, Contractor's Engineer shall determine lateral force resisting systems from Contract Documents and as-built drawings.			
154	12/4/2022	Quandel Construction (Karl Rice)	Is a "supporting member" as described in paragraph 3.01.D considered a part of the existing structure and/or new structure by others, and not by the Contractor?	"Supporting members" as described in paragraph 3.01.D are considered part of the existing structures or new structures required to support the loads of the equipment.			
155	12/4/2022	Quandel Construction (Karl Rice)	Is the Contractor responsible to address any and all overstress of supporting members? The following underlined sentence of Paragraph D would indicate the Contractor is required to address any and all overstress of supporting members at no additional cost to the Owner without any conditions.	Yes, the Contractor is responsible to address any and all overstress of supporting members at no additional cost to the Owner. Conservative allowances have been made within the design for loads imposed by non-building structures and non-structural components.			
156	12/4/2022	Quandel Construction (Karl Rice)	Who is to determine whether or not an existing and/or new (by others) supporting member is overstressed?	Conservative allowances have been made within the design of new "support members" for loads imposed by non-building structures and non-structural components based on specified equipment. In existing structures, the Contractor's Engineer is responsible to determine if "supporting members" are overstressed based on the as-built drawings. In delegated structures, the Contractor's Engineer is responsible to determine if "supporting members" are overstressed.			
157	12/4/2022	Quandel Construction (Karl Rice)	Looking at drawing D-10-101 the WAS pipe is dark like it is new work and the TPS pipe is light lines like it is existing work. Looking at DD-10-101 the part of the TPS pipe gets removed. Why is the line thickness the same on D-10-101 for existing pipe and new pipe? How are we to identify new work? This is true of the TPS pipe valves. D-10-101 has them as a light line thickness indicating they are existing but on DD-10-101 they are not existing.	D-10-101 will be updated to clarify. The intent is for all pipe to be replaced between the WAS storage tank and GT and Solids Handling Building.	Yes	5	23
158	12/4/2022	Quandel Construction (Karl Rice)	What is the depth of the media in the trickling filter?	The trickling filters are filled with crushed stone (washed drainage stone) to an approximate elevations of 565.00 ft. All crushed stone should be removed per general note 2/SD-05-101. The total depth of crushed stone about 5.5ft.			

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159	12/5/2022	Patricia Electric (John Bill)	I can't seem to find any information or drawings in regards to the Outdoor Substation and Outdoor Generator foundation/pads. Also, can you tell me who is providing these items.	Structural details for Generator Pad and Outdoor Substation are provided via addendum 4.			
160	12/5/2022	M.A. Bongiovanni (Mike Bongiovanni)	Which Pipe System applies for the 36" PE pipeline? I Don't see PE in the identifier column.	PE is Primary Effluent. It is ductile iron. It will be added to the piping schedule.			
161	12/5/2022	M.A. Bongiovanni (Mike Bongiovanni)	Spec section 01 20 00 (reissued in addm 2) contains the bid item descriptions of the 4 primes. While the Electricians C-2 work included list includes excavation and fill (sect 31 23 00), the items B-2 (for HVAC) and D-2 (for Plumbing) do NOT list excavation and fill. Please verify who performs excavation and backfill for contracts B + D	31 23 00 will be added to B-2 and D-2 descriptions	Yes	4	1
162	12/5/2022	M.A. Bongiovanni (Mike Bongiovanni)	Similarly, the HVAC item B-2 and Plumbing item D-2 include division 03 Concrete (for their work) but the item C-2 for Electrician, does Not include Division 03 (Concrete). Please verify who performs Division 03 for electrical work (ductbank).	Div 03 will be added to the C-2 desciption	Yes	4	1
163	12/5/2022	M.A. Bongiovanni (Mike Bongiovanni)	Specifically related to any foundation pads for the electrical substation gear in area 15 – who is responsible for placing these? And is there a drawing showing the size, rebar, details, etc.?	Structural details for Generator Pad and Outdoor Substation are being provided via addendum 4. Load Bank and Transformer Pad shall be per detail S5007/S-00-007. **Outdoor substation pad being provided per Addendum 5 updated 12/21/2022**	Yes	4	16
164	12/5/2022	M.A. Bongiovanni (Dennis Sexton)	I-40-106 shows the 12" DG increasing to 14" as it connects to the 12" D. This is not shown that way on I-40-104, D-40-302 or D-40-305.	14" for the referenced DG piping is not required, 12" is suffucient.			
165	12/5/2022	M.A. Bongiovanni (Dennis Sexton)	The PIT at the Waste Gas Burner is shown as 4081 on D-40-101 and 4071 on D-40-304. I-40-107 shows FE/FIT-4071-1 at the Waste Gas Burner that is not labeled on D-40-304.	Provide instruments as indicated.			
166	12/5/2022	M.A. Bongiovanni (Dennis Sexton)	I-40-107 shows FE/FIT-4071-2 in the 6" DG line between the Digesters and Gas Booster. Can you advise specifically where this is located ?	Flow meter is located outside in the straight run of DG piping leading to the flare fuel train.Provide as required.			

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167	12/5/2022	M.A. Bongiovanni (Dennis Sexton)	D-20-102 shows the two 6” DG lines coming into the Digester Control Building from the Digesters, going through a sediment trap, blower B2060, then heat exchanger HEX2060, then the 3” DG outlet splits with one line going to the boilers and the other exiting the building. The schematic on I-20-106 does not show the sediment trap, and shows the DG going to the heat exchanger HEX2060 (refer symbol on I-00-004 and bottom of I-20-106) then the blower B2060. I-20-106 shows the bypass around the heat exchanger, instead of the around the sediment trap per D-20-102. I-20-106 shows the DG increasing to 10”, then 8” as it passes through the blower, which is not represented on D-20-102. I-20-106 shows two Butterfly valves between heat exchanger HEX2060 and Blower B2060. D-20-106 shows only one. The piping between blower B2060 and the boilers on I-20-106 does not match D-20-102.	This will be clarified via addendum.	Yes	5	**25**
168	12/5/2022	M.A. Bongiovanni (Dennis Sexton)	C-05-124 and D-20-102 show a 3” DG line exiting the Digester Control Building and heading towards the Dewatering and Dryer Building. I-30-104 shows the 3” DG line connecting to the Sludge Dryer burner. We do not see any of this 3” DG piping shown on D-30-102 though D-30-304. Please provide piping details within the Dewatering and Dryer Building.	Natural Gas and Digester Gas piping are shown on the plumbing sheets. Tagging will be updated to clarify in future addendum.	Yes	5	27
169	12/6/2022	M.A. Bongiovanni (Nate Bongiovanni)	Addendum 2, Revised Drawing A-20-301 keynote 8 calls for a spray applied 2hr rated cementitious fire proofing to structural member (typ). Only one structural beam is called out on the drawing – is the intent to apply this to all structural steel in the lower level of the digester control building (everything below the metal decking/slab) or just the W24s at the stairwell?	**Provide fire proofing to all structural members encapsulating and associated with the fire stair. Provide fire proofing to the beams, decking, and structural members below the electrical room floor. (Updated 12/15/22)**			

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170	12/6/2022	M.A. Bongiovanni (Nate Bongiovanni)	know the finish schedule in 099000 was intended to be a general umbrella that was not applicable to the entirety of the project, and it's the contractors responsibility to determine what requirements apply. However, beyond Item A, I think we need a little more clarification: 1. Item B calls out primary sedimentation tanks and effluent channels. Is this item supposed to be the primary settling tanks? If so, looks like the work is contained to the scum troughs and weirs and items like B.5 do not apply to this contract, correct? If the sub-items do apply, we'll need the maximum water elevation – the lines were left blank. 2.Item C- Aerated Grit Tank- Don't see this on the Contract Drawings – is there work here? 3.Item D – Secondary and Final Sedimentation Tank. Similar to above, there is a Final setting Tank, but no sedimentation, nor any secondary. I assume this is meant to reference the final settling tanks? 4.Item E – I don't see any troughs or support brackets on the drawings for the aeration tanks. 5.Item F – I know we are to coat the new thickener mechanisms, but see no indication of new coatings on the existing concrete troughs/launders. 6.Item G- I don't see this on the contract drawings. 7.Item H- Digesters get a flat, self-support SS cover – no painting necessary. Is this for a different project? 8.Item I thru K are not seen on on any of the contract drawings or on any other finish schedules. Are these for a different project as well?	This table will be revised in a future addendum to provide clarity. B&C will be deleted.	Yes	4	5
171	12/6/2022	M.A. Bongiovanni (Nate Bongiovanni)	For several items on the finish schedule in 099000, like piping/conduit/ductwork, it calls for a coating system, and the column for standard color refers you to the piping system schedule. For lines like stainless steel pipe, the pipe system schedule contradicts the paint spec. Which of these spec sections governs in relation to piping on this project?	Stainless steel shall not be coated	Yes	4	5
172	12/6/2022	M.A. Bongiovanni (Nate Bongiovanni)	Item A.7 calls for metal stairs, ladders, platforms, and supports to be painted. Most of the stairs, frames, platforms and ladders on this project are aluminum. This is not usually a painted item – and theres little, if any, painted aluminum ladders/platforms/stairs onsite. Please confirm if these new aluminum surfaces are to be painted per 09900.	Aluminum stairs, ladders, platforms shall not be coated.	Yes	4	5
173	12/6/2022	M.A. Bongiovanni (Nate Bongiovanni)	05 10 00 Structural Framing calls for the fabricators of structural steel elements (such as the columns and beams in the new digester control building) to be AISC certified. We have, in the past, used fabricators who are not AISC certified but more often than not work to those, or even higher, standards and carry ASME certification, who's requirements are generally stricter then AISC/AWS. The remaining division 5 specs require fabricators to conform to AISC standards, but not necessarily have AISC certification (for aluminum components, misc metals, etc). Would a fabricator who works in conformance w/ AISC standards and carries ASME certification be acceptable for the structural steel framing on this project?	No, AISC certification is hard requirement.			

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174	12/6/2022	Motion AI (Don Payne)	The deliverable themselves are pretty straight forward but the requirements for testing, submittals, planning guides training is something we have never seen. Is there a possibility the bid date will be pushed out.	The bid opening date has been revised per **Addendum 6 to January 20th, 2023 (Updated 12/29/22)**	Yes	6	1
175	12/7/2022	Electrical Contractors (Ron Netti Jr)	Drawings C-05-101 & C-05-102 are calling for the fence & stone by the GC . What contract is responsible for the clearing & tree removal prior to the electrical installs in this area ?	The general contract is responsible for this work as it is accessory to the regrading effort in this area			
176	12/7/2022	Electrical Contractors (Ron Netti Jr)	Please provide a base/foundation detail for the New Electrical Switchgear Room on drawing E-15-102.	To be provided in a forthcoming addendum	Yes	5	28
177	12/7/2022	Electrical Contractors (Ron Netti Jr)	Please provide a concrete pad detail for the new generator & load bank on drawing E-15-101.	Structural details for Generator Pad and Outdoor Substation are being provided via addendum 4. Load Bank and Transformer Pad shall be per detail S5007/S-00-007.	Yes	4	16
178	12/7/2022	End to end technology Solutions (Ebin Winters)	An electrical contractor bidding Auburn WWTP asked me to price the fire alarm for this project, before I invest in this I wanted to find out if AUTOCALL would be an issue if submitted on. I have attached a data sheet – it is a fire alarm system in distribution with dealers in Buffalo, Rochester, and Syracuse.** Johnson Controls is the manufacturer. AUTOCALL: UL, ULC, CSFM Listed, FM, NYC Fire Dept Approved* **AUTOCALL 4010 ES DATA SHEET is located PW folder in the 01 Questions	AUTOCALL is not compatible with existing devices. The specification will be updated to address this issue.	Yes	4	7
179	12/7/2022	M.A. Bongiovanni (Dennis Sexton)	I-70-103 implies a new 6” Plug valve is to be installed on each side of the new flowmeter FE-7033. D-70-103 does not show new valves. Please confirm new valves are not required.	D-70-103 will be updated to show new plug valves.	Yes	5	23
180	12/7/2022	M.A. Bongiovanni (Dennis Sexton)	I-40-101 shows 3”-2W piping to Primary Digester # 1. I-40-103 shows 3”-2W piping to Primary Digester # 2. I-40-105 shows 3”-3W piping to the Secondary Digester. D-40-102, D-40-103, D-40-104 all note to field route the 2W pipe. Per section 40 05 02.29, 3” 2W and 3” 3W piping are ductile iron. We do not see any indication of 2W or 3W piping run to the Digester area on C-05-124. There is 3” 3W piping inside the Digester Control Building. Is the intent to extend the piping from within that building to each of the Digesters ?	Yes, It is the intent to extend the piping from within that building to each of the Digesters.			

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181	12/7/2022	M.A. Bongiovanni (Dennis Sexton)	It has been confirmed the instrumentation items as described in Div. 40 are by the electrical contract. I-00-006 through I-00-009 shows installation details for various instruments. Please confirm all the mounting hardware, structure penetrations, isolation valves and tubing, etc. as shown on these drawings as required for a complete installation are also included in the Electrical contract.	The General Contractor is responsible for providing penetrations and connections points to allow the Electrical Contractor to install the instrumentation in accordance with the requirements of the design details and manufacturer."Connections to equipment furnished under other contracts" has been added to Bid Item Description A-2			
182	12/8/2022	Hydro International (Don Shoaf)	SRF Terms & Conditions: SRF AI&S compliance is defined. Please confirm compliance with new BABA requirements will not be required.	Not required			
183	12/8/2022	Hydro International (Don Shoaf)	406196.12: D.2.C: This section requires the speed of the sludge screen motor to be adjusted automatically based on the pressure differential. Hydro recommends the screw speed to be constant. Please confirm a standard motor starter will be accepted in lieu of VFD	A VFD will be required per the contract specifications.			
184	12/8/2022	Hydro International (Don Shoaf)	406196.12: 3.02.C.1: This section references performance tests, 3.02.A.2 indicates functional tests. Please confirm functional testing only is required.	Functional tests is all that is required.			
185	12/8/2022	Hydro International (Don Shoaf)	The drawings show the main control panel will power a 2HP, 3PH, 460VAC air compressor. Typically, Hydro would supply a 2hp, 120VAC, 1ph air compressor. Please confirm if a 120 V single phase air compressor will be acceptable.	460V will be required.			
186	12/9/2022	Koester Associates (Kyle Buckles)	SECTION 46 21 34 - INLINE SLUDGE SCREEN: 1.01.D - Air Compressor Voltage Rating: 480/3 PH Manufacturer’s standard compressor to be 120V and capable of meeting design intent/specification requirements. Please confirm that this is acceptable, as this will eliminate the need for a high voltage compressor with starter.	A 120V compressor would be acceptable, it is the responsibility of the GC to coordinate electrical feed if a change to the Bid Drawings is required.			

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187	12/9/2022	Koester Associates (Kyle Buckles)	SECTION 46 21 34 - INLINE SLUDGE SCREEN: 1.04.A - Refer to 01 11 80 Environmental Conditions Section not supplied for Manufacturer's review. Please confirm if environment of sludge thickening room is corrosive.	It is classified as process corrosive.			
188	12/9/2022	Koester Associates (Kyle Buckles)	SECTION 46 21 34 - INLINE SLUDGE SCREEN: 2.03.E.1 - Air compressor shall be Jun-Air, Quincy, or an Approved Equal. Manufacturer's standard compressor is manufactured by California Air Tools. Manufacturer requests that this vendor be added to the list of approved manufacturers.	Submit as an alternative for review per 01 33 00, the compressor shall meet the requirements in the specification.			
189	12/9/2022	Koester Associates (Kyle Buckles)	SECTION 43 05 21 - COMMON MOTOR REQUIREMENTS FOR EQUIPMENT 1.09.A - Provide warranty in accordance with Section 01 77 00. Section not supplied for Manufacturer review.	Motors provided as part of driven equipment should be covered under the warranty under their unit responsibility.	Yes	5	18
190	12/9/2022	Koester Associates (Kyle Buckles)	SECTION 43 05 21 - COMMON MOTOR REQUIREMENTS FOR EQUIPMENT 2.01.A Manufacturer's standard motor is manufactured by NORD and meets the requirements of the specification. Manufacturer requests that this vendor be added to the list of approved manufacturers, as this will result in lowest lead time for equipment.	If NORD can meet the requirements of the specification, we encourage that they be submitted for consideration to be an accepted equal during the construction phase. Please keep in mind that proof will be required that they have US distribution/support, stock replacements, etc.			
191	12/9/2022	Koester Associates (Kyle Buckles)	SECTION 43 05 21 - COMMON MOTOR REQUIREMENTS FOR EQUIPMENT 2.02.A.1 - Temperature: -25-degree C to [+40] [+50] degree C. Please confirm if motor is desired for 40C or 50C environment.	40C	Yes	5	4
192	12/9/2022	Koester Associates (Kyle Buckles)	SECTION 43 05 21 - COMMON MOTOR REQUIREMENTS FOR EQUIPMENT 2.05.2.d - Provide Electro Static Technology's AEGIS Shaft Grounding Ring for Bearing Protection or equal. The shaft grounding ring shall be solidly bonded per manufacturer's recommendations. Manufacturer's standard motor provided to meet design intent does not include shaft grounding ring, as this is typically recommended for larger motor sizes (>100 HP) by manufacturer.	Provide inverter fed motors with electrically insulated bearings or shaft grounding rings per 2.05.A.2 or where recommended by driven equipment supplier.	Yes	7	18
193	12/9/2022	Koester Associates (Kyle Buckles)	I-10-103 - Sludge Screen P&ID drawing shows starter in control panel for air compressor. Manufacturer's standard compressor to run from 120V power, sourced by others. Please confirm that this is acceptable.	A 120V compressor would be acceptable, it is the responsibility of the GC to coordinate electrical feed if a change to the Bid Drawings is required.			

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194	12/9/2022	GP Jager Inc (Dave Boshart)	The specification is calling for ISO-1217 Annex C testing. This is a full package test without the VFD. It will cost extra to do this test in our Coatesville, PA facility. The standard test we do for all blowers ISO-1217 Annex B testing. This is the blower stage test that is done at the factory in Germany. This test is done at no extra charge. We provide a test report for this test. The other test we could is ISO-1217 Annex E testing. This is a full package test with the VFD. We will only perform this test if we are providing the VFD. It will cost extra to do this test in our Coatesville, PA facility Please confirm which test is required.	Modify Specification Section 43 11 33-1.02.C.1 change "Annex C" to "Annex E"	Yes	4	10
195	12/9/2022	GP Jager Inc (Dave Boshart)	Are the VFDs in the blower manufactures scope of supply? Drawing I-60-101 appears to show the VFDs are packaged mounted on the blower packages. Please confirm the VFDs are in the blower manufactures scope of supply.	The VFDs are a apart of the blower manufacturer scope of supply. VFDs shall be provided per spec Section 43 11 33			
196	12/9/2022	GP Jager Inc (Dave Boshart)	If the VFDs are in our scope of supply is our standard Danfoss VLT Aqua Drive acceptable? Section 431133 calls out Allen Bradley or equal and Section 262923 calls out ABB or equal. Please confirm which VFD is acceptable.	VFDs shall be ABB or equal. Modify spec section 43 11 33-2.03.K.4 change from "Allen Bradely PowerFlex" to "ABB"	Yes	4	10
197	12/9/2022	GP Jager Inc (Dave Boshart)	Are the external intake silencers in the blower manufacturers scope of supply? Reference drawing D-60-102 Keynote 8 which shows the silencers. Please confirm the external intake silencers are in our scope of supply.	The external intake silencers are a apart of the blower manufacturer scope of supply. Intake silencers shall be provided per spec Section 43 11 33			
198	12/6/2022	C.O. Falter Construction Corp. (Bob Cussen)	C.O. Falter Construction requests a four-week extension to the proposed bid	**Bid extended to January 20th, 2023 (Updated 12/29/22)**	Yes	**6**	**1**
199	12/9/2022	Siewert Equipment (Mike Lannon)	from Ovivo regarding section 46.71.13: 1.03.A.10.b – Please forward a list of the seismic load requirements.	Refer to S-00-001.			
200	12/9/2022	Siewert Equipment (Mike Lannon)	from Ovivo regarding section 46.71.13: 1.05.A.1&2 – Please clarify what is required for “Primary Reducer” and “Secondary Reducer”.	The Primary Reduced is specified in 2.03.E.1.b. The secondary reducer is spefied in E.1.a.1 as the final output worm gear reducer.			

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201	12/9/2022	Siewert Equipment (Mike Lannon)	from Ovivo regarding section 46.71.13: 2.02 – Please allow/include the Ovivo W24P drive unit with a fabricated steel base and add an Option “B” to the spec for the Ovivo W24P drive unit. See attached spec language.	Alternate materials and designs may be considered if they are submitted as substitutions as required in 01 33 00.			
202	12/9/2022	Siewert Equipment (Mike Lannon)	from Ovivo regarding section 46.71.13: 2.03.A.1 – Please allow/include feedwell supports from the rotating shaft. This is our standard design and it keeps the feedwell supports out of the air/water interface.	Design of the supports will be the responsibility of the manufacturer. The specifications show an approach that should be verified and confirmed by the manufacturer, if an alternate approach is desired this would be accepted as long as design calculations are provided showing the system will meet loading requirements.			
203	12/9/2022	Siewert Equipment (Mike Lannon)	from Ovivo regarding section 46.71.13: 2.03.A.2 – Our baffle is a “tee” nozzle which has been employed successfully for decades. Influent pipe will not be connected to the feedwell. It will be cantilevered from the tank wall. Please allow for same.	Alternate materials and designs may be considered if they are submitted as substitutions as required in 01 33 00.			
204	12/9/2022	Siewert Equipment (Mike Lannon)	from Ovivo regarding section 46.71.13: 2.03.E – Please note that the current drive spec is for a column supported drive.	The specification will be updated to remove reference to column support.	Yes	5	21
205	12/9/2022	Siewert Equipment (Mike Lannon)	from Ovivo regarding section 46.71.13: 2.03.E.3.a.2) – Drawings do not show a center column. Please confirm this is a bridge supported unit with side influent pipe.	Correct this is bridge supported with a side influent pipe.			
206	12/9/2022	Siewert Equipment (Mike Lannon)	from Ovivo regarding section 46.71.13: 2.03.H.3 – Please confirm the material for the grating (HDG or Aluminum).	Both HDG and Aluminum are acceptable products for the grating.			
207	12/9/2022	Siewert Equipment (Mike Lannon)	can you please let us know when the addendum for the recent pre-bid meeting will be distributed. And if you could please send a copy of the pre-bid meeting sign-in sheet that would be great.	The pre-bid meeting sign-in sheet is available on the city's website			

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208	12/9/2022	M.A. Bongiovanni (Nate Bongiovanni)	the door schedule calls for 8 new doors at the digester control building. Hardware schedule and architectural drawings show that doors 105A and 105B were not included on the door schedule (A-00-009 from addendum 2). Can you put those on their, as well as the jamb/head/sill types and any FR if required?	Will provide updated door shedule.	Yes	5	22
209	12/9/2022	M.A. Bongiovanni (Nate Bongiovanni)	Addendum 2 added in a specification section 08 41 10 – Entrances and Storefronts. Can you clarify which doors this applies to? The spec is for aluminum framed storefronts and aluminum doors – none of which seem to be on this project.	spec to be removed from contract documents.	Yes	5	2
210	12/9/2022	Electrical Contractors (Ron Netti Jr)	Please see 2nd set of Electrical RFI's Spec Section 01 45 20 1.02 Quality Assurance Manager. This is a duplicate RFI That M.A.Bongiovanni for the GC Contract Spec 01 91 00 submitted on 11/18/22 (RFI #18) . We are also requesting that these qualifications be revised to a more reasonable qualification level.	Qualifications have been reduced as previously noted			
211	12/9/2022	Electrical Contractors (Ron Netti Jr)	Spec Section 40 61 21 (1.01 Summary) the Owner will be the system integrator . How does this section pertain to the electrical contract	The contractor provides Process and Instrumentation Control System (see 40 61 13 1.01B) and this includes testing. The owner's designated programmer will provide application programming of PICS equipment.			
212	12/9/2022	Electrical Contractors (Ron Netti Jr)	Spec Section 406700 (101 Description item #7) The new panels will have a UL inspection . A few of the existing panels will be retrofitted . A UL inspector for these modifications can be provided , but this will be extremely expensive. Is this UL inspection for modified panels required ?	This will be clarified via addendum.	Yes	5	15
213	12/9/2022	Air Temp Heating and Air Conditioning Inc (Fred Weber)	Spec 230900, section 2.02, calls for simultaneous direct connection and communication with OPC, without use of interposing devices such as PC or gateway with hard drive. Is this a firm requirement or can any exceptions be made?	Exception can be made if gateway is shown to be designed for wastewater environments. No PCs should be used within corrosive environments			
214	12/9/2022	Air Temp Heating and Air Conditioning Inc (Fred Weber)	The digester recirc pumps (2041, 2042, 2043) that are listed on drawing number M-00-003, those will be controlled by the process PLC system as shown in drawing I-20-104, correct?	Correct			
215	12/9/2022	Air Temp Heating and Air Conditioning Inc (Fred Weber)	I don't see any temperature controls schematics or sequence of operations for the HVAC equipment. Will all unit heaters and cab unit heaters to be standalone, and therefore, not part of a building automation system? Any plans to provide controls schematics or sequence of operations?	All unit heaters are standalone. Unit heaters are for freeze protection, and the only control requirement is to turn on during freezing conditions.			

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216	12/9/2022	Air Temp Heating and Air Conditioning Inc (Fred Weber)	How will the fans on the schedule in drawing M-00-002 be controlled or what will they be referenced to? Looking at drawing E-00-031, these will be controlled by PLC in the auto selector switch setting.	Correct			
217	12/9/2022	Air Temp Heating and Air Conditioning Inc (Fred Weber)	Can the network switches provided in bldgs. 10, 20, & 30 for the SCADA system be utilized for the temperature control system as well?	Yes, the network switches will utilize VLANs to separate controls from other services.			
218	12/12/2022	M.A. Bongiovanni (Andrew Bongiovanni)	Addendum 2 updated 01 20 00 in a number of ways. Biditem B-2 (HVAC Construction) now includes Specification section 43 23 88.11 "Horizontal, Constant Speed, End Suction, Frame Mounted Centrifugal Pumps", however this specification section is not listed as excluded under Biditem A-2 (General Contractor Construction). Please confirm this equipment is NOT to be provided or installed by the GC contract.	Confirmed, not provided by the GC			
219	12/12/2022	M.A. Bongiovanni (Andrew Bongiovanni)	Can you confirm that the responses to the "Questions Received during Bidding" document that have been issued will be a part of the Contract Documents, just as the Addendums are?	Yes, the final addendum will add the questions and answers to the contract documents officially.			
220	12/12/2022	Performance Construction Company (Karl Rice)	Drawing S-40-702 section 1 and 2 do not show a depth or sub grade elevation for compacted structural fill, please provide.	Subgrade preparation shall be per geotechnical report provided. Excavation shall be to glacial till, approximately 10ft below grade.			
221	12/12/2022	Performance Construction Company (Karl Rice)	Drawing S-40-702 section 1 and 2 show TOC WGB at 10.42', is this correct?	Yes, this is correct.			
222	12/12/2022	Performance Construction Company (Karl Rice)	Drawing S-50-101 has a note stating "EXCAVATE AND REMOVE EXISTING FILL DOWN TO FIRM GLACIAL TILL SOIL. EXCAVATION OF UP TO 10' IS ANTICIPATED." can additional details be provided so contractors can properly quantify the amount of excavation and backfill material required?	Excavation depth shall be per geotech report provided. Excavation to glacial till soil is required.			
223	12/12/2022	Performance Construction Company (Karl Rice)	Excavation detail on drawing S-50-101 shows BO FOOTING EL 11.33', is this correct?	Yes, this is correct.			
224	12/12/2022	Performance Construction Company (Karl Rice)	On drawing D10-102 there is an 18" x 18" hole in the WAS storage tank roof. Is this hole new or existing?	The penetration is existing, it is12"x12", the cover plate to be installed on the existing penetration is 18"x18".			
225	12/12/2022	Performance Construction Company (Karl Rice)	On drawing D-10-102, is the WAS pipe between the nozzles to be installed per the elevation drawing section 2 or the bottom plan as they are not the same?	The WAS pipe elevations shall be per manufacturer, refer to 46 73 35 - 2.02.C4.			

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226	12/12/2022	Performance Construction Company (Karl Rice)	On drawing D-10-102 the Bottom plan shows 3 underground pipes going toward the WAS storage tank but the section 2 only shows two pipes. Where is or does the third pipe go?	The suction line continues under the storage tank to pull off the center sump.			
227	12/12/2022	Performance Construction Company (Karl Rice)	On drawing D-10-302 on each end of the mixing pump is a pipe fitting labelled 9, “equipment connection fitting”. What is an equipment connection fitting?	Refer to 40 05 06.16-2.02.D.			
228	12/12/2022	Performance Construction Company (Karl Rice)	What size are the quick disconnects that are installed on each side of sludge pumps (assuming they are flushing connections)? Is it a male disconnect or female disconnect?	Refer to Detail M5050 on D-00-002			
229	12/12/2022	Performance Construction Company (Karl Rice)	What type of pipe is the 6” 1W shown on C-05-124? Piping system schedule shows 1W in spec section 40 05 02.23 and there is no 40 05 02.23. Please advise.	This specification was added via addendum 2			
230	12/12/2022	Performance Construction Company (Karl Rice)	Looking at the WAS piping, the specs 40 05 02.53 call out the plug vales need to meet 40 05 62.01. There is no spec 40 05 62.01. Please provide a spec for the WAS plug valves.	Specification 40 05 62.01 will be updated to reference 40 05 62.02.	Yes	5	9
231	12/12/2022	Performance Construction Company (Karl Rice)	Looking at the WAS piping, the specs 40 05 02.53 calls out the ball check vales need to meet 40 05 65.30. There is no spec 40 05 65.30. Please provide a spec for the WAS ball check valves. Thanks.	Ball check valve has been deleted from 40 05 02.53.	Yes	5	9
232	12/12/2022	Performance Construction Company (Karl Rice)	Drawing C-05-124 calls out the line running plan north from the condensate sump as 3” SD, drawing D-40-103 calls this same line out as 3” TD, and neither of these lines are listed in spec section 40 05 02. Please clarify what the callout for this line is and provide a specification for the pipe.	Both lines should be listed as 3" D instead			
233	12/12/2022	Performance Construction Company (Karl Rice)	Drawing C-05-124 shows a 10” DS line running from primary digester 2 towards the digester control bldg., drawing D-40-103 does not show this 10” DS line but does show a 10” FS line. Line FS is not shown is spec section 40 05 02, please clarify what this line is and provide a specification if necessary.	Corrected to DS in Addendum 4	Yes	4	14
234	12/12/2022	Performance Construction Company (Karl Rice)	Drawing A-20-103 states to repair soffit and fascia. What is the material of the soffit and do you have an estimated square footage of the repairs?	Existing fascial material according to existing drawings is aluminum. Existing soffit material according to the exisitng is a 1" cement plaster with an exterior coating. Reference keynote 2 on A-20-103 for dimensions. It states te following '67'-10" Long X 50'-6" wide X 30" Deep' which is approximately 600 square feet. (12/20/2022)			

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235	12/12/2022	Performance Construction Company (Karl Rice)	Drawing C-05-124 shows a 8” DS line running from primary digester 2 towards the digester control bldg., drawing D-40-103 does not show this 8” DS line but does show a 8” FS line. Line FS is not shown is spec section 40 05 02, please clarify what this line is and provide a specification if necessary.	This line should be marked as 8" DS instead of 8" FS.			
236	12/12/2022	Performance Construction Company (Karl Rice)	Please provide detail on the 1 ½” GFC line, this line is not defined in spec section 40 05 02.	This line can be of PVC construction. Clarification will be provided via addendum	Yes	5	11
237	12/12/2022	Performance Construction Company (Karl Rice)	At what invert does the 1 ½” GFC line enter MH FLT 6?	GFC line needs to drain into FLT-6, from the gas flare. Due to it's small diameter it shall be field routed and maintain a minimum slope of 0.25" per foot			
238	12/12/2022	Performance Construction Company (Karl Rice)	Your extension in addendum 3 is not enough time, please consider extending the bid again. At the pre-bid you requested that we tell you specifically what we needed to finish the bid. We asked for 3 weeks and another GC told me they requested 4 weeks. Please consider our requests. If we don’t have enough time to evaluate and price the work, we can not bid.	**The bid opening date has been revised per Addendum 6 to January 20th, 2023 (Updated 12/29/22)**	Yes	6	1
239	12/12/2022	M.A. Bongiovanni (Joe Bongiovanni)	(follow up on question 67) Section 467621 calls for the belt press to have an access platform to provide operator access to two sides of the press. Does this requirement also apply to Press #1? What is the minimum width of this platform? Response clarified that we provide this platform as per mfgr’s instructions, but did not clarify if we are to provide a platform for the existing press.	Yes the platform is to be provided for both the new and existing press.			
240	12/12/2022	M.A. Bongiovanni (Joe Bongiovanni)	(follow up on question 69) Reference 46 76 53-3.03 Field Tests. Per section G, the integrated systems test is to process biosolids and operate continuously, yet G.6 calls for this duration to be 10 business days, which infers that the test would be suspended during the weekend. Is this correct, or should that duration be changed to calendar days? After this test period, the Owner has the option to run the system for three weeks, which then leads into a 120 hour acceptance test period. Paragraph H.7 calls for Contractor to bear all costs such as power, natural gas, disposal, etc. Does Contractor bear this cost only during the initial integrated System Test, or through all the testing, up until Acceptance? Response clarified that test is ten work days, but did not address the responsibility for costs beyond that time period. We will assume that Contractor responsibility ends after ten days, but if incorrect please clarify in addm.	The Contractor responsibility only applies for the 10 tens of integrated systems testing.			
241	12/12/2022	Siemens Industry, inc (Juan Blanco)	I don’t see a sequence of operations and/or points list for the HVAC mechanical equipment in order to bid the HVAC Instrumentation and Control scope. Please provide.	See process control descriptions 40 61 96 sub sections and "I" drawings			
242	12/12/2022	Siemens Industry, inc (Juan Blanco)	Do bids need to be broken out in any particular way, or is it a lump sum bid?	See bid form			

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243	12/12/2022	King and King Mechanical Inc (Sheila Rhodes)	G-00-002: Drawing index –Volume V list drawings that are not available in the download MD-10-101, MD-10-102, MD-10-103, MD-10-104, MD-10-105, MD-10-106,M-10-103,M-10-107, M-10-108, M-10-109, M-20-501, M30-501, M-30-601	The index sheet provided was outdated. Update to be provided via addendum	Yes	7	21
244	12/12/2022	M.A. Bongiovanni (Mike Bongiovanni)	Drwg s 30 303, sections 1,3,4+5 show masonry with bond beams below the 2nd floor and roof beams, with vertical rebar going up thru the bottom of the beams. Are these masonry walls meant to be bearing walls…and in place before the casting of the concrete structural beams above them? We would think the masonry block work is to be installed after the concrete frame is placed/cured/stripped. Please review.	Yes, the CMU is supposed to be in-fill/not bearing walls and intended to be installed after.			
245	12/12/2022	Unison Solutions (Eric Wilgenbusch)	Drawing A20-201 – Confirm the maximum width of the door into the Blower Room 102 to move gas blower & moisture removal skid into place. Appears to be approximately 6'W, please confirm.	Door widths are indicated on the drawings			
246	12/12/2022	Unison Solutions (Eric Wilgenbusch)	Questions Received During Bidding (12/12/2022) #72 – Engineer's Response: The gas compression and moisture removal spec was included to provide biogas at >5 psig with no free water as required by the sludge dryer. The original project concept was to use a gas blower followed by a HEX and chiller to compress and remove moisture. Alternative configurations may be considered before submittals are approved. Unison's response: In order to properly dry the gas with no "free moisture" there are only two options, 1.) Use a single heat exchanger upstream of compression and precooler, reheating the gas as it is compressed, or 2.) Use two heat exchangers, one for cooling and one for reheating. This is a Gas to Gas, and a Gas to Glycol configuration. a. Centrifugal blowers are less efficient and will have a high exhaust temperature 275-330°F. What is the maximum biogas temperature allowed at the discharge of the packaged system? b. If a single stage heat exchanger is supplied downstream of the blower, as originally suggested, the gas remains saturated and any loss in temperature will cause the water to condense on the way to the Sludge Dryer. Will the piping be insulated to the Sludge Dryer?	Order of components will be compression followed by cooling/moisture removal. The HEX will consist of two stages, a gas-to-liquid stage to reach 40 F dew point, then a gas-to-gas reheat to target system outlet temperature of 75 F to 85 F. If a supplier wishes to supply this dual-core HEX as two separate units that will be considered a deviation as footprint in the blower room will be limited. Blower must be hermetically sealed, and Engineer is unaware of a rotary lobe blower that can meet this requirement. Only hermetically sealaed mag-drive regenerative turbine blower or hermetically sealed (including motor) centrifugal blower styles will be allowed.These changes will be reflected in an updated version of Spec 43 31 13.13.	Yes	5	**20**
247	12/12/2022	Unison Solutions (Eric Wilgenbusch)	Will there be any future need for Siloxane Removal for the Boilers or the Sludge Dryer	No			
248	12/13/2022	Patricia Electric (John Bill)	In the Electrical specification section 26 12 19, it refers to a 2500 KVA outdoor pad mount transformer, besides being shown on electrical site plans and electrical one line diagrams. Can you tell me who is providing and installing this transformer? Please confirm if it is the power company or Electrical Contractor.	The pad mounted transformer is to be provided by the Contractor. It is in spec section is 26 12 19 and the relevant E drawings are E-00-009, E-15-010 and E-15-101.			

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249	12/13/2022	M.A. Bongiovanni (Dennis Sexton)	Specification section 40 05 01-2.07.E. states to “Provide long radius (greater than or equal to 1.5 x nominal diameter) elbows unless otherwise specified on the drawings.” Some elbows, such as those in the “DS” piping on D-10-105 and D-10-106 appear to be drawn as long radius, but are not identified as such on the drawings. While long radius elbows are standard for welded stainless steel piping, is it the design intent that all elbows in ductile, steel, stainless steel, PVC, etc. piping be provided as long radius ? Would this apply to buried piping as well as interior piping? The ductile specs (for example) for “Thickening and Dewatering” in 40 05 02.53 state that 3” through 12” ductile fittings shall have “Dim. Per AWWA C110 or AWWA C153”. The “American Ductile Iron Pipe” catalog states “Long radius bends are not included in AWWA C110, they have center to face and radius dimensions according to ANSI B16.1, Class 125”. Please confirm which, if any, piping requires long radius bends.	40 05 01 will be clarified, long radius is desired for DS piping, buried and interior.	Yes	5	7
250	12/13/2022	Motion AI (Don Payne)	MAIN-PLC1, I do not see an I/O list for this. Can you provide please.	There is no IO on the MAIN-PLC1, because it serves as a communications hub for the other PLCs and exchanges data over Ethernet			
251	12/13/2022	Motion AI (Don Payne)	Blower Building PLC-8 REMOTE I/O, Drawing I-00-010 shows additions to the existing PLC-8 Panel, Drawing I-00-601 Note 2 shows this to be a new Panel. Spec Section 40 67 00 Page 2 PLC-8 RIO lists features 1, 2, 5, 7. Are we using the existing Panel or providing a new panel for this?	I-00-010 does not show additions to existing PLC-8 panel. PLC-8 REMOTE I/O is a new panel that will connect to PLC-8 through Ethernet.			
252	12/13/2022	Motion AI (Don Payne)	Spec Section 40 67 00 page 2 Control Panel Schedule items 10-13, no features are listed, who will be providing the modifications to these existing panels.	This will be clarified via addendum.	Yes	5	15
253	12/13/2022	Motion AI (Don Payne)	Substation SUB-PLC2 Panel, I do not see any I/O list for this. Drawing I-00-011 does not show a HMI, or UPS, as noted in Spec Section 40 67 00 page 2 features 1, 2, 5, 7.	There is no SUB-PLC2 Panel, however SUB-PLC1 I/O is listed in 40 61 93			
254	12/13/2022	HMI Mechanical (Jim Goodenough)	Spec section 23 00 00 -10 HVAC General requirements. Tells us to look at spec section 23 07 00 for the insulation requirements, however there is no spec section 23 07 00. Can you add spec section 23 07 00?	Added	Yes	4	10
255	12/13/2022	HMI Mechanical (Jim Goodenough)	The pipe schedule 40 05 02, doesn't help with the HVAC piping. Can you provide a HVAC pipe schedule?	See 40 05 02.89	Yes	4	9,11
256	12/13/2022	HMI Mechanical (Jim Goodenough)	There are 3 unit heaters in the schedule that don't appear on the drawings. Can you tell us where UH 1029, UH 1030 and UH 2023 go?	Unit Heaters UH-1029 and UH-1030 are found on drawing M-10-109. Unit Heater UH-2023 is in the boiler room. Drawing revisions to be provided via addendum	Yes	5	26

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257	12/13/2022	HMI Mechanical (Jim Goodenough)	In schedule 43 23 88 there is a P2044, can you tell us where it goes?	It is located in the basement level of Facility 20 adjacent to the HEX. Tag numbers to be updated in the drawing sheets	Yes	5	26
258	12/13/2022	HMI Mechanical (Jim Goodenough)	Who supplies the pumps in spec section 43 23 88?	The HVAC contractor, see Addendum 2			
259	12/13/2022	HMI Mechanical (Jim Goodenough)	Who is supplying the Heat Exchanger?	The General Contractor is providing the sludge heat exchanger			
260	12/13/2022	M.A. Bongiovanni (Andrew Bongiovanni)	01 00 00 Paragraph 3.04.I states that the GC shall be responsible for receiving and inventorying all Process Control System Equipment, and then turning it over to the Electrical Contractor. What is the purpose of this requirement? The Electrician will have other equipment coming in that they will need to unload and inventory, so they should be capable of doing the same for their PCS equipment. The GC will not be involved in arranging the deliveries or scheduling them, so it seems unnecessary at best to have them be responsible for unloading and inventorying them. We would advise modifying this language to keep the responsibility with the Contractor who is supplying and installing the equipment.	Due to the limited amount of pre-purchased equipment this requirement will be revised via addendum	Yes	5	1
261	12/13/2022	M.A. Bongiovanni (Andrew Bongiovanni)	01 00 00 Paragraph 3.04.I also states the General Contractor shall remain responsible for all insurances, security, coordination and for final cleaning of equipment. Regarding the insurance coverage - the GC should not have to carry the insurance on equipment that we are not providing or installing, but any insurer is going to at least require that they know the value of the equipment being insured in order to provide a quote. If it is going to be a requirement that the GC insure this equipment, we will either need an estimated dollar amount to use, or we suggest modifying the language so that additional insurance coverage can be provided after Contract execution once the GC can be given the value of the equipment, for an additional cost.	This requirement will be modified so the contractor receiving the equipment has the responsibility for insurance, security, coordination, and final cleaning.	Yes	5	1
262	12/13/2022	M.A. Bongiovanni (Andrew Bongiovanni)	Regarding this paragraphs language about the GC providing Security, coordination, and final cleaning - similar to my previous question, shouldn't all of this be the responsibility of the supplier and installer?	This requirement will be modified so the contractor receiving the equipment has the responsibility for insurance, security, coordination, and final cleaning.	Yes	5	1
263	12/13/2022	M.A. Bongiovanni (Andrew Bongiovanni)	Article 9 of the General Conditions says Professional Liability Insurance shall be held by both the Contractor and Subcontractor for delegated design services. It is not normal for the Contractor to hold this insurance unless they themselves provide professional design services, which is not common. Please consider revising this language so that the insurance would be provided by the entity actually performing the professional design services.	This is standard city contract language required on all construction projects. There are several submittals requiring stamped and signed calcs and drawings			

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264	12/13/2022	M.A. Bongiovanni (Andrew Bongiovanni)	Regarding the wall insulation on the Dryer Building PEMB, the response to question 45 needs to be expanded. When they say R-13 + R-13ci that implies a traditional metal wall panel with fiberglass metal building insulation system with a layer of "continuous insulation" (ci) on the outside face of girt. But the plans indicate an insulated metal panel which obviously would not have fiberglass insulation involved. Please clarify if a traditional metal panel + fiberglass insulation is acceptable, or if insulated metal panels (IMPs) are required. If IMPs are required, we would need some direction on the panel profile desired.	*Response is forthcoming*			
265	12/14/2022	Siracusa Mechanical (Tony Siracusa)	Please clarify the following: Drawing F-30-101 is part of the Plumbing contract? Clarify pipe material for storm drains, potable water? Please label type of oil-water separator, and trench drains in slab of de-watering and dryer building. Label type of roof drains at each building.	F-30-101 is part of the plumbing contract. Yes. See 40 05 02, 40 05 02.89, 40 05 02.23	Yes	5	11
266	12/15/2022	M.A. Bongiovanni (Nate Bongiovanni)	The door schedule has almost all the new HM doors (apart from the ones in the SHB basement and OCD) on this project being 7'10" in height. Just want to make sure this is correct, as its an unusually tall opening for a mandoor.	This is correct			
267	12/15/2022	Siewert Equipment (Nate Brown)	According to section 43 05 13, baseplates shall be coplanar within 0.0005 inch per foot in all directions. This tolerance is indicative of an API spec for units turning at high speeds. The factory's concern is that this tolerance will add unnecessary cost to a unit running at slow speeds and will be thrown off in transit on a truck and when being installed. Their question is as such: will this be necessary for the progressive cavity pumps?	PC pumps have a tolerance requrement of 0.005 inch/ft.			
268	12/15/2022	Siewert Equipment (Nate Brown)	In both progressive cavity pump sections (43 24 51 and 46 33 33) the flow range are both 100gpm and the pressures are 100psi and 80psi respectively. Section 43 24 51 calls for a 20HP motor but 46 33 33 calls for a 10HP. Because the performance ranges are so close, they will require equal motor sizes. Was the motor size in section 46 33 33 of 10PH a mistake and therefore needs to be 20HP?	The specification will be updated so P3021 and P3022 to be 20 HP.	Yes	5	19

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269	12/15/2022	Unison (Eric Wilgenbusch)	Section 40 05 63.03 – Ball Valve, Stainless Steel Threaded, please provide clarification on the manufacturers part numbers/materials of construction listed on the table for stainless steel ball valves a. Nibco T-580 is a bronze bodied ball valve b. Apollo 76J-100 is made from duplex SS Valve suppliers are asking which takes precedence, the materials of construction or the manufacturer's part numbers. Can you please clarify?	Candidate manufacturers provide potential valve model families, but requirements for materials and configuration in Section 40 05 63.03 govern and may require more specific valve model selection to meet the requirements.Note that the Nibco T-580-S6-R-66-LL, for example, appears to use an SST valve body and ball. Spec will be amended to include ASTM A995-CD3MN Duplex Stainless Steel as an acceptable material option.	Yes	7	16
270	12/15/2022	Patricia Electric (John Gallup)	Can you please clarify exactly what work is involved with the Cellular Booster Alternate? The "I" drawings show Cellular Network Units and Cellular Coverage Units but it seems unclear to me what exactly is required for the Cellular Booster Alternate and what is covered in the Base Bid.	This will be clairifed via addendum. Nothing should be included as part of the base bid.	Yes	5	25
271	12/15/2022	Patricia Electric (John Gallup)	Drawing E-00-102 Note #12 directs us to Drawings I-10-014 and E-10-019. There are no such drawings in the bid package, please advise.	The drawings referenced in Dwg E-00-102, Key Note 12 will need to be updated as follows. I-00-014 should be I-00-012 E-10-019 should be E-00-019 This same note was in Key Note 5 on E-00-101 and will need to have the same updates made.	Yes	5	24
272	12/15/2022	Patricia Electric (John Gallup)	Can you please provide the manufacturer and the model of the existing Fire Alarm in the buildings that have existing-to-remain devices?	Honeywell Silent Knight. See addendum 4			
273	12/15/2022	Performance Construction Company (Karl Rice)	Drawings C-05-125 & 126 both show a 12" PD line which runs from an existing RS manhole through what appears to be square precast structures and transitions from 12" to 4" on C-05-126. What type of pipe is PD, and where is the specification for PD. I also do not see a profile for this line nor do I see any information on the square structures, please provide.	See Addendum 2, these are catch basins per C-05-115			
274	12/15/2022	Performance Construction Company (Karl Rice)	What type of pipe is the 15" running between EX PD-1 and PD-3 as shown on C-05-115 and profile 3 on C-05-210?	See Addendum 2, these are catch basins per C-05-115			

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275	12/15/2022	Performance Construction Company (Karl Rice)	Where does the 2” 2W line enter the dewatering and dryer bldg.? 2” 2W is shown on C-05-126 running from the cooling tower into the dewatering and dryer bldg. but the 2W line is not shown on the D drawings for the dewatering and dryer bldg.. 2” 2W is also not shown on the partial plan for the cooling tower on dwg D-30-102.	See plumbing drawings			
276	12/15/2022	Performance Construction Company (Karl Rice)	Are the 36” PE, 30” RAS & 4” 3W shown on drawing C-05-126 shown for reference only or are they new lines to be installed?	Those are existing as indicated in grey			
277	12/15/2022	Performance Construction Company (Karl Rice)	Drawing A-30-301 Keynote 20 calls for an insulated ceiling system for the electrical room 102. The finish schedule on drawing A-00-010 calls for a suspended ceiling. Please advise which ceiling is being used.	Keynote 20 is correct. Will provide update on finish schedule on A-00-010 to read as gypsum board	Yes	7	22
278	12/15/2022	Performance Construction Company (Karl Rice)	Drawing S-10-105 shows GEOFOAM being used as fill but I do not see a specification for GEOFOAM, will a specification be provided?	Clarification will be added via addendum	Yes	5	28
279	12/15/2022	Performance Construction Company (Karl Rice)	Drawing S-10-105 shows GEOFOAM being used as fill but no depths or elevations for limits of fill are shown, what drawing shows a basement elevation in relation to this area receiving GEOFOAM so a total volume of foam can be calculated?	Basement elevation is 542.20'.			
280	12/15/2022	Performance Construction Company (Karl Rice)	On drawing D-10-105 there are 2-6” DS pipes running parallel on the drawing. One line is shown being in the existing concrete foundation wall. Are both lines being installed underground outside the foundation?	Sludge lines are routed within the building in this location. Corrections to the sheet will be provided via addendum	Yes	5	23
281	12/15/2022	Performance Construction Company (Karl Rice)	Drawing D-10-105 is currently showing 1 of the 6” DS lines outside the existing building, will drawing CD-05-101 be modified to show additional pavement demolition and will C-05-101 be modified to show the additional restoration required?	Sludge lines are routed within the building in this location. Corrections to the sheet will be provided via addendum	Yes	5	23
282	12/15/2022	Performance Construction Company (Karl Rice)	On drawing D-10-105 there are 2-6” DS pipes running parallel on the drawing. They penetrate the outside foundation wall but the penetrations are not labelled with the appropriate detail like other penetrations. What detail is required at the four penetrations?	Sludge lines are routed within the building in this location. Corrections to the sheet will be provided via addendum	Yes	5	23
283	12/15/2022	Performance Construction Company (Karl Rice)	Where does the return DS pipe go? Please see the marked up drawing D-10-105. The second DS pipe just ends at the dark line, where does it go?	Sludge lines are routed within the building in this location. Corrections to the sheet will be provided via addendum	Yes	5	23
284	12/15/2022	Performance Construction Company (Karl Rice)	On spec page 40 05 02.56-4, DS service calls out a plug valve meeting specification 40 05 62.01. Please provide spec section 40 05 62.01 as it was not included.	Specification 40 05 02.56-4 will be updated to read 40 05 62.012.	Yes	7	15

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285	12/15/2022	Performance Construction Company (Karl Rice)	In the specs for the 2W,3W pipes, on page 40 05 02.29-3 it calls out the butterfly valves meet spec section 40 06 64.06. Please provide section 40 05 64.06 or tell us what section it needs to meet.	Specification 40 05 02.29 will be updated to read 40 05 64.05.	Yes	5	8
286	12/15/2022	Performance Construction Company (Karl Rice)	Specifically, which pumps get seal water?	Refer to the P&IDs for pumps with seal water.			
287	12/15/2022	Performance Construction Company (Karl Rice)	On drawing D-10-111 there is a 3” 2W water line shown next to the polymer Blending Units. Where does the 3” 2W water line originate? Where is it coming from?	The 2W line is existing, it comes from the buildings RPZ BFP.			
288	12/15/2022	Performance Construction Company (Karl Rice)	On drawing D-10-112 there is a 4” PSC pipe penetrating a wall and heading up the page. Where does that pipe go? Where is it shown?	D-10-112 has been removed from the project.			
289	12/15/2022	Performance Construction Company (Karl Rice)	Please provide a spec for the 4” PSC pipe.	PSC has been removed from the project.			
290	12/16/2022	M.A. Bongiovanni (Andrew Bongiovanni)	13 34 23 Fabricated Structures does not really describe a spec for the wall panels, for either PEMB. Please provide a spec or material requirements for this	Will provide updated specifcation for wall panels	Yes	7	8
291	12/16/2022	M.A. Bongiovanni (Andrew Bongiovanni)	The dryer building is shown to have two colors on its exterior face, per the "A" drawings. Is it your intent that the PEMBs will be field painted, or is this supposed to indicate different colored panels? There is nothing in the painting specification to indicate that the buildings are to be painted, and as noted previously there is no spec for the wall panels.	The colors should be two different colored wall panels. We will provide an updated specifcation for wall panels and updated drawings to clarify color	Yes	7	8
292	12/16/2022	Ferguson Waterworks (Jeremy Suntken)	Profile view for the 6” DS line from the Anaerobic Digesters to the Digester Control Building were not found in the D-40 series drawings. Please provide an elevation or profile view of the 6” DS line from the Digesters.	Piping shall be buried below 4' of cover minimum and in a manner meeting all requirements of the contract. The drawings are to scale where indicated.			
293	12/16/2022	Ferguson Waterworks (Jeremy Suntken)	P&ID drawings I-40-101 and I-40103 show a 6” hose quick disconnect on the 6” DS lines from the Digester Control Building. Process series D-20 and D-40 drawings do not indicate the 6” hose quick connect. Please clarify if a 6” hose quick disconnect is required. If a quick connect is required, please provided information for where it is to be located	A 6" hose quick connect fitting is required near grade level (approx. 3 feet above grade) at the 6" DS line to facilitate the transfer of trucked sludge into the tank at startup.			

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294	12/16/2022	Ferguson Waterworks (Jeremy Suntken)	P&ID drawings show expansion joints connecting process piping with pumps, with one example on drawing I-20-102 connecting to the recirculation pumps. Process drawings do not show expansion joints, one example of the same DS line on drawing D-20-302 shows dismantling joints connection to the suction side of the recirculation pumps and drawing D-20-301 shows what appears to be an equipment connection fitting on the discharge side of the Foam Suppression pump. Please clarify if expansion joints are required per the P&ID's or if the Process drawings should be followed for the type of pump connections required.	See previous responses			
295	12/16/2022	Ferguson Waterworks (Jeremy Suntken)	Section views showing elevations for the Secondary Digester were only found for the 12" D on drawing D-40-305. No other lines entering or leaving the Secondary Digester were found in the drawings that identify buried elevations, or elevations connecting with the Digester. Please provide section views or clarify required buried and tank connection elevations for each line.	Piping shall be buried below 4' of cover minimum and in a manner meeting all requirements of the contract. The drawings are to scale where indicated.			
296	12/16/2022	Ferguson Waterworks (Jeremy Suntken)	Dewatering and Dryer building series 30 drawings call out for the pipe penetrations through the slab to be M1110. Detail M1110 was not located on drawing D-00-002 or any other process drawing. Please provide additional information for penetration M1110 requirements.	See question #126			
297	12/16/2022	Ferguson Waterworks (Jeremy Suntken)	Drawing D-30-301, section 3 appears to show the 6" DS line to be flanged where almost the end of the encasement, then transitions to restrained joint pipe. Please confirm the spool through the slab, and the 90-degree bend, connecting spool that are encased are to be flanged.	See question #126, joints are to be flanged			
298	12/16/2022	Ferguson Waterworks (Jeremy Suntken)	8" Filtrate line in the Dewatering and Dryer Building appears to start flush with the slab below the Belt Presses on drawing D-30-303 section 5. Please clarify the starting point for the Filtrate line is flush with the top of the slab or provide additional information. Please also clarify the type of penetration required through the slab.	Yes the starting point for the filtrate line is flush with the sump under the belt filter press units to collect the filtrate that falls into the sump. Follow Detail M1100 on sheet D-00-002 for penetration types.			
299	12/16/2022	Ferguson Waterworks (Jeremy Suntken)	Digester Gas on drawing D-20-102 to blower B2060 shows 6" pipe connecting with the inlet and instrumentation drawing I-20-106 shows the line increasing to 10" after the sediment trap bypass reducing to 4" before the blower inlet connection. Instrumentation drawing also shows pipe between the blower discharge and Boilers 1 & 2 show the line increasing from 4" to 8" before reducing back down to 1" before connecting with each boiler and drawing D-20-102 shows the entire line being 3". Please clarify if the process or instrumentation drawing sizes are to be used.	Mechanical sheets and G-00-007 are correct, P&ID sheets will be updated via addendum to match.	Yes	5	**25**

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300	12/16/2022	Ferguson Waterworks (Jeremy Suntken)	Drawing I-20-106 shows a double leaf check valve on the discharge of digester blower B2060. Specification 40 05 02.11 only provides information for plug valves, butterfly valves and ball valves. Please provide additional information for Digester Gas check valve requirements.	This is part of the Section 43 31 13.13 scope, see 2.03.C.1.d.			
301	12/16/2022	Ferguson Waterworks (Jeremy Suntken)	3” Digester Gas line on drawing I-30-104 to the Dual Fuel Burner was not located on the 30 series process drawings. Please clarify location of the 3” Digester Gas line for the Dewatering and Dryer building.	See plumbing drawings			
302	12/16/2022	Ferguson Waterworks (Jeremy Suntken)	Three way valves for the Primary and Secondary Digesters were not located in the specifications. Please clarify where the valves are located or provide information for the valve requirements.	Requirements will be provided	Yes	7	10
303	12/16/2022	Ferguson Waterworks (Jeremy Suntken)	Ball valves above 3” diameter for the Primary and Secondary Digesters were not located in the specifications. Please clarify where the valves are located or provide information for the valve requirements.	Follow the same ball valve spec for 1/4 thru 2-1/2 inch line size.			
304	12/16/2022	M.A. Bongiovanni (Andrew Bongiovanni)	Could you please provide a spec and detail for the expansion joint called out between the dewatering and dryer buildings? It is not clear what that would be, and from discussions with suppliers it is not something normally provided by PEMB suppliers.	The PEMB manufacturer has details for closure between masonry and PEMB systems. Closure system shall be by PEMB manufacturer/PEMB Contractor.			
305	12/20/2022	M.A. Bongiovanni (Mike Bongiovanni)	Question 163 re: the electrical foundation pads asked “who is responsible for placing these pads?”. The answer did not address which contract is to provide the pads. Please clarify.	The general contractor is responsible for these pads			
306	12/20/2022	M.A. Bongiovanni (Mike Bongiovanni)	Addm 4 item 16 provided structural details and dimensions for the generator pad. Dimensions for the outdoor substation have not yet been provided. Please provide.	Yes, to be provided in Addendum 5	Yes	5	28
307	12/20/2022	M.A. Bongiovanni (Mike Bongiovanni)	Please provide approx. dimensions for load bank and transformer pads. (the str details were spelled out in answer to Q 163)	Drawings can be scaled for apporximate dimensions.Final sizing shall be based on approved equipment			
308	12/20/2022	HMI Mechanical (Jim Goodenough)	Section 400502 doesn't have the HVAC piping schedule. Can you tell us if it's welded or grooved schedule 40 steel for 2-1/2" and bigger, and copper for 2" and smaller?	See updated 40 05 02.89	Yes	5	11
309	12/20/2022	M.A. Bongiovanni (Andrew Bongiovanni)	The concrete hardener spec provided in Addendum 4 appears to be a duplicate.	This spec duplicate spec was provided in error. Please ignore	Yes	5	3

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310	12/20/2022	M.A. Bongiovanni (Andrew Bongiovanni)	There is no size specified for the expansion tank T2030 – please advise.	Expansion tank T2031 sizing will be incorporated into a revision to Section 23 21 16	Yes	7	11
311	12/20/2022	General Control Systems, Inc.(Scott Laurange)	Please add instrumentation installation detail numbers to the instrumentation index that was issued in Addendum 1 per new addendum.	No			
312	12/20/2022	General Control Systems, Inc.(Scott Laurange)	Items not on Instrument list but shown on listed Drawings Please issue new Instrument List per addendum, FSH-1081 on I-10-10 who supplies? AIT/AE-1091 on I-10-109 who supplies? PDSL-1091on I-10-109 who supplies? PI-2033 W diaphragm seal on I-20-103 who supplies? PSH/PI-2031 B on I20-103 who supplies? PI-2044 2A on I-20-104 who supplies? PSH/PI-2044 2B on I-20-104 who supplies? TI-2044-2B on I-20-104 who supplies? TIT/TE-2044 2B on I-20-104 who supplies? AIT/AE-2091 & 2092 on I-20-109 who supplies? PDSL-2091 on I-20-109 who supplies? PI-3031 on I-30-103 who supplies? PI-3042 on I-30-103 who supplies? PI-3041 on I-30-104 who supplies?	The FSH-1081 is integral to the shower unit, For all others, the Electrical Contractor shall provide	Yes	5	10
313	12/20/2022	General Control Systems, Inc.(Scott Laurange)	PI-2060 both A & B are shown as vendor supplied on drawing I-20-106 but on the Instrument list, who supplies?	Vendor, not on instrument list			
314	12/20/2022	General Control Systems, Inc.(Scott Laurange)	PDI-2071 is shown as vendor supplied on drawing I-20-107 but on the Instrument list, who supplies?	Vendor, not on instrument list			
315	12/20/2022	General Control Systems, Inc.(Scott Laurange)	PI/PE-3011, PE/PI/PSH-3011, PE/PI-3012-1, PE/PI/PSL-3021 1 are NOT showing on drawings I-30-101, Please issue addendum drawing.	Not included in the instrument list			
316	12/20/2022	General Control Systems, Inc.(Scott Laurange)	LE/LIT-4011 ultrasonic tank level is showing as vendor supplied on I-40-101. Who supplies?	Vendor			
317	12/20/2022	General Control Systems, Inc.(Scott Laurange)	Who supplies the LSL4023, 4024 & TI-4022, 4023 as showing on Drawing I-40-102?	Electrical Contractor shall provide			

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318	12/20/2022	General Control Systems, Inc.(Scott Laurange)	Who supplies the LSL4043, 4044 & TI-4042, 4043 as showing on Drawing I-40-104?	Electrical Contractor shall provide			
319	12/20/2022	General Control Systems, Inc.(Scott Laurange)	Who supplies the LSL4063, 4064 & TI-4062, 4063 as showing on Drawing I-40-106?	Electrical Contractor shall provide			
320	12/20/2022	General Control Systems, Inc.(Scott Laurange)	Who supplies the PIT-4052-2 showing on I-40-105	Electrical Contractor shall provide			
321	12/20/2022	General Control Systems, Inc.(Scott Laurange)	Who provides the PIT-6014 showing on I-60-101	Electrical Contractor shall provide			
322	12/20/2022	General Control Systems, Inc.(Scott Laurange)	Who is to supply the instrumentation showing on I-60-102?	Electrical Contractor shall provide			
323	12/20/2022	General Control Systems, Inc.(Scott Laurange)	Who is to supply the instrumentation showing on I-70-103?	Electrical Contractor shall provide			
324	12/20/2022	M.A. Bongiovanni (Andrew Bongiovanni)	Drawing ADD2M20-102 shows additional pump in the boiler room, but the pump schedule has not been updated to include their capacities – please advise.	Tags were added to the drawing for reference but no additional pumps have been added. Capacities are found within the specifications			
325	12/20/2022	General Control Systems, Inc.(Scott Laurange)	GCS requests a 2 week extension	Bid has been extended to January 20th, 2023	Yes	6	1
326	12/20/2022	M.A. Bongiovanni (Andrew Bongiovanni)	Regarding the valve specifications - The spec says all valves need locking devices. This is costly for the amount of valves. Please confirm you want locking devices on all valves.	Confirmed			
327	12/20/2022	M.A. Bongiovanni (Andrew Bongiovanni)	Can you clarify which actuators need to be NEMA 7?	Actuators/solenoids located within hazardous spaces such as the blower room within Facility 20 are to be NEMA 7 rated			
328	12/20/2022	KC Masonry Inc (Jason Williams)	According to note MA 3 on S-00-001 it is called out that cmu walls shall be solid grouted. According to S4001 on S-00-008 8" cmu walls are to be reinforced with #5 @ 32" vertical. Are we to fill all cores solid with grout or 32" o.c.?	Grout cores 32" o.c.			

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329	12/20/2022	KC Masonry Inc (Jason Williams)	According to note MA 5 on S-00-001 it is called out that cmu walls and mortar at weather enclosure walls or electrical rooms in high moisture environments shall contain Dry Block admixture. If there is damproofing on the cavity side of the cmu, is Dry block admixture still required? Please clarify what walls require Dry Block admixture.	Dry Block admixture is not required if dampproofing is provided on the cavity side of the CMU.			
330	12/21/2022	M.A. Bongiovanni (Nate Bongiovanni)	In the digester control building, addendum 3/4 added 2hr cementitious fireproofing to the framing and deck that supports the electrical room and the framing incorporated into the stairwell. Drawings call out “by Carboline or equal” – will there be a specification section included via addendum for this?	Will provide clarification on drawings	Yes	7	22
331	12/21/2022	M.A. Bongiovanni (Nate Bongiovanni)	In the new paint spec from A4 – finish schedule, B. Final Settling Tanks, item 1 – calls for the weir trough to be painted. Confirm this is intended to be the new scum trough, not the concrete effluent troughs/launders w/ SS weirs around perimeter of the tank.	Only the new scum trough. Not the existing concrete trough or stainless steel material.			
332	12/21/2022	Siewart Equipment (Sherri McNamara)	Section 46 41 41 – Top-Entering Tank Mixers 1.01.D.1: The min/max WSE elevations are provided – Can you please provide/confirm the tank floor elevation as well as the mixer mounting elevation (including or not including equipment pad height) so that the proper liquid depth/volume & overall height is accounted for properly in our design. I was not able to find this info in the drawings. A 10’ SWD and a max WSE of 548.75’ would correspond to a tank bottom of 538.75’. This number is also provided as the min WSE – which would mean a 0’ liquid level, is this correct? If so, can you please confirm if the mixer needs to be designed to operate during drain/fill of the tank (i.e. liquid level passing through the impellers while mixer is operating)?	Refer to S-10-102 and S-10-301 for elevations of the tank floor and mixer mounting elevation. The mixer should be able to operate during the drain/fill of the tank between the min and max WSE.			
333	12/21/2022	Siewart Equipment (Sherri McNamara)	Section 46 41 41 – Top-Entering Tank Mixers Gearbox Type: 2.03.A.1 allows for either a horizontal or vertical motor. 2.03.B.1 requires a drive with inline concentric planetary gears. 2.03.B.3 and 2.03.B.4 require a vertical motor. Is a right-angle gearbox with helical and spiral bevel gearing and a horizontal motor acceptable? If not, would a parallel shaft drive with a vertical motor and helical gearing acceptable? Both of these mixer options would be oil-filled (mineral oil or synthetic oil can be used), and would not feature lifetime synthetic grease.	Right angle gearbox with helical and spiral bevel gearing is acceptable. Oil filled gearbox is acceptable.			
334	12/21/2022	Siewart Equipment (Sherri McNamara)	Section 46 41 41 – Top-Entering Tank Mixers 2.03.D.1: The mixer requests the impeller type to be an axial flow impeller – would an upper axial flow impeller combined with a radial flow impeller near the tank bottom be acceptable, or do both need to be axial flow? The lower radial flow impeller would be our Curved Blade Turbine (CBT) which helps to prevent rags from accumulating.	The specification will be updated to allow radial flow impellers for the low impeller.	Yes	7	19

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335	12/21/2022	Siewart Equipment (Sherri McNamara)	Section 46 41 41 – Top-Entering Tank Mixers 2.03.E.1: Would a split vapor seal with Teflon plates, etc. be acceptable instead of a spring loaded lip seal? This seal is a simple seal designed to help reduce vapor & dust from the mixer opening.	Lip seals are required. Alternate seals may be considered through the substitute process described in 01 33 00-1.02.B.			
336	12/21/2022	Siewart Equipment (Sherri McNamara)	Section 46 41 41 – Top-Entering Tank Mixers 3.02.A: For the 4 hour test after oil temperature has stabilized – please confirm that this is to be done in the field and not at the factory. Assuming so, please also confirm that our standard no-load testing of the gearbox and motor only (no wetted parts installed) is acceptable as well as "manufacturer's standard test" is called for in 1.02.D.1, and this is our standard. Full-load testing with the wetted parts installed can be done, however it adds significant cost.	The specification will be clarified, the intent is to perform a field test after installation.	Yes	7	19
337	12/21/2022	Siewart Equipment (Sherri McNamara)	Section 46 41 41 – Top-Entering Tank Mixers 3.02.A: Our standard noise limit is 85 dB (not 80dB) at 1m distance – is this acceptable?	The specification will be updated to allow a limitof 85 dB at 1 m distance.	Yes	7	19
338	12/21/2022	Siewart Equipment (Sherri McNamara)	Section 43 05 21 - Common Motor Requirements for Equipment 1.09.A: Section 01 77 00 does not appear to have been included with the contract documents, please provide or update.	Addressed in Addendum 5			
339	12/21/2022	Siewart Equipment (Sherri McNamara)	Section 43 05 21 - Common Motor Requirements for Equipment 2.01.A.6: Can Toshiba be considered as an acceptable motor vendor?	If Toshiba can meet the requirements of the specification, we encourage that they be submitted for consideration to be an accepted equal during the construction phase. Please keep in mind that proof will be required that they have US distribution/support, stock replacements, etc.			
340	12/21/2022	Siewart Equipment (Sherri McNamara)	Section 01 61 45 – Area Exposure Designations 1.02.1: Section 01 11 80 (Environmental Conditions) does not appear to have been included with the contract documents, please provide or update.	This reference shall be considered deleted			
341	12/22/2022	KC Masonry Inc (Jason Williams)	In response to question #244, can the cmu bond beam be moved down 8" in order to get rebar and grout into the bond beam?	They are not bearing walls and can be installed after the concrete frame. The beam may be shifted down after careful coordination and determination that equipment provided the GC and other primes will not be impacted.			

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342	12/22/2022	KC Masonry Inc (Jason Williams)	On multiple details where cmu meets the concrete beams, it appears that the vertical reinforcing is continuous through the concrete beams? Is this correct? If so, then would I be correct in saying that the vertical reinforcing will need to be installed before the concrete beams get poured?	Yes, the intent is the vertical reinforcing is to be continuous through the concrete beams, therefore the vertical reinforcing would need to be placed before the beams get poured.			
343	12/22/2022	Atlantic Fluid Technology (Moji Amini)	. Can you allow FRP weirs and baffles in lieu if stainless steel specified. There are many advantages to FRP, we would love to discuss it with you.	Is the City's preference that stainless steel weirs and baffles are provided.			
344	12/22/2022	KC Masonry Inc (Jason Williams)	On drawing A-20-101 keynote 2 states infill opening in existing concrete wall with masonry to match. The 2 infills on this page are depicted as cmu infills. Should they be concrete infills to match existing?	Infill with CMU in accordance with sheet S-20-101. Will update Keynote 2 on A-20-101 to clarify intent	Yes	7	22
345	12/22/2022	KC Masonry Inc (Jason Williams)	Drawing A-20-101 shows a 12" CMU wall at stair 1. Drawing S-20-101 shows 8" CMU wall. Which one is correct?	8" CMU is correct	Yes	7	22
346	12/22/2022	M.A. Bongiovanni (Andrew Bongiovanni)	General Conditions Article 10 Insurance Requirements - Appendix A states the Builder's Risk policy shall contain flood coverage - what limits are required for the flood insurance? It is not normal to cover 100% of the full value of the work, and given the size of the contract there will be considerable cost associated with such a high limit. Normally smaller limits are set for flood coverage. Please advise if the City requires the flood insurance coverage to be the full value of the work or a lesser limit.	Flood Coverage requirement will be reduced to $1 Million	Yes	7	2
347	12/22/2022	M.A. Bongiovanni (Andrew Bongiovanni)	Question #23 clarified that the Electrical Contract was providing all VFDs listed in 26 29 23, and all other equipment utilizing integral VFDs shall be provided by the GC. Please confirm the GC is only providing integral VFDs for equipment under the GC scope of supply, not for equipment provided by other Prime Contracts.	Confirmed			
348	12/22/2022	Performance Construction Company (Karl Rice)	In the D-20 set, there is a plan view and 6 different sections BUT none of the sections have been marked on the plan view. Please mark the plan view so we understand the sections.	Addressed	Yes	5	8
349	12/22/2022	Performance Construction Company (Karl Rice)	Solid Handling Building- Section 2/S-10-302-The strip footing/CIP wall/CMU reinforcing callouts are missing.	CMU reinforcing shall be per typical detail on S-00-008. Footing reinforcing shall be #5 @ 12" for stem and footing. CIP wall should also be #5 @ 12".			

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350	12/22/2022	Performance Construction Company (Karl Rice)	The Proposal Booklet contains a bidder's checklist, on this list items 10, 11, 12, 13, and14 all pertain to the contract. How do you want this handled? We cannot sign, complete any of the information due to not having a contract. You cannot notarize something with blanks on it. Performance Bonds and Labor and Maintenance Bonds all come after award of a contract. Please clarify.	The checklist has been revised.	Yes	7	1
351	12/22/2022	Performance Construction Company (Karl Rice)	Spec Section 10 10 00 Visual Display Boards 3.03 Schedule does not give locations or number of items required. Please provide the information needed.	Will updated spec to provide clarity.	Yes	7	5
352	12/22/2022	Performance Construction Company (Karl Rice)	Spec Section 10 14 00 Signage does not give locations or number of items required. Please provide the information needed.	Will updated spec to provide clarity.	Yes	7	7
353	12/22/2022	HMI Mechanical (Jim Goodenough)	In addendum 4 you told me to look at spec section 40 05 02.89 for the HVAC piping schedule, but that section is for drains and vents. I have checked all of the 40 05 02 spec and didn't see anything for the HVAC piping. In section 40 05 02 Piping System Schedule I didn't see any HWS,HWR or recirc piping. Please provide a schedule for the Heating piping.	Additional piping designations provided in Addendum 5	Yes	5	11
354	12/22/2022	Performance Construction Company (Karl Rice)	On drawing D-20-101 there is pipe labelled DR but in the pipe schedule, there is no specifications for DR. Please provide a specification for the DR service pipe.	DR is another abreviation for drain and has been added to 40 05 02.89	Yes	5	11

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355	12/2/2022	Field Sales (Joe Fantasia)	Drawing E-15-011 - Kirk keys on load bank/gen breakers will prevent gen from supplying power to load while load bank is 'on'. Needs to be manually switched if a power failure occurs and that will take time and result in NOT 'picking up load' within 10 seconds. per NFPA110, as stated in 1.02.A.2 and 1.2.C.3. Technically the unit will pick up the load IF ALLOWED, but the kirk key design will prevent that from occurring withing 10 seconds of utility loss. I suggest relying on the 'auto load control' in the load bank that will automatically 'dump' when gen load picks up load and total load goes above a predetermined level, as requested in 2.08.G.4. -Can you confirm what the abbreviation "PCC" is on the genset drawing? It is not listed in the electrical symbol pages. I'm assuming it is the generator controller (power commad controller?) -Drawing indicates that unit is '1600kw, PRIME' while 1.01.A.1 States "Equipment provided under this section is not suitable for peak shaving, or any other unrestricted long term operation that would have to meet Tier 4 emissions standards." (Prime power units require a lower temperature alternator and emission after treatment, depending on their design.) I think you want this unit to be 'Standby' rated. 2.01.A will you accept and/or list MTU-Onsite Energy (Rolls Royce) equipment in your specification? I can provide many installations for waste water, data center installations throughout the country. Contractors will not generally entertain pricing for brands not listed, even if 'or approved equal' is stated. I've attached a 'history of MTU' in case you are not familiar with them. 1.01.C.4 Strondly suggest internally mounted silencer as it will last longer if it is out of the weather, as they rust quicker and rust quicker if mounted outside. 1.02.E.3 starts out stating preventitive maintenance, but only states warranty time frame for parts/labor. Do you want an actual PM contract? If so, specify number of years and if it is quarterly, semi-annual, etc. 2.02.G.2.a references section 09900 and 15250 (in regards to silencer insulation/paint) but they are not included in the project documents. (see comments regarding 1.02.D.3, above). 2.03.A.3 will you allow a 130C degree alternator vs. 15C degrees?	The load bank configuration will remain as is. Yes, the PCC refers to the generator controller. Yes, our intent was for the unit to be Standby rated. Drawings will be updated accordingly. If MTU can meet the requirements of the specifications they are encouraged to submit to be considered as an approved equal. Agreed, an internally mounted silencer is preferred. References should be considered removed. Yes, 130 degree C alternator is acceptable.	Yes	7	12