BID ADDENDUM NO. 2

March 27, 2024
Village of Interlaken
WWTP Improvements
HUNT 1319-027

The following Addendum items shall be considered a part of the contract documents prepared by HUNT ENGINEERS, ARCHITECTS, LAND SURVEYORS & LANDSCAPE ARCHITECT, DPC. Bid Document date of May 2023, revised November 2023.

Clarifications issued by this Addendum:

1. Only two (2) total manual hoists are required with similar sockets for the screen, both pump stations, and the anoxic mixer. They all need to be rated for 125% of the largest load and follow the specifications and Detail 3 on drawing C-7. One unit shall be dedicated for the Anoxic tank and the second one for the screen and both pump stations.
2. The operations room and associated restroom will be considered "dry" for purposes of electrical installations.
3. No temporary fencing is required, other than construction fencing as needed.
4. Match existing fencing, if possible, for the one proposed section on the existing site. Else see added detail on attached revised sheet C-6.
5. See revised plan sheet C-6 for the fencing detail for the sludge beds. Vinyl coating is not required.
6. There is not a security system being installed; therefore, there is not a specification, or drawings referenced.

Project Manual Sections issued by this Addendum:

00 41 13 – C410 Bid Form
00 43 33 – Proposed Product Form
01 23 00 - Alternates
08 71 00 – Door Hardware
26 29 23 - Variable-Frequency Motor Controller
26 32 13 - Engine Generators

Drawings issued by this Addendum:

C-5 – SITE UTILITY PLAN
C-6 – SITE DETAIL
P-7 – ANOXIC TANK & MBR PROCESS PLANS
P-9 – ANOXIC TANK & MBR PROCESS SECTIONS
S1.2 – FOUNDATION PLANS – MORTON BUILDING
S1.3 – FRAMING PLANS – MORTON BUILDING
AD2-E1 - REVISED ONE LINE DIAGRAM

Revisions to Project Manual issued by this Addendum:

ITEM AD2-1 Refer to Specification Section 00 21 13- C200 INSTRUCTIONS TO BIDDERS

AMEND Section 8.03 to read:
"… Effective Date of the Contract or 45 days after the Bid opening…"

AMEND Section 15.03 to read:
"If within 72 hours after Bids are open any Bidder…"

DELETE Article 11, 11.02 in its entirety.

ITEM AD2-2 Refer to Specification Section 00 41 13 – C410 BID FORM

DELETE Specification Section 00 41 13 – C410 Bid Form in their entirety.

ADD Specification Section 00 41 13 – C410 Bid Form as issues with this addendum.

ITEM AD2-3 Refer to Specification Section 00 44 20 – DECLARE OF MANUFACTURE

DELETE Specification Section 00 42 20 – Declare of Manufacture in its entirety.

ITEM AD2-4 Refer to Specification Section 00 43 33 – PROPOSED PRODUCT FORM

DELETE Specification 00 43 33 – Proposed Product Form in its entirety.

ADD Specification 00 43 33 – Proposed Product Form as issued by this addendum.

ITEM AD2-5 Refer to Specification Section 00 73 00 – C800 SUPPLEMENTARY CONDITIONS

DELETE SC-7.07.A in its entirety.

ITEM AD2-6 Refer to Specification Section 01 23 00 - ALTERNATES

ADD Specification Section 01 23 00 – Alternates as issued with this addendum.

ITEM AD2-7 Refer to Specification Section 08 71 00 – DOOR HARDWARE

ADD Specification 08 71 00 – Door Hardware as issued by this addendum.

ITEM AD2-8 Refer to Specification Section 13 34 18 – POST FRAME BUILDING SYSTEMS

DELETE Subparagraph 2.4.A ROOF PANELS (ENDURO TUFF SPAN ROOFING)

ADD Subparagraph 2.4.A ROOFING PANELS to read as follows.

A. Roofing panels
    1. Panel substrate shall be 0.019" minimum thickness commercial sheet with an AZ55 Aluminum / Zinc (Galvalume) coating ASTM A792.
    2. The weather side of the panel shall receive a nominal one mil Polyurethane primer and a nominal one mil topcoat of 70% Polyvinylidene Fluoride Resin to achieve a total paint film thickness of not less than two mils.
    3. The nonweather side paint system shall consist of a two coat finish with a total nominal thickness of one half mil.

ITEM AD2-9 Refer to Specification Section 26 29 23 - VARIABLE-FREQUENCY MOTOR CONTROLLERS

ADD Specification 26 29 23 - Variable-Frequency Motor Controllers, issued by addendum.

ITEM AD2-10 Refer to Specification Section 26 32 13 - ENGINE GENERATORS

DELETE 26 32 13 - Engine Generators in its entirety.

ADD 26 32 13 - Engine Generators, as issued by this addendum.

ITEM AD2-11 Refer to Specification Section 46 21 53 – SEMI-CYLINDRICAL AUGER SCREEN WITH INTEGRATED SCREENING WASH-PRESS

ADD Subparagraph D directly following section 2.2.C to read:
"D. Aqualitec Corp, Spiraltec Inclined Cylindrical Screen"

Revisions to Drawings issued by this Addendum:

ITEM AD2-12 Refer to C-5 – SITE UTILITY PLAN

DELETE Sheet C-5 – Site Utility Plan in its entirety.

ADD Sheet C-5 – Site Utility Plan issued by this addendum.

ITEM AD2-13 Refer to C-6 – SITE DETAILS

DELETE Sheet C-6 – Site Details in its entirety.

ADD Sheet C-6 – Site Details issued by this addendum.

ITEM AD2-14 Refer to P-7 – ANOXIC TANK & MBR PROCESS PLANS

DELETE Sheet P-7 – Anoxic Tank & MBR Process Plans in its entirety.

ADD Sheet P-7 – Anoxic Tank & MBR Process Plans as issued by this addendum.

ITEM AD2-15 Refer to P-9 - ANOXIC TANK & MBR PROCESS SECTIONS

DELETE Sheet P-9 – Anoxic Tank & MBR Process Plans in its entirety.

ADD Sheet P-9 – Anoxic Tank & MBR Process Plans issued by this addendum.

ITEM AD2-16 Refer to S1.2 FOUNDATION PLANS – MORTON BUILDING

DELETE Sheet S1.2 Foundation Plans – Morton Building in its entirety.

ADD Sheet S1.2 Foundation Plans – Morton Building issued by this addendum.

ITEM AD2-17 Refer to S1.3 FRAMING PLANS – MORTON BUILDING

DELETE Sheet S1.3 Framing Plans – Morton Building In its entirety.

ADD Sheet S1.3 Framing Plans – Morton Building issued by this addendum.

ITEM AD2-18 Refer to E1.1 – ELECTRICAL NEW WORK PLANS

AMEND General Notes – Electrical Note #L to read as follows: "Electrical Contractor is responsible to coordinate all locations with other contractors for trenching and backfill locations. Others to provide trenching and backfill".

ITEM AD2-19 Refer to E2.1 – ELECTRICAL DETAILS

AMEND Detail # 2 One Line Diagram per AD2-E1 Revised One Line Diagram, as issued by this addendum.

End of Addendum 2

BID FORM FOR CONSTRUCTION CONTRACT

The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 1—OWNER AND BIDDER

1.01 This Bid is submitted to:

Village of Interlaken
8369 Main Street
Interlaken, NY 14847

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—ATTACHMENTS TO THIS BID

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

A. Required Bid security;

B. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids;

C. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids, if applicable;

D. Required Bidder Qualification Statement with supporting data;

E. Corporate Resolution;

F. Iran Divestment Act Certification;

G. Federal and State Certification;

H. Waiver of Immunity; and

I. Non-Discrimination and EEO Certification;

ARTICLE 3—BASIS OF BID—LUMP SUM BID

3.01 *Lump Sum Bids*

A. Bidder will complete the Work in accordance with the Contract Documents for the following lump sum (stipulated) price(s), together with any Unit Prices indicated in Paragraph 3.02:

1. Contract #1: General Construction (Base Bid and Alternates)

General Construction Lump Sum Bid Price for Base Bid	$
Alternate 1: Influent Sewer Pipe	$
Alternate 2: Third 40x40 Sludge Drying Bed	$
Total Combined General Construction Base Bid and Alternate	$

2. Contract #2: HVAC and Plumbing

HVAC & Plumbing Lump Sum Bid Price	$

3. Contract #3: Electrical

Electrical Lump Sum Bid Price	$

ARTICLE 4—TIME OF COMPLETION

4.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

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

ARTICLE 5—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

5.01 *Bid Acceptance Period*

A. 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.

5.02 *Instructions to Bidders*

A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.

5.03 *Receipt of Addenda*

A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Bidder's Representations*

A. In submitting this Bid, Bidder represents the following:

1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.

2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.

4. Bidder has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.

5. Bidder has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.

6. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.

7. Based on the information and observations referred to in the preceding paragraph, Bidder agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.

8. 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.

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

10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

6.02 *Bidder's Certifications*

A. The Bidder certifies the following:

1. 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.

2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 8.02.A:
    a. 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.
    b. 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.
    c. 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.
    d. 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.

BIDDER hereby submits this Bid as set forth above:

Bidder:

_____
(typed or printed name of organization)

By: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Date: _____
(typed or printed)

If Bidder is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.

Attest: _____
(individual's signature)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Date: _____
(typed or printed)

Address for giving notices:

_____

_____

Bidder's Contact:

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Phone: _____

Email: _____

Address:

_____

_____

_____

Bidder's Contractor License No.: (if applicable) _____

SECTION 00 43 33

PROPOSED PRODUCTS FORM

INTRODUCTION

THE LOW BIDDER(S) SO REQUESTED BY THE OWNER, SHALL SUBMIT, WITHIN 72 HOURS THE BELOW LIST OF PROPOSED PRODUCT MANUFACTURERS.

The Bidder shall list herein the proposed manufacturer and, where applicable, model number, series number, etc. which it proposes to furnish for each of the major equipment items in the work as identified below. The acceptance or use of "Or Equal" or "Substitution" items shall be in accordance with the Standard General Conditions of the Construction Contract, and the Supplementary Conditions thereto.

PARTICULARS

THE FOLLOWING IS THE LIST OF EQUIPMENT REFERENCED IN THE BID SUBMITTED BY:

(BIDDER) _____

DATED _____ .

EQUIPMENT	MANUFACTURER OF BID
Refer to Specification Section 40 91 01 Flow Metering and Recording Equipment	
Refer to Specification Section 46 05 29 Positive Displacement Blowers	
Refer to Specification Section 46 24 23 Non-Clog Submersible Pumps	
Refer to Specification Section 46 24 36 Semi-Cylindrical Auger Screen w/ Integrated Screenings Wash-Press	
Refer to Specification Section 46 33 14 Aluminum Sulfate Feed Pumps	
Refer to Specification Section 46 53 49 Membrane Bioreactor (MBR)	
Refer to Specification Section 46 66 56 Ultraviolet Disinfection Equipment	

END PROPOSED PRODUCTS FORM

SECTION 01 23 00

ALTERNATES

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Description of Alternates.

B. Procedures for pricing Alternates.

1.2 ACCEPTANCE OF ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted Alternates will be identified in the Owner-Contractor Agreement.

B. Coordinate related work and modify surrounding work to integrate the Work of each Alternate.
   1. Include as part of each alternate, miscellaneous devices, accessory objects, and similar items incidental to, or required for a complete installation whether or not mentioned as part of the Alternate.
   2. Include, as part of each alternate, all related construction coordination, modifications or adjustments.

C. Notification: Immediately following the award of the Contract, notify each party involved, in writing, of the status of each alternate. Indicate whether alternates have been accepted, rejected, or deferred for later consideration. Include a complete description of negotiated modifications to alternates.

D. Execute accepted alternates under the same conditions as other Work of this Contract

E. Schedule: A “Schedule of Alternates” is included at the end of this Section.

F. The successful Bidder agrees to hold all Alternate Bids firm and unchanged for a period not to exceed 120 calendar days following the closing date for bidding.

1.3 SCHEDULE OF ALTERNATES

A. Alternate 1: Influent Sewer Pipe: Contractor to remove 8" diameter sewer pipe and replace with new 8" SDR 35 PVC sewer pipe. Cost shall inculde all excavating, back fill, bedding, piping material and connection to existing. Refer to Drawings C-1 Coded note 10 and C-5 Coded Note 19

B. Alternate 2: Third 40x40 Sludge Drying Bed:This work shall inculde all foundations, structures, utilities and site related work.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 08 71 00
DOOR HARDWARE

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Hardware for fiberglass doors.

1.2 RELATED REQUIREMENTS

A. Section 07 92 00 - Joint Sealants: Sealants for setting exterior door thresholds.

B. Section 08 16 13 - Fiberglass Doors.

1.3 REFERENCE STANDARDS

A. ADA Standards - Americans with Disabilities Act (ADA) Standards for Accessible Design; 2010.

B. BHMA (CPD) - Certified Products Directory; Current Edition.

C. BHMA A156.1 - American National Standard for Butts and Hinges; 2016.

D. BHMA A156.2 - American National Standard for Bored and Preassembled Locks & Latches; 2017.

E. BHMA A156.4 - American National Standard for Door Controls - Closers; 2013.

F. BHMA A156.7 - American National Standard for Template Hinge Dimensions; 2016.

G. BHMA A156.16 - American National Standard for Auxiliary Hardware; 2018.

H. BHMA A156.18 - American National Standard for Materials and Finishes; 2016.

I. BHMA A156.36 - American National Standard for Auxiliary Locks; 2016.

J. ICC A117.1 - Accessible and Usable Buildings and Facilities; 2017.

K. NFPA 101 - Life Safety Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

L. UL (DIR) - Online Certifications Directory; Current Edition.

1.4 ADMINISTRATIVE REQUIREMENTS

A. Coordinate the manufacture, fabrication, and installation of products that door hardware is installed on.

B. Furnish templates for door and frame preparation to manufacturers and fabricators of products requiring internal reinforcement for door hardware.

1.5 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Submittal Sequence: Submit the final Door Hardware Schedule at earliest possible date, particularly where approval of the Door Hardware Schedule must precede fabrication of other work that is critical in the Project construction schedule. Include Product Data, Samples, Shop

Drawings of other work affected by door hardware, and other information essential to the coordinated review of the Door Hardware Schedule

C. Product Data: Manufacturer's catalog literature for each type of hardware, marked to clearly show products to be furnished for this project, and includes construction details, material descriptions, finishes, and dimensions and profiles of individual components.

D. Shop Drawings - Door Hardware Schedule: Submit detailed listing that includes each item of hardware to be installed on each door. Use door numbering scheme as included in Contract Documents.
   1. Prepared by or under supervision of Architectural Hardware Consultant (AHC).
   2. Provide complete description for each door listed.
   3. Mounting locations for door hardware.
   4. Door and frame sizes and materials.
   5. Warranty information for each product

E. Templates: Furnish hardware templates to each fabricator of doors, frames and other work to be factory prepared for the installation of hardware. Upon request, check shop drawings of such other work, to confirm that adequate provisions are made for proper location and installation of hardware.

F. Manufacturer's Installation Instructions: Indicate special procedures and perimeter conditions requiring special attention.

G. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.

H. Manufacturer's qualification statement.

I. Installer's qualification statement.

J. Specimen warranty.

K. Keys: Deliver with identifying tags to Owner by security shipment direct from hardware supplier.

1.6 QUALITY ASSURANCE

A. Furnish hardware marked and listed in BHMA Directory of Certified Products.

B. Manufacturer: Obtain each type of hardware (ie., lock sets) from a single manufacturer, although several may be indicated as offering products complying with requirements.

C. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years of documented experience.

D. Installer Qualifications: Company specializing in performing work of the type specified for commercial door hardware with at least three years of documented experience.

E. Supplier Qualifications: Company with certified Architectural Hardware Consultant (AHC) and Electrified Hardware Consultant (EHC) to assist in work of this section.
   1. Experienced commercial door hardware distributors with a minimum 5 years documented experience supplying both mechanical and electromechanical hardware installations comparable in material, design, and extent to that indicated for this Project.
   2. Supplier recognized as a factory direct distributor by the manufacturers of the primary materials with a warehousing facility in Project's vicinity

F. Each unit to bear third party permanent label demonstrating compliance with the referenced standards.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Package hardware items individually; label and identify each package with door opening code to match door hardware schedule.
   1. Include necessary fasteners, installation instructions and templates with each item or package.

B. Inventory door hardware on receipt and provide secure lock-up and shelving for door hardware delivered to Project site. Do not store electronic access control hardware, software or accessories at Project site without prior authorization.

C. Provide secure lock-up for hardware delivered to the project, but not yet installed. Control handling and installation of hardware items which are not immediately replaceable, so that completion of the work will not be delayed by hardware losses, both before and after installation.

1.8 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

B. Warranty Period: Written warranty, executed by manufacturer(s), agreeing to repair or replace components of standard and electrified door hardware that fails in materials or workmanship within specified warranty period after final acceptance by the Owner. Failures include, but are not limited to, the following:
   1. Structural failures including excessive deflection, cracking, or breakage.
   2. Faulty operation of the hardware.
   3. Deterioration of metals, metal finishes, and other materials beyond normal weathering.

C. Standard Warranty Period: One year from date of Substantial Completion, unless otherwise indicated.

D. Special Warranty Periods, from Date of Substantial Completion:against defects in material and workmanship for period indicated, from Date of Substantial Completion.
   1. Mortise Locks and Latches: Ten years, minimum.
   2. Heavy duty Cylindrical (bored) locks and latches: Seven years, minimum.

PART 2 PRODUCTS

2.1 DESIGN AND PERFORMANCE CRITERIA

A. Provide specified door hardware as required to make doors fully functional, compliant with applicable codes, and secure to extent indicated.

B. Provide individual items of single type, of same model, and by same manufacturer.

C. Provide door hardware products that comply with the following requirements:
   1. Applicable provisions of federal, state, and local codes.
   2. Accessibility: ADA Standards and ICC A117.1.
   3. Applicable provisions of NFPA 101.
   4. Hardware on Fire-Rated Doors: Listed and classified by UL (DIR), ITS (DIR), or testing firm acceptable to authorities having jurisdiction as suitable for application indicated.
   5. Listed and certified compliant with specified standards by BHMA (CPD).

D. Fasteners:
   1. Provide fasteners of proper type, size, quantity, and finish that comply with commercially recognized standards for proposed applications.

a. Aluminum fasteners are not permitted.
b. Provide phillips flat-head screws with heads finished to match door surface hardware unless otherwise indicated.

2. Provide stainless steel machine screws and lead expansion shields for concrete and masonry substrates.

2.2 HINGES

A. Manufacturers:
1. McKinney; an Assa Abloy Group company: www.assaabloydss.com/#sle.
2. Bommer Industries, Inc: www.bommer.com/#sle.
3. Hager Companies: www.hagerco.com/#sle.

B. Hinges: Comply with BHMA A156.1, Grade 1.
1. Butt Hinges: Comply with BHMA A156.1 and BHMA A156.7 for templated hinges.
a. Provide hinge width required to clear surrounding trim.
2. Provide hinges on every swinging door.
3. Provide following quantity of butt hinges for each door:
a. Doors From 60 inches High up to 90 inches High: Three hinges.

C. Hinge Size: Provide the following, unless otherwise indicated, with hinge widths sized for door thickness and clearances required:
1. Widths up to 3’0”: 4-1/2” standard or heavy weight as specified.
2. Sizes from 3’1” to 4’0”: 5” standard or heavy weight as specified.

D. Hinge Weight and Base Material: Unless otherwise indicated, provide the following:
1. Exterior Doors: Heavy weight, non-ferrous, ball bearing or oil impregnated bearing hinges unless Hardware Sets indicate standard weight.

E. Hinge Options: Comply with the following:
1. Non-removable Pins: Provide set screw in hinge barrel that, when tightened into a groove in hinge pin, prevents removal of pin while door is closed; for the all out-swinging lockable doors.

2.3 LOCK CYLINDERS

A. Lock Cylinders: Provide key access on outside of each lock, unless otherwise indicated.
1. Provide cylinders from same manufacturer as locking device.
2. Mortise Type: Threaded cylinders with rings and cams to suit hardware application.
3. Rim Type: Cylinders with back plate, flat-type vertical or horizontal tailpiece, and raised trim ring.
4. Mortise and rim cylinder collars to be solid and recessed to allow the cylinder face to be flush and be free spinning with matching finishes.
5. Keyway: Match Facility Standard.
6. Provide cams and/or tailpieces as required for locking devices.

B. Permanent Cores: Manufacturer's standard; finish face to match lockset; complying with the following:
1. Interchangeable Cores: Core insert, removable by use of a special key; usable with other manufacturers' cylinders.

C. Keying System: Each type of lock and cylinders to be factory keyed.
1. Conduct specified "Keying Conference" to define and document keying system instructions and requirements.
2. Furnish factory cut, nickel-silver large bow permanently inscribed with a visual key control number as directed by Owner.
3. Existing System: Key locks to Owner's existing system

D. Key Quantity: Provide the following minimum number of keys:

1. Change Keys per Cylinder: Two (2)
2. Master Keys (per Master Key Level/Group): Five (5).
3. Construction Keys (where required): Ten (10).

E. Construction Keying: Provide construction master keyed cylinders.

F. Construction Keying: Provide temporary keyed construction cores.

G. Key Registration List (Bitting List):
1. Provide keying transcript list to Owner's representative in the proper format for importing into key control software.
2. Provide transcript list in writing or electronic file as directed by the Owner.

2.4 CYLINDRICAL LOCKS

A. Cylindrical Locks (Bored): Comply with BHMA A156.2, Grade 1, 4000 Series.
1. Bored Hole: 2-1/8 inch diameter.
2. Latchbolt Throw: 1/2 inch, minimum.
3. Backset: 2-3/4 inch unless otherwise indicated.
4. Strikes: Provide manufacturer's standard strike for each latchset or lockset with strike box and curved lip extending to protect frame in compliance with indicated requirements.
a. Finish: To match lock or latch.
5. Trim: Provide lever handle or pull trim on outside of each lock, unless otherwise indicated.

2.5 AUXILIARY LOCKS (DEADLOCKS)

A. Manufacturers:
1. Yale; an Assa Abloy Group company: www.assaabloydss.com/#sle.
2. Hager Companies: www.hagerco.com/#sle.
3. Substitutions: See Section 01 60 00 - Product Requirements.

B. Auxiliary Locks (Deadlocks): Comply with BHMA A156.36, Grade 1.

2.6 COORDINATORS

A. Coordinators: Provide on doors having closers and self-latching or automatic flush bolts to ensure that inactive door leaf closes before active door leaf.
1. Type: Bar, unless otherwise indicated.
2. Material: Aluminum, unless otherwise indicated.
3. Ensure that coordination of other door hardware affected by placement of coordinators and carry bar is applied properly for completely operable installation.

2.7 CARRY BAR

A. Manufacturers:
1. Rockwood; an Assa Abloy Group company: www.assaabloydss.com/#sle.
2. Ives, an Allegion brand: www.allegion.com/us/#sle.

B. Carry Bar: Provides a push on active door when inactive door is opened first to allow coordinator to be engaged for proper door leaf closing sequence.
1. Material: Brass with nylon rollers, unless otherwise indicated.

2.8 CLOSERS

A. Manufacturers; Surface Mounted:
1. Corbin Russwin, Norton, Rixson, Sargent, or Yale; an Assa Abloy Group company: www.assaabloydss.com/#sle.
2. Hager Companies: www.hagerco.com/#sle.

3. Substitutions: See Section 01 60 00 - Product Requirements.

B. Closers (Large Body Cast Iron): Comply with BHMA A156.4, Grade 1.
   1. Type: Surface mounted to door.
      a. Closers that incorporate Pressure Relief Valve (PRV) technology will not be accepted.
      b. Fully operational adjustable according to door size, frequency of use, and opening force.
      c. Closers to be rack and pinion type, one piece cast iron body construction, with adjustable backcheck and separate non-critical valves for closing sweep and latch speed control.
   2. Provide door closer on each exterior door.
   3. All door closers specified herein shall meet or exceed the following criteria:
      a. General: Door closers to be from one manufacturer, matching in design and style, with the same type door preparations and templates regardless of application or spring size. Closers to be non-handed with full sized covers including installation and adjusting information on inside of cover.
      b. Cycle Testing: Provide closers which have surpassed 15 million cycles in a test witnessed and verified by UL.
      c. Size of Units: Comply with manufacturer's written recommendations for sizing of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Where closers are indicated for doors required to be accessible to the physically handicapped, provide units complying with ANSI ICC/A117.1.
      d. Closer Arms: Provide heavy duty, forged steel closer arms unless otherwise indicated in Hardware Sets.
      e. Closers shall not be installed on exterior or corridor side of doors; where possible install closers on door for optimum aesthetics.
      f. Closer Accessories: Provide door closer accessories including custom templates, special mounting brackets, spacers and drop plates as required for proper installation. Provide through-bolt and security type fasteners as specified in the hardware sets.

2.9 DOOR HOLDERS

A. Manufacturers:
   1. McKinney or Rockwood; an Assa Abloy Group company: www.assaabloydss.com/#sle.
   2. Hager Companies: www.hagerco.com/#sle.
   3. Substitutions: See Section 01 60 00 - Product Requirements.

B. Door Holders: Comply with BHMA A156.16, Grade 1.
   1. Provide surface mounted door holders when wall or floor stop is not applicable and hold-open device is mounted on door.
   2. Type: Lever, or kick down stop, with rubber bumper at bottom end.
   3. Material: Aluminum.

2.10 FINISHES

A. Finishes: Provide door hardware of same finish, unless otherwise indicated.
   1. Primary Finish: 625; bright chromium plated over nickel, with brass or bronze base material (former US equivalent US26); BHMA A156.18.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install hardware in accordance with manufacturer's instructions and applicable codes.

B. Use templates provided by hardware item manufacturer.

C. Door Hardware Mounting Heights: Distance from finished floor to center line of hardware item. As indicated in following list; unless noted otherwise in Door Hardware Schedule or on drawings.

D. Set exterior door thresholds with full-width bead of elastomeric sealant at each point of contact with floor providing a continuous weather seal; anchor thresholds with stainless steel countersunk screws.

3.2 ADJUSTING

A. Adjust work under provisions of Section 01 70 00 - Execution and Closeout Requirements.

B. Adjust hardware for smooth operation.

C. Adjust gasketing for complete, continuous seal; replace if unable to make complete seal.

3.3 CLEANING

A. Clean finished hardware in accordance with manufacturer's written instructions after final adjustments have been made.

B. Clean adjacent surfaces soiled by hardware installation.

C. Replace items that cannot be cleaned to manufacturer's level of finish quality at no additional cost.

3.4 PROTECTION

A. Protect finished Work under provisions of Section 01 70 00 - Execution and Closeout Requirements.

B. Do not permit adjacent work to damage hardware or finish.

3.5 SCHEDULE

A. Manufactuerer's Abbreviations
1. MK - McKinney
2. SA - Sargent
3. PE - Pemko
4. BE - Best
5. OT - Others (by Mfr)
6. RO - Rockwood

B. Hardware Set #1

1.	3 Hinge	TA2714	MK
2.	1 Entrance Lock	70 11G24LL	SA
3.	1 Deadlock	10-485-15	SA
4.	2 Core	10-6300	SA
5.	1 Door Closer	351-CPSH	SA

6.	1 Sweep	By Door Manufacturer	
7.	1 Gasketing	By Door Manufacturer	
8.	1 Threshold	By Door Manufacturer	

C. Hardware Set #2

1.	2 Continuous Hinge	CFM-SLF-HD1 PT	PE
2.	2 Exit Device	19-43-72-MD8613 ETL	SA
3.	2 Core	Final Core provided by owner	BE
4.	2 Surface Closer	281 CPS	SA
5.	1 Threshold	1715AK Pemkote MSES25SS	PE
6.	1 Weatherstrip	By Door Manufacturer	
7.	1 Sweep	29326	PE
8.	Note: Doors normally closed and locked. Free egress at all times.		

D. Harware Set #3

1.	6 Hinge (heavy weight)	T4A3786	MK
2.	2 Flush Bolt	555	RO
3.	1 Dust Proof Strike	570	RO
4.	1 Storeroom Lock	72 8204 LNL	SA
5.	1 Permanent Core		
6.	1 Surface Closer	281 O	SA
7.	1 Astragal	357SP 84" TKSP	PE
8.	2 Kick Plate	K1050 10" High CSK BEV	RO
9.	2 Door Stop	402/441CU to suit conditions	RO
10.	6 Silencer	608/609	RO

E. Hardware Set #4

1.	Hinge, Full Mortise, Hvy Wt	T4A3786	MK
2.	Privacy Lock	LB V21 8265 LNL	SA
3.	1 Permanent Core		
4.	1 Surface Closer	281 O	SA
5.	1 Kick Plate	K1050 10" high CSK BEV	RO
6.	1 Wall Stop	402/441CU to suit conditions	RO
7.	1 Silencer	608/609	RO
8.	1 Coat Hook	796	RO

END OF SECTION

SECTION 26 29 23
VARIABLE-FREQUENCY MOTOR CONTROLLERS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Variable-frequency motor controllers for low-voltage (600 V and less) AC motor applications.

B. Overcurrent protective devices for motor controllers, including overload relays.

1.2 RELATED REQUIREMENTS

A. Section 26 05 19 - Low-Voltage Electrical Power Conductors and Cables: Variable-frequency drive cable.

B. Section 26 05 26 - Grounding and Bonding for Electrical Systems.

C. Section 26 05 29 - Hangers and Supports for Electrical Systems.

D. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.

E. Section 26 28 13 - Fuses.

1.3 REFERENCE STANDARDS

A. IEC 60529 - Degrees of Protection Provided by Enclosures (IP Code); 2013 (Corrigendum 2019).

B. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2015.

C. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum); 2018.

D. NEMA ICS 2 - Industrial Control and Systems Controllers, Contactors and Overload Relays Rated 600 Volts; 2000, with Errata (2008).

E. NEMA ICS 5 - Industrial Control and Systems: Control Circuit and Pilot Devices; 2017.

F. NEMA ICS 6 - Industrial Control and Systems: Enclosures; 1993 (Reaffirmed 2016).

G. NEMA ICS 7 - Industrial Control and Systems: Adjustable-Speed Drives; 2014.

H. NEMA ICS 7.1 - Safety Standards for Construction and Guide for Selection, Installation, and Operation of Adjustable-Speed Drive Systems; 2014.

I. NEMA ICS 7.2 - Application Guide for AC Adjustable Speed Drive Systems; 2015.

J. NEMA ICS 61800-2 - Adjustable Speed Electrical Power Drive Systems, Part 2: General Requirements-Rating Specifications for Low Voltage Adjustable Frequency AC Power Drive Systems; 2005.

K. NEMA KS 1 - Heavy Duty Enclosed and Dead-Front Switches (600 Volts Maximum); 2013.

L. NEMA MG 1 - Motors and Generators; 2018.

M. NETA ATS - Acceptance Testing Specifications for Electrical Power Equipment and Systems; 2017.

N. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

O. UL 98 - Enclosed and Dead-Front Switches; Current Edition, Including All Revisions.

P. UL 489 - Molded-Case Circuit Breakers, Molded-Case Switches and Circuit Breaker Enclosures; Current Edition, Including All Revisions.

Q. UL 508A - UL Standard for Safety Industrial Control Panels; 2018.

R. UL 61800-5-1 - Standard for Adjustable Speed Electrical Power Drive Systems - Part 5-1: Safety Requirements – Electrical, Thermal, and Energy; Current Edition, Including All Revisions.

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements for submittal procedures.

B. Product Data: Provide manufacturer's standard catalog pages and data sheets for motor controllers, enclosures, overcurrent protective devices, and other installed components and accessories.

1.5 QUALITY ASSURANCE

A. Comply with requirements of NFPA 70.

B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years documented experience.

C. Installer Qualifications: Company with minimum three years documented experience with variable-frequency motor control systems of similar size, type, and complexity; manufacturer's authorized installer.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Store in clean, dry space. Maintain factory wrapping or provide additional heavy canvas or heavy plastic cover to protect units from dirt, water, construction debris, and traffic.

1.7 FIELD CONDITIONS

A. Maintain field conditions within required service conditions during and after installation.

1.8 WARRANTY

A. See Section 01 78 00 - Closeout Submittals for additional warranty requirements.

B. Provide minimum 18-month manufacturer warranty covering repair or replacement due to defective materials or workmanship.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Variable-Frequency Motor Controllers:
1. ABB/GE: www.geindustrial.com/#sle.
2. Eaton Corporation: www.eaton.com/#sle.
3. Schneider Electric; Square D Products: www.schneider-electric.us/#sle.
4. Siemens Industry, Inc: www.usa.siemens.com/#sle.

B. Substitutions: See Section 01 60 00 - Product Requirements.

2.2 VARIABLE-FREQUENCY MOTOR CONTROLLERS

A. Provide variable-frequency motor control system consisting of required controller assemblies, operator interfaces, control power transformers, instrumentation and control wiring, sensors, accessories, system programming, etc. as necessary for complete operating system.

B. Provide products listed, classified, and labeled as suitable for purpose intended.

C. Controller Assemblies: Comply with NEMA ICS 7, NEMA ICS 7.1, and NEMA ICS 61800-2; list and label as complying with UL 61800-5-1 or UL 508A as applicable.

D. Provide controllers selected for actual installed motors and coupled mechanical loads in accordance with NEMA ICS 7.2, NEMA MG 1 Part 30, and recommendations of manufacturers of both controller and load, where not in conflict with specified requirements; considerations include, but are not limited to:
   1. Motor type (e.g., induction, reluctance, and permanent magnet); consider NEMA MG 1 design letter or inverter duty rating for induction motors.
   2. Motor load type (e.g., constant torque, variable torque, and constant horsepower); consider duty cycle, impact loads, and high inertia loads.
   3. Motor nameplate data.
   4. Requirements for speed control range, speed regulation, and braking.
   5. Motor suitability for bypass starting method, where applicable.

E. Devices on Load Side of Controller: Suitable for application across full controller output frequency range.

F. Operating Requirements:
   1. Input Voltage Tolerance: Plus/minus 10 percent of nominal.
   2. Input Frequency Tolerance: Plus/minus 5 percent of nominal.
   3. Efficiency: Minimum of 96 percent at full speed and load.
   4. Input Displacement Power Factor: Minimum of 0.96 throughout speed and load range.
   5. Overload Rating:
      a. Variable Torque Loads: Minimum of 110 percent of nominal for 60 seconds.
      b. Constant Torque Loads: Minimum of 150 percent of nominal for 60 seconds.

G. Power Conversion System: Microprocessor-based, pulse width modulation type consisting of rectifier/converter, DC bus/link, and inverter.
   1. Rectifier/Converter: Diode-based, 6-pulse type unless otherwise indicated.

H. Control System:
   1. Provide microprocessor-based control system for automatic control, monitoring, and protection of motors. Include sensors, wiring, and connections necessary for functions and status/alarm indications specified.
   2. Provide integral operator interface for controller programming, display of status/alarm indications, fault reset, and local control functions including motor run/stop, motor forward/reverse selection, motor speed increase/decrease, and local/remote control selection.
   3. Control Functions:
      a. Control Method: Selectable vector and scalar/volts per hertz unless otherwise indicated.
         1) Scalar/Volts per Hertz Control: Provide IR compensation for improved low-speed torque.
         2) Vector Control: Provide selectable autotuning function.
      b. Adjustable acceleration and deceleration time; linear and S-curve ramps; selectable coast to stop.
      c. Selectable braking control; DC injection or flux braking.
      d. Adjustable minimum/maximum speed limits.
      e. Adjustable pulse width modulation switching carrier frequency.

f. Adjustable motor slip compensation.
g. Selectable autorestart after noncritical fault; programmable number of time delay between restart attempts.

4. Status Indications:
   a. Motor run/stop status.
   b. Motor forward/reverse status.
   c. Local/remote control status.
   d. Output voltage.
   e. Output current.
   f. Output frequency.
   g. DC bus voltage.
   h. Motor speed.
5. Protective Functions/Alarm Indications:
   a. Overcurrent.
   b. Motor overload.
   c. Undervoltage.
   d. Overvoltage.
   e. Controller overtemperature.
   f. Input/output phase loss.
   g. Output short circuit protection.
   h. Output ground fault protection.
6. Inputs:
   a. Digital Input(s): Three.
   b. Analog Input(s): Two.
7. Outputs:
8. Features:
   a. Password-protected security access.
   b. Event log.

I. Power Conditioning/Filtering:
   1. Provide DC link choke or input/line reactor for each controller unless otherwise indicated or required.
   2. Reactor Impedance: 3 percent, unless otherwise indicated or required.

J. Packaged Controllers: Controllers factory-mounted in separate enclosure with externally operable disconnect and specified accessories.
   1. Disconnects: Circuit breaker or disconnect switch type.
      a. Disconnect Switches: Fusible type or nonfusible type with separate input fuses.
      b. Provide externally operable handle with means for locking in OFF position. Provide safety interlock to prevent opening cover with disconnect in ON position with capability of overriding interlock for testing purposes.
      c. Provide auxiliary interlock for disconnection of external control power sources where applicable.
   2. Provide door-mounted remote operator interface.

K. Service Conditions:
   1. Provide controllers and associated components suitable for operation under following service conditions without derating:
      a. Altitude: Less than 3,300 feet.
      b. Ambient Temperature: Between 32 degrees F and 104 degrees F.
   2. Provide controllers and associated components suitable for operation at indicated ratings under service conditions at installed location.

L. Short Circuit Current Rating:
   1. Provide line/input reactors where specified by manufacturer for required short circuit current rating.

M. Conductor Terminations: Suitable for use with conductors to be installed.

N. Enclosures:
1. Comply with NEMA ICS 6.
2. NEMA 250 Environment Type or Equivalent IEC 60529 Rating: Unless otherwise indicated, as specified for following installation locations:
3. Finish: Manufacturer's standard unless otherwise indicated.
4. Cooling: Forced air or natural convection as determined by manufacturer.

2.3 OVERCURRENT PROTECTIVE DEVICES

A. Overload Relays:
1. Provide overload relays and, where applicable, associated current elements/heaters selected for actual installed motor nameplate data, in accordance with manufacturer's recommendations and NFPA 70; include consideration for motor service factor and ambient temperature correction, where applicable.
2. Comply with NEMA ICS 2.
3. Inverse-Time Trip Class Rating: Class 20 unless otherwise indicated or required.
4. Trip-free operation.
5. Visible trip indication.
6. Resettable.
a. Employ manual reset unless otherwise indicated.
b. Do not employ automatic reset with two-wire control.

B. Fusible Disconnect Switches:
1. Description: Quick-make, quick-break, dead-front fusible switch units complying with NEMA KS 1, and listed and labeled as complying with UL 98; ratings, configurations, and features as indicated or as required.
2. Fuse Clips: As required to accept indicated fuses.
3. Provide externally operable handle with means for locking in OFF position. Provide means for locking switch cover in closed position. Provide safety interlock to prevent opening of cover with switch in ON position with capability of overriding interlock for testing purposes.

C. Circuit Breakers:
1. Motor Circuit Protectors:
a. Description: Instantaneous-trip circuit breakers furnished with magnetic instantaneous tripping elements for short circuit protection, but not with thermal inverse time tripping elements for overload protection; UL 489 recognized only for use as part of listed combination motor controller with overload protection; ratings, configurations, and features as indicated or as required.
b. Provide field-adjustable magnetic instantaneous trip setting.
c. Provide following features and accessories where indicated or where required to complete installation:
1) Shunt Trip: Provide coil voltage as required for connection to indicated trip actuator.

2.4 ACCESSORIES

A. Auxiliary Contacts:
1. Comply with NEMA ICS 5.
2. Provide number and type of contacts indicated or required to perform necessary functions, including holding (seal-in) circuit and interlocking, plus one normally open (NO) and one normally closed (NC) spare contact for each bypass motor starter, minimum.

B. Control and Timing Relays:
1. Comply with NEMA ICS 5.

2. Provide number and type of relays indicated or required to perform necessary functions.

PART 3 EXECUTION

3.1 INSTALLATION

A. Install products in accordance with manufacturer's instructions.

B. Install controllers in accordance with NECA 1 (general workmanship).

C. Install in accordance with NEMA ICS 7.1 and manufacturer's instructions.

D. Do not exceed manufacturer's recommended maximum cable length between controller and motor.

E. Arrange equipment to provide minimum clearances in accordance with manufacturer's instructions and NFPA 70.

F. Provide required support and attachment in accordance with Section 26 05 29.

G. Install controllers plumb and level.

H. Provide grounding and bonding in accordance with Section 26 05 26.

I. Install field-installed devices, components, and accessories.

J. Provide fuses complying with Section 26 28 13 for fusible switches as indicated.

K. Where accessories are not self-powered, provide control power source as indicated or as required to complete installation.

L. Set field-adjustable settings of controllers and associated components according to installed motor requirements, in accordance with recommendations of manufacturers of controller and load.

3.2 FIELD QUALITY CONTROL

A. Inspect and test in accordance with NETA ATS, except Section 4.

B. Perform inspections and tests listed in NETA ATS, Section 7.17. Insulation-resistance test on control wiring listed as optional is not required.

C. Fusible Switches: Perform inspections and tests listed in NETA ATS, Section 7.5.1.1.

D. Molded Case Circuit Breakers: Perform inspections and tests listed in NETA ATS, Section 7.6.1.1 for circuit breakers larger than _____ amperes. Tests listed as optional are not required.

E. Correct deficiencies and replace damaged or defective controllers or associated components.

3.3 CLOSEOUT ACTIVITIES

A. See Section 01 78 00 - Closeout Submittals for closeout submittals.

B. See Section 01 79 00 - Demonstration and Training for additional requirements.

C. Demonstration: Demonstrate proper operation of controllers to Owner, and correct deficiencies or make adjustments as directed.

3.4 PROTECTION

A. Protect installed controllers from subsequent construction operations.

END OF SECTION

SECTION 26 32 13
ENGINE GENERATORS

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Packaged engine generator system and associated components and accessories:
   1. Generator set enclosure.

1.2 RELATED REQUIREMENTS

A. Section 03 30 00 - Cast-in-Place Concrete: Concrete equipment pads.

B. Section 23 11 13 - Facility Fuel-Oil Piping:
   1. Diesel fuel piping.

C. Section 23 51 00 - Breechings, Chimneys, and Stacks: Engine exhaust piping.

D. Section 26 05 26 - Grounding and Bonding for Electrical Systems.

E. Section 26 05 29 - Hangers and Supports for Electrical Systems.

F. Section 26 05 53 - Identification for Electrical Systems: Identification products and requirements.

G. Section 26 36 00 - Transfer Switches.

1.3 REFERENCE STANDARDS

A. ASTM D975 - Standard Specification for Diesel Fuel Oils; 2019.

B. NECA 1 - Standard for Good Workmanship in Electrical Construction; 2015.

C. NECA/EGSA 404 - Standard for Installing Generator Sets; 2014.

D. NEMA MG 1 - Motors and Generators; 2018.

E. NFPA 30 - Flammable and Combustible Liquids Code; 2018.

F. NFPA 37 - Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines; 2018.

G. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.

H. NFPA 99 - Health Care Facilities Code; 2018.

I. NFPA 110 - Standard for Emergency and Standby Power Systems; 2019.

J. UL 142 - Steel Aboveground Tanks for Flammable and Combustible Liquids; Current Edition, Including All Revisions.

K. UL 2200 - Stationary Engine Generator Assemblies; Current Edition, Including All Revisions.

1.4 SUBMITTALS

A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

B. Manufacturer's factory emissions certification.

1.5 QUALITY ASSURANCE

A. Comply with the following:
   1. NFPA 70 (National Electrical Code).
   2. NFPA 37 (Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines).
   3. NFPA 30 (Flammable and Combustible Liquids Code).

B. Product Listing Organization Qualifications: An organization recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL) and acceptable to authorities having jurisdiction.

PART 2 PRODUCTS

2.1 MANUFACTURERS

A. Packaged Engine Generator Set:
   1. Caterpillar Inc: www.cat.com/#sle.
   2. Cummins Power Generation Inc: www.cumminspower.com/#sle.
   3. Generac Power Systems: www.generac.com/industrial/#sle.
   4. Kohler Co: www.kohlerpower.com/#sle.

2.2 PACKAGED ENGINE GENERATOR SYSTEM

A. Provide new engine generator system consisting of all required equipment, sensors, conduit, boxes, wiring, piping, supports, accessories, system programming, etc. as necessary for a complete operating system that provides the functional intent indicated.

B. Provide products listed, classified, and labeled as suitable for the purpose intended.

C. System Description:
   1. Application: Emergency/standby.
   2. Configuration: Single packaged engine generator set operated independently (not in parallel).
   3. Total System Power Rating: 225 kW, standby.

D. Packaged Engine Generator Set:
   1. Type: Diesel (compression ignition).
   2. Power Rating: 225 kW, standby.
   3. Voltage: As indicated on drawings.
   4. Main Line Circuit Breaker:
      a. Type: Thermal magnetic.
      b. Trip Rating: Select according to generator set rating.

E. Generator Set General Requirements:
   1. Prototype tested in accordance with NFPA 110 for Level 1 systems.
   2. Factory-assembled, with components mounted on suitable base.
   3. List and label engine generator assembly as complying with UL 2200.
   4. Power Factor: Unless otherwise indicated, specified power ratings are at 0.8 power factor for three phase voltages and 1.0 power factor for single phase voltages.
   5. Provide suitable guards to protect personnel from accidental contact with rotating parts, hot piping, and other potential sources of injury.
   6. Main Line Circuit Breakers: Provide factory-installed line side connections with suitable lugs for load side connections.

F. Service Conditions: Provide engine generator system and associated components suitable for operation under the service conditions at the installed location.

G. Starting and Load Acceptance Requirements:
1. Cranking Method: Cycle cranking complying with NFPA 110 (15 second crank period, followed by 15 second rest period, with cranking limiter time-out after 3 cycles), unless otherwise required.
2. Cranking Limiter Time-Out: If generator set fails to start after specified cranking period, indicate overcrank alarm condition and lock-out generator set from further cranking until manually reset.
3. Start Time: Capable of starting and achieving conditions necessary for load acceptance within 10 seconds (NFPA 110, Type 10).
4. Maximum Load Step: Supports 100 percent of rated load in one step.

H. Exhaust Emissions Requirements:
1. Comply with federal (EPA), state, and local regulations applicable at the time of commissioning; include factory emissions certification with submittals.
2. Do not make modifications affecting generator set factory emissions certification without approval of manufacturer and Engineer. Where such modifications are made, provide field emissions testing as necessary for certification.

2.3 ENGINE AND ENGINE ACCESSORY EQUIPMENT

A. Provide engine with adequate horsepower to achieve specified power output at rated speed, accounting for alternator efficiency and parasitic loads.

B. Engine Fuel System - Diesel (Compression Ignition):
1. Fuel Source: Diesel, ASTM D975 No. 2-D or approved cold weather diesel blends.
2. Fuel Storage: Sub-base fuel tank.
3. Engine Fuel Supply: Provide engine-driven, positive displacement fuel pump with replaceable fuel filter(s), water separator, check valve to secure prime, manual fuel priming pump, and relief-bypass valve. Provide fuel cooler where recommended by manufacturer.
4. Engine Fuel Connections: Provide suitable, approved flexible fuel lines for coupling engine to fuel source.
5. Sub-Base Fuel Tank:
a. Provide sub-base mounted, double-wall fuel tank with secondary containment; listed and labeled as complying with UL 142.
b. Tank Capacity: Size for minimum of 24 hours of continuous engine generator operation at 100 percent rated load, but not larger than permissible by applicable codes.
c. Features:
1) Direct reading fuel level gauge.
2) Normal atmospheric vent.
3) Emergency pressure relief vent.
4) Fuel fill opening with lockable cap.
5) Dedicated electrical conduit stub-up area.

C. Engine Starting System:
1. System Type: Electric, with DC solenoid-activated starting motor(s).
2. Battery(s):
a. Battery Type: Lead-acid.
b. Battery Capacity: Size according to manufacturer's recommendations for achieving starting and load acceptance requirements under worst case ambient temperature; capable of providing cranking through two complete periods of cranking limiter time-outs without recharging.

c. Provide battery rack, cables, and connectors suitable for the supplied battery(s); size battery cables according to manufacturer's recommendations for cable length to be installed.

3. Battery-Charging Alternator: Engine-driven, with integral solid-state voltage regulation.

D. Engine Speed Control System (Governor):
1. Single Engine Generator Sets (Not Operated in Parallel): Provide electronic isochronous governor for controlling engine speed/alternator frequency.
2. Frequency Regulation, Electronic Isochronous Governors: No change in frequency from no load to full load; plus/minus 0.25 percent at steady state.

E. Engine Lubrication System:
1. System Type: Full pressure, with engine-driven, positive displacement lubrication oil pump, replaceable full-flow oil filter(s), and dip-stick for oil level indication. Provide oil cooler where recommended by manufacturer.

F. Engine Cooling System:
1. System Type: Closed-loop, liquid-cooled, with unit-mounted radiator/fan and engine-driven coolant pump; suitable for providing adequate cooling while operating at full load under worst case ambient temperature.
2. Fan Guard: Provide suitable guard to protect personnel from accidental contact with fan.

G. Engine Air Intake and Exhaust System:
1. Air Intake Filtration: Provide engine-mounted, replaceable, dry element filter.
2. Engine Exhaust Connection: Provide suitable, approved flexible connector for coupling engine to exhaust system.

2.4 ALTERNATOR (GENERATOR)

A. Alternator: 4-pole, 1800 rpm (60 Hz output) revolving field, synchronous generator complying with NEMA MG 1; connected to engine with flexible coupling; voltage output configuration as indicated, with reconnectable leads for 3 phase alternators.

B. Exciter:
1. Exciter Type: Brushless; provide permanent magnet generator (PMG) excitation system; self-excited (shunt) systems are not permitted.
2. PMG Excitation Short-Circuit Current Support: Capable of sustaining 300 percent of rated output current for 10 seconds.
3. Voltage Regulation (with PMG excitation): Plus/minus 0.5 percent for any constant load from no load to full load.

C. Temperature Rise: Comply with UL 2200.

D. Insulation System: NEMA MG 1, Class H; suitable for alternator temperature rise.

E. Enclosure: NEMA MG 1, drip-proof.

F. Total Harmonic Distortion: Not greater than five percent.

2.5 GENERATOR SET CONTROL SYSTEM

A. Provide microprocessor-based control system for automatic control, monitoring, and protection of generator set. Include sensors, wiring, and connections necessary for functions/indications specified.

B. Control Panel:
1. Control Panel Mounting: Unit-mounted unless otherwise indicated; vibration isolated.
2. Generator Set Control Functions:
a. Automatic Mode: Initiates generator set start/shutdown upon receiving corresponding signal from remote device (e.g. automatic transfer switch).

b. Manual Mode: Initiates generator set start/shutdown upon direction from operator.
c. Reset Mode: Clears all faults, allowing generator set restart after a shutdown.
d. Emergency Stop: Immediately shuts down generator set (without time delay) and prevents automatic restarting until manually reset.
e. Cycle Cranking: Programmable crank time, rest time, and number of cycles.
f. Time Delay: Programmable for shutdown (engine cooldown) and start (engine warmup).
g. Voltage Adjustment: Adjustable through range of plus/minus 5 percent.

3. Generator Set Status Indications:
   a. Voltage (Volts AC): Line-to-line, line-to-neutral for each phase.
   b. Current (Amps): For each phase.
   c. Frequency (Hz).
   d. Real power (W/kW).
   e. Reactive power (VAR/kVAR).
   f. Apparent power (VA/kVA).
   g. Power factor.
   h. Duty Level: Actual load as percentage of rated power.
   i. Engine speed (RPM).
   j. Battery voltage (Volts DC).
   k. Engine oil pressure.
   l. Engine coolant temperature.
   m. Engine run time.
   n. Generator powering load (position signal from transfer switch).
4. Generator Set Protection and Warning/Shutdown Indications:
   a. Comply with NFPA 110; configurable for NFPA 110 Level 1 or Level 2, or NFPA 99 systems including but not limited to the following protections/indications:
      1) Overcrank (shutdown).
      2) Low coolant temperature (warning).
      3) High coolant temperature (warning).
      4) High coolant temperature (shutdown).
      5) Low oil pressure (shutdown).
      6) Overspeed (shutdown).
      7) Low fuel level (warning).
      8) Low coolant level (warning/shutdown).
      9) Generator control not in automatic mode (warning).
      10) High battery voltage (warning).
      11) Low cranking voltage (warning).
      12) Low battery voltage (warning).
      13) Battery charger failure (warning).
   b. In addition to NFPA 110 requirements, provide the following protections/indications:
      1) High AC voltage (shutdown).
      2) Low AC voltage (shutdown).
      3) High frequency (shutdown).
      4) Low frequency (shutdown).
      5) Overcurrent (shutdown).
   c. Provide contacts for local and remote common alarm.
   d. Provide lamp test function that illuminates all indicator lamps.
5. Other Control Panel Features:
   a. Event log.

2.6 GENERATOR SET ENCLOSURE

A. Enclosure Type: Sound attenuating, weather protective.

B. Enclosure Material: Steel or aluminum.

C. Hardware Material: Stainless steel.

D. Color: Manufacturer's standard.

E. Access Doors: Lockable, with all locks keyed alike.

F. Openings: Designed to prevent bird/rodent entry.

G. External Drains: Extend oil and coolant drain lines to exterior of enclosure for maintenance service.

H. Sound Attenuating Enclosures: Line enclosure with non-hydroscopic, self-extinguishing sound-attenuating material.

I. Enclosure Space Heater: Provide thermostatically controlled enclosure space heater to prevent condensation and improve starting under cold ambient conditions; size according to manufacturer's recommendations for achieving starting and load acceptance requirements under worst case ambient temperature.

PART 3 EXECUTION

3.1 EXAMINATION

A. Verify that field measurements are as indicated.

B. Verify that the ratings and configurations of generator sets and auxiliary equipment are consistent with the indicated requirements.

C. Verify that rough-ins for field connections are in the proper locations.

D. Verify that mounting surfaces are ready to receive equipment.

E. Verify that conditions are satisfactory for installation prior to starting work.

3.2 INSTALLATION

A. Perform work in accordance with NECA 1 (general workmanship).

B. Install products in accordance with manufacturer's instructions.

C. Install generator sets and associated accessories in accordance with NECA/EGSA 404.

D. Arrange equipment to provide minimum clearances and required maintenance access.

E. Unless otherwise indicated, mount generator set on properly sized, minimum 6 inch high concrete pad constructed in accordance with Section 03 30 00.

F. Provide required support and attachment in accordance with Section 26 05 29.

G. Use manufacturer's recommended oil and coolant, suitable for the worst case ambient temperatures.

H. Provide diesel fuel piping and venting in accordance with Section 23 11 13, where not factory installed.

I. Provide engine exhaust piping in accordance with Section 23 51 00, where not factory installed.
   1. Include piping expansion joints, piping insulation, thimble, condensation trap/drain, rain cap, hangers/supports, etc. as indicated or as required.
   2. Do not exceed manufacturer's maximum back pressure requirements.

J. Provide grounding and bonding in accordance with Section 26 05 26.

K. Identify system wiring and components in accordance with Section 26 05 53.

3.3 FIELD QUALITY CONTROL

A. See Section 01 40 00 - Quality Requirements, for additional requirements.

B. Notify Owner and Architect/ Engineer at least two weeks prior to scheduled inspections and tests.

C. Notify authorities having jurisdiction and comply with their requirements for scheduling inspections and tests and for observation by their personnel.

D. Provide all equipment, tools, and supplies required to accomplish inspection and testing, including load bank and fuel.

E. Preliminary inspection and testing to include, at a minimum:
1. Inspect each system component for damage and defects.
2. Verify tightness of mechanical and electrical connections are according to manufacturer's recommended torque settings.
3. Check for proper oil and coolant levels.

F. Prepare and start system in accordance with manufacturer's instructions.

G. Provide field emissions testing where necessary for certification.

H. Correct defective work, adjust for proper operation, and retest until entire system complies with Contract Documents.

3.4 CLOSEOUT ACTIVITIES

A. See Section 01 79 00 - Demonstration and Training, for additional requirements.

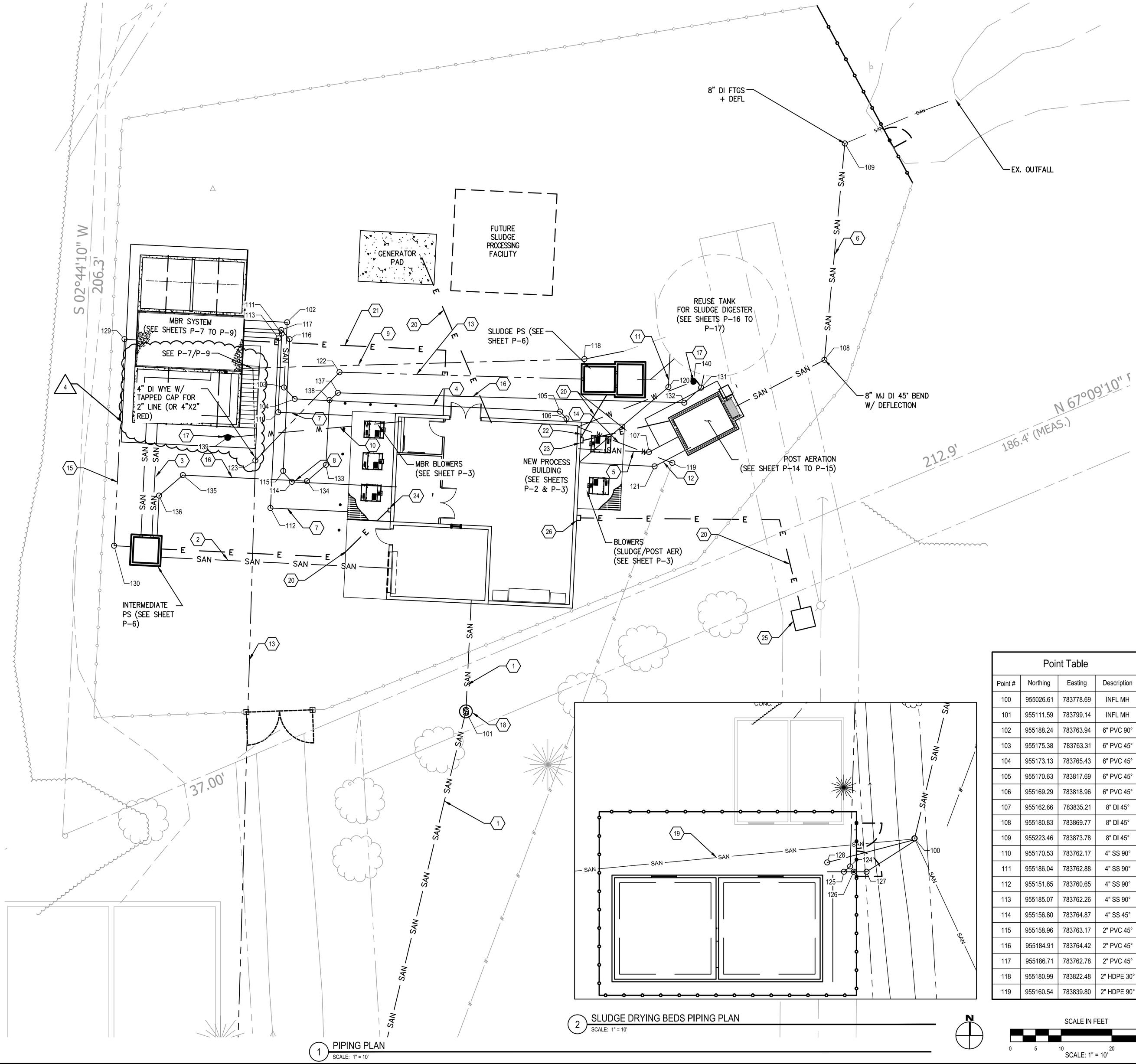
B. Demonstration: Demonstrate proper operation of system to Owner, and correct deficiencies or make adjustments as directed.

C. Training: Train Owner's personnel on operation, adjustment, and maintenance of system.
1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.

3.5 PROTECTION

A. Protect installed engine generator system from subsequent construction operations.

END OF SECTION



1 PIPING PLAN
SCALE: 1" = 10'

2 SLUDGE DRYING BEDS PIPING PLAN
SCALE: 1" = 10'

N

SCALE IN FEET
0 5 10 20 30
SCALE: 1" = 10'

NOTES:

1. EQUIPMENT MAY NOT NECESSARILY BE SHOWN IN TRUE ORIENTATION SO AS TO PROVIDE CLARITY.
2. NOT ALL PLANT PIPING, EQUIPMENT, ETC. MAY BE SHOWN. ALL EFFORT HAS BEEN MADE TO SHOW CRITICAL COMPONENTS AS IT RELATES TO THE PROJECT WORK.
3. ALL EQUIPMENT, PIPING, ETC. SHALL BE ADEQUATELY PROTECTED DURING DEMO WORK.
4. SEE OTHER SHEETS FOR ADDITIONAL PROJECT WORK.
5. PROVIDE REQUIRED PIPE FITTINGS/CPLNG AND APPURTENANCES FOR PIPE CONNECTIONS. SEE PROCESS NOTES ON SHEET G-1.
6. ALL DIMENSIONS SHOWN ARE SUBJECT TO NORMAL CONSTRUCTION TOLERANCES FOR FABRICATIONS OF THIS SIZE. VERIFY PIPE ELEVS IN FIELD AND CONNECT EQUIPMENT AS REQD TO AVOID CONFLICTS, ETC.
7. BYPASSING OF TREATMENT IS PROHIBITED. THE EXISTING PLANT SHALL REMAIN IN SERVICE DURING CONSTRUCTION OF THE NEW FACILITIES. DEMOLITION SHALL NOT COMMENCE UNTIL NEW WWTP IS FULLY OPERATIONAL.

CODED NOTES:

1. 8" DI INFL GRAVITY SEWER
2. 8" DI GRAVITY SCREEN EFFL
3. 3" PVC FORCE MAIN (TYP OF 2)
4. 6" PVC GRAVITY PERMEATE
5. 8" DI GRAVITY UV EFFL
6. 8" DI OUTFALL, CONNECT TO EX. OUTFALL WITH FTG/COUPLING.
7. 4" UNLINED S.S. BLOWER DISCHARGE (TYP OF 2)
8. 2" PVC CLEAN-IN PLACE (CHEM. FEED DISCHARGE, MBR CLEANING)
9. 2" HDPE WAS FORCE MAIN
10. 1" HDPE WATER LINE
11. 4" S.S. AIR SUPPLY TO DIGESTER
12. 4" S.S. AIR SUPPLY TO POST AERATION
13. 4" DI FORCE MAIN TO SLUDGE BEDS
14. 2" HDPE NPW SUPPLY TO BLDG
15. 3" PVC GRAVITY CIP WASTE
16. 6" DI GRAVITY DECANT
17. YARD HYDRANT
18. 4' DIAMETER MANHOLE
19. ALTERNATE 1: CONTRACTOR TO INSTALL 183± LF OF 8" SDR 35 PVC OR DI SEWER PIPE
20. UNDERGROUND ELECTRIC, SEE E2.1
21. UNDERGROUND ELECTRIC AND COMMUNICATIONS CONDUITS, SEE E2.1
22. SLUDGE PUMP CONTROL PANEL
23. CIP PUMP PANEL
24. INTERMEDIATE PUMP STATION CONTROL PANEL
25. PROPOSED NYSEG TRANSFER VAULT, CONTRACTOR TO COMPLETE EXCAVATION, SET, AND BACKFILL
26. PROPOSED ELECTRIC METER

Point Table			
Point #	Northing	Easting	Description
100	955026.61	783778.69	INFL MH
101	955111.59	783799.14	INFL MH
102	955188.24	783763.94	6" PVC 90°
103	955175.38	783763.31	6" PVC 45°
104	955173.13	783765.43	6" PVC 45°
105	955170.63	783817.69	6" PVC 45°
106	955169.29	783818.96	6" PVC 45°
107	955162.66	783835.21	8" DI 45°
108	955180.83	783869.77	8" DI 45°
109	955223.46	783873.78	8" DI 45°
110	955170.53	783762.17	4" SS 90°
111	955186.04	783762.88	4" SS 90°
112	955151.65	783760.65	4" SS 90°
113	955185.07	783762.26	4" SS 90°
114	955156.80	783764.87	4" SS 45°
115	955158.96	783763.17	2" PVC 45°
116	955184.91	783764.42	2" PVC 45°
117	955186.71	783762.78	2" PVC 45°
118	955180.99	783822.48	2" HDPE 30°
119	955160.54	783839.80	2" HDPE 90°

Point Table			
Point #	Northing	Easting	Description
120	955175.45	783839.03	4" SS 45°
121	955159.86	783836.31	4" SS 45°
122	955178.41	783774.25	4" DI 45°
123	955161.02	783757.68	4" DI 45°
124	955015.57	783753.32	4" DI 45°
125	955013.47	783750.89	4" DI WYE
126	955013.47	783754.72	4" DI GV
127	955013.47	783759.78	4" DI 45°
128	955014.14	783744.28	6" PVC 30°
129	955184.90	783731.91	3" PVC 90°
130	955144.22	783729.85	3" PVC 90°
131	955175.36	783845.48	6" DI 45°
132	955172.39	783842.16	6" DI 45°
133	955160.16	783771.56	6" DI 45°
134	955156.94	783767.84	6" DI 45°
135	955158.14	783743.39	6" DI 45°
136	955154.09	783738.70	6" DI 45°
137	955174.34	783773.93	6" DI 45°
138	955172.92	783772.28	6" DI 45°
139	955165.54	783752.23	HYDRANT

Point Table			
Point #	Northing	Easting	Description
140	955176.58	783843.95	HYDRANT

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4	03 / 27 / 2024	ADDENDUM NO. 2	MAC

"IT IS A VIOLATION OF THE LAW FOR ANY PERSON TO MAKE UNAUTHORIZED ALTERATIONS OR ADDITIONS TO PLANS BEARING A LICENSED ENGINEER'S, ARCHITECT'S OR SURVEYOR'S SEAL."

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CHECKED BY:	MAC
DATE:	05/03/23
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SITE UTILITY PLAN

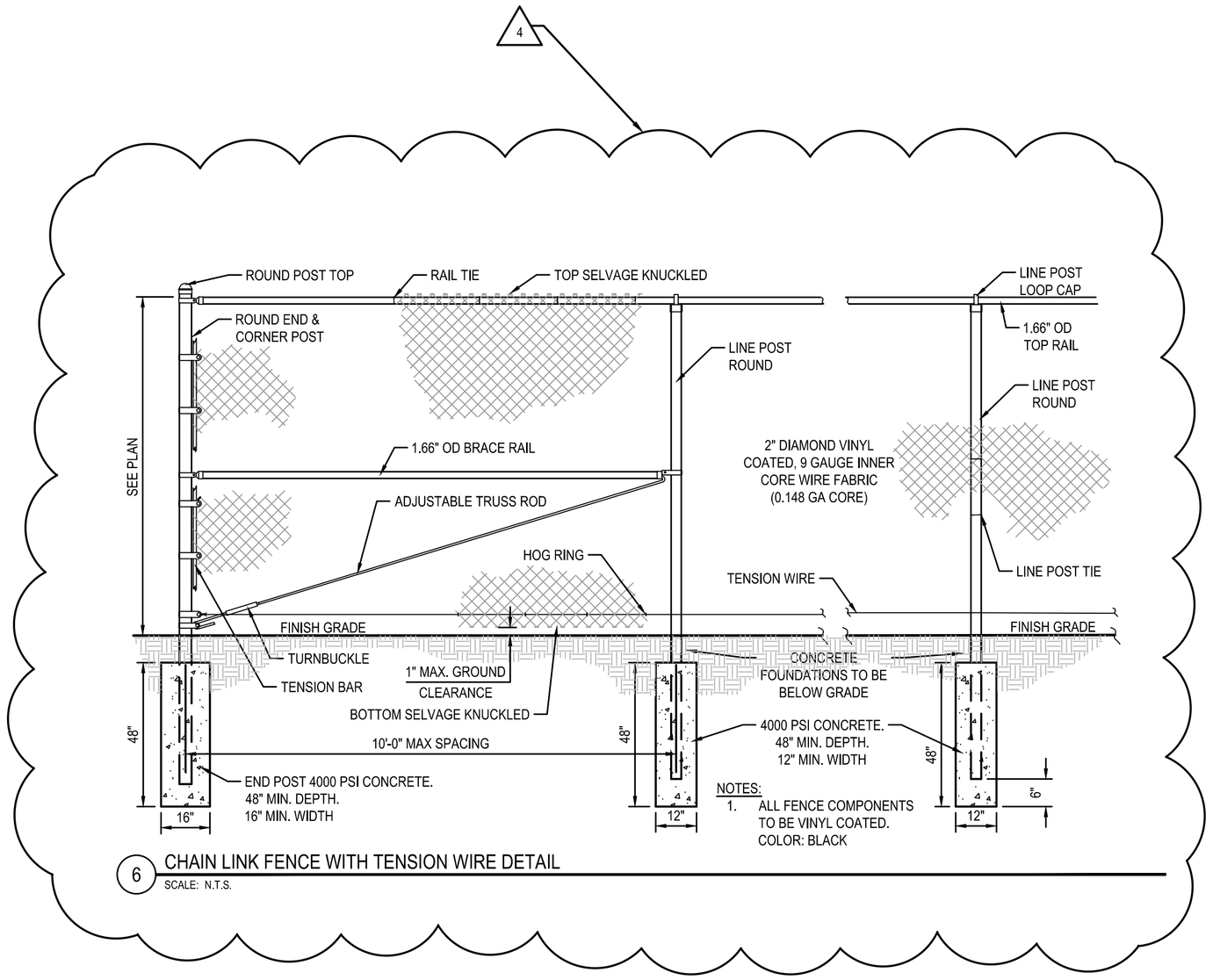
WASTEWATER TREATMENT PLANT & COLLECTION SYS IMPROVEMENTS

VILLAGE OF INTERLAKEN

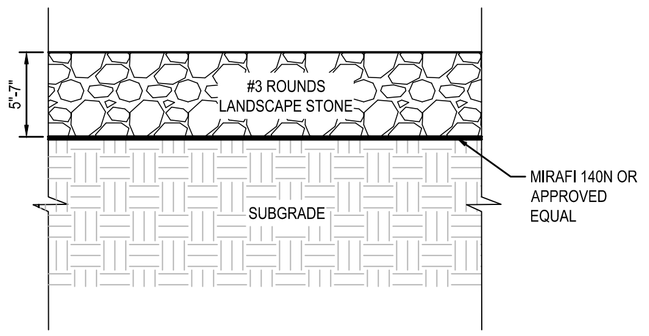
INTERLAKEN, NY 14847

C-5

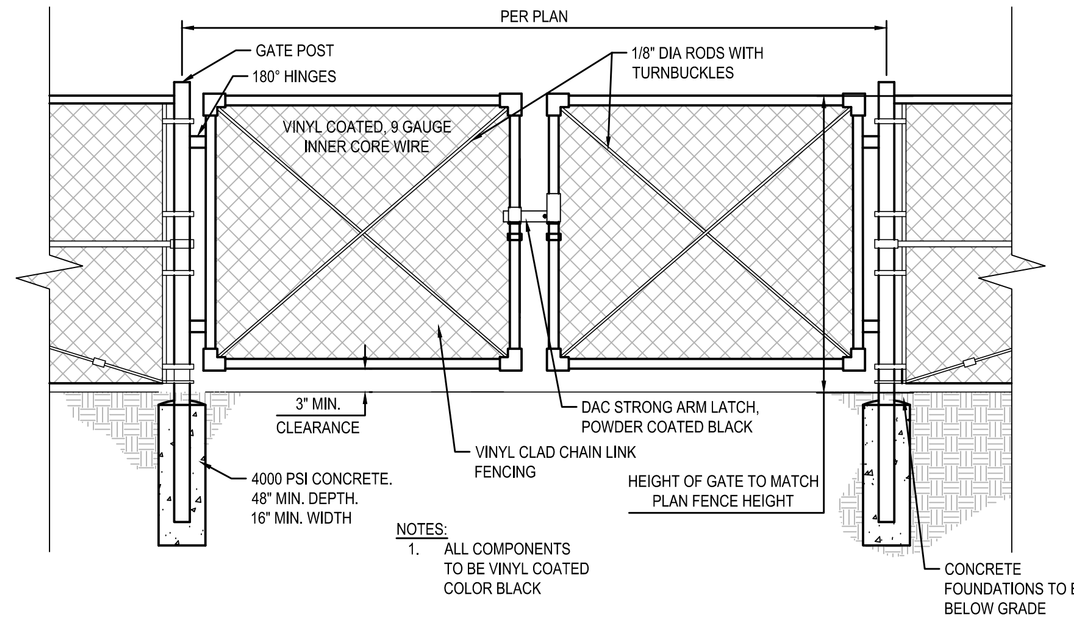
PROJECT NO: 1319-027



6 CHAIN LINK FENCE WITH TENSION WIRE DETAIL
SCALE: N.T.S.



5 LANDSCAPE STONE DETAIL
SCALE: N.T.S.



4 DOUBLE SWING GATE WITH STRONG ARM LATCH DETAIL
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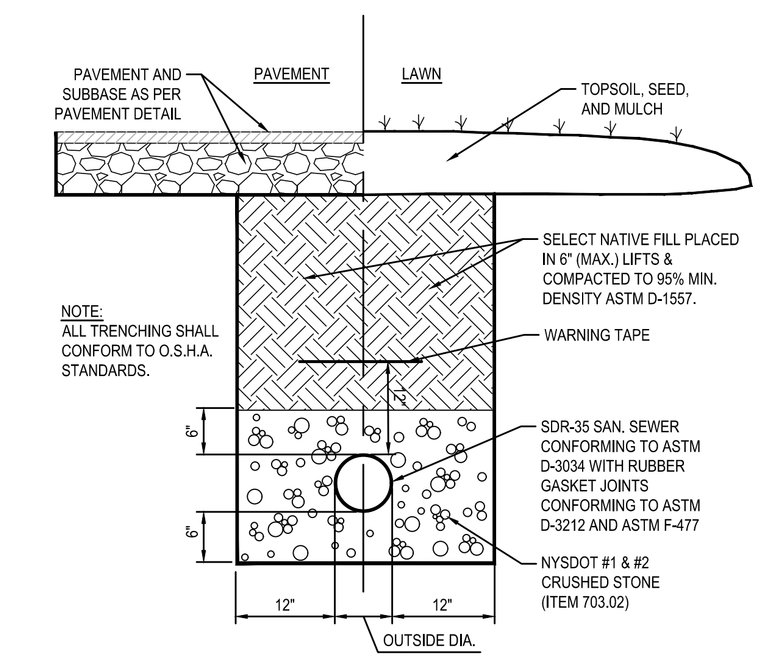

3 TYPICAL SANITARY SEWER TRENCH DETAIL
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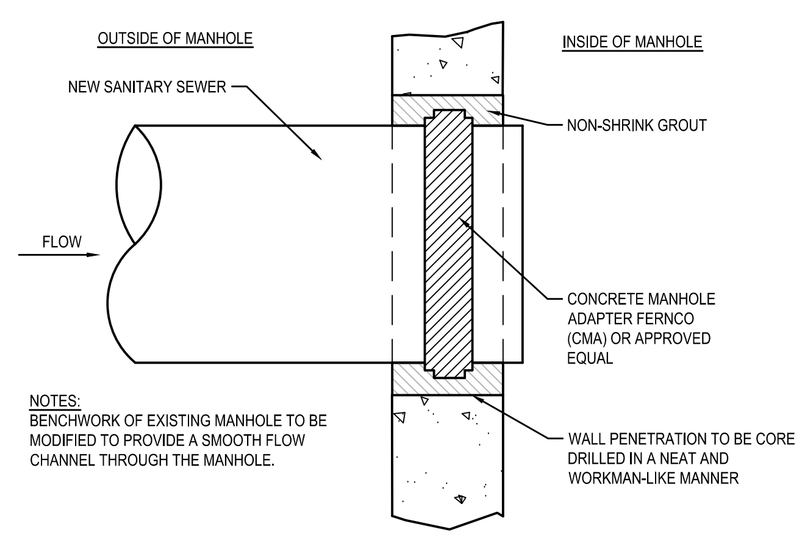
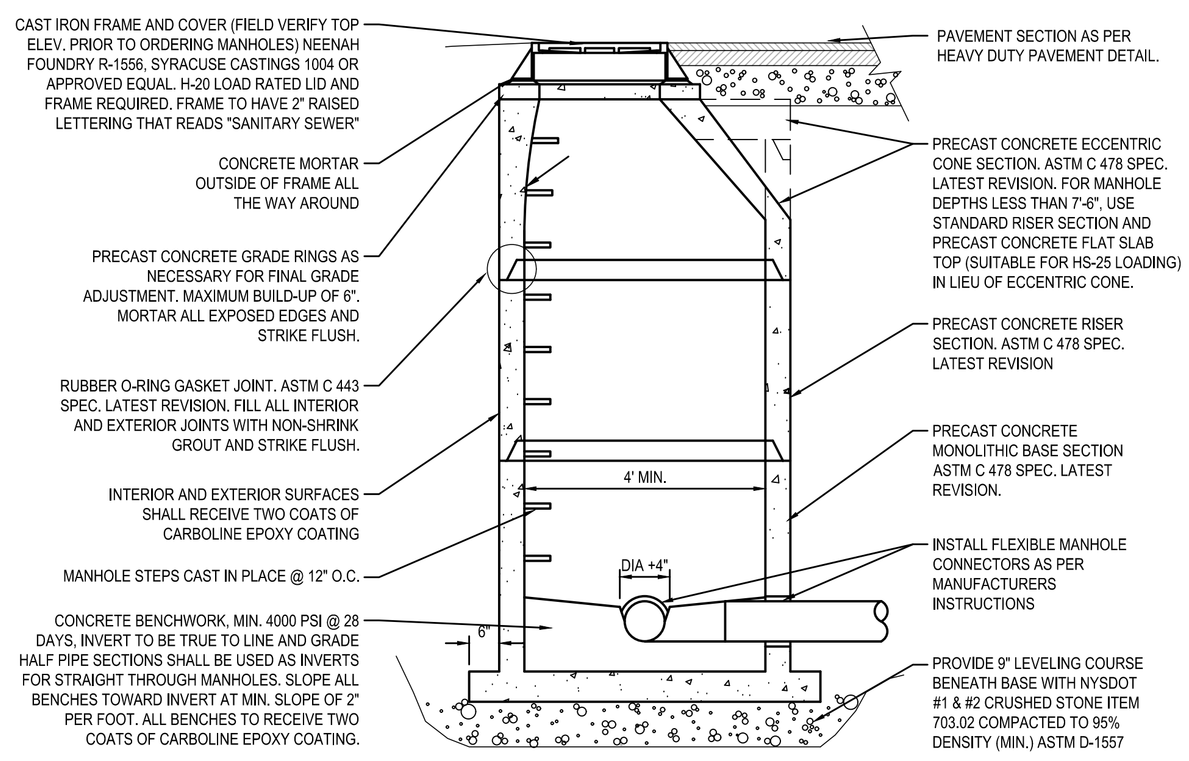


2 EXISTING SANITARY MANHOLE CONNECTION DETAIL
SCALE: N.T.S.



1 PRECAST CONCRETE SANITARY MANHOLE DETAIL
SCALE: N.T.S.

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SITE DETAILS

WASTEWATER TREATMENT PLANT & COLLECTION SYS IMPROVEMENTS

VILLAGE OF INTERLAKEN

INTERLAKEN, NY 14847

C-6

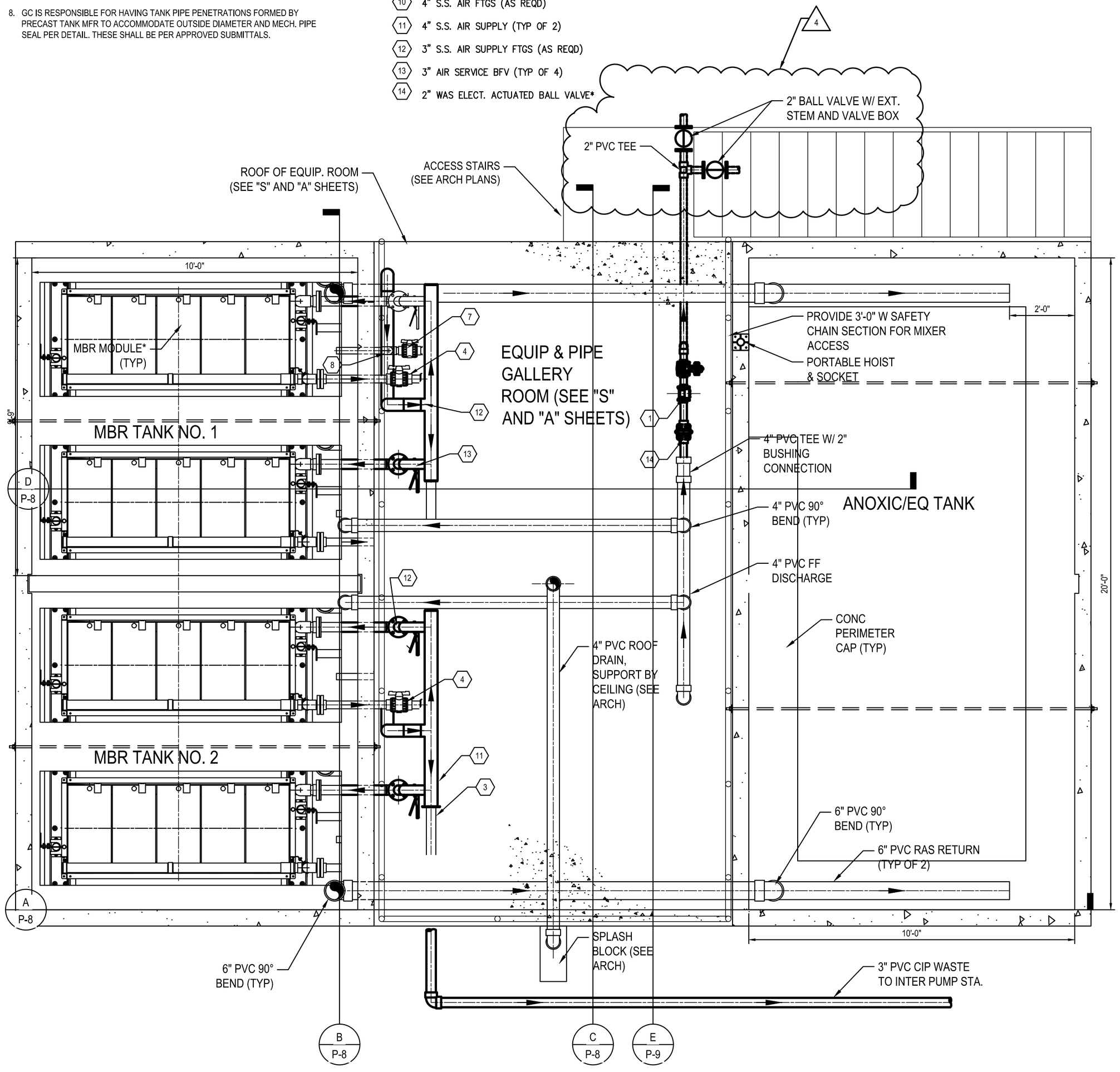
PROJECT NO: 1319-027

NOTES:

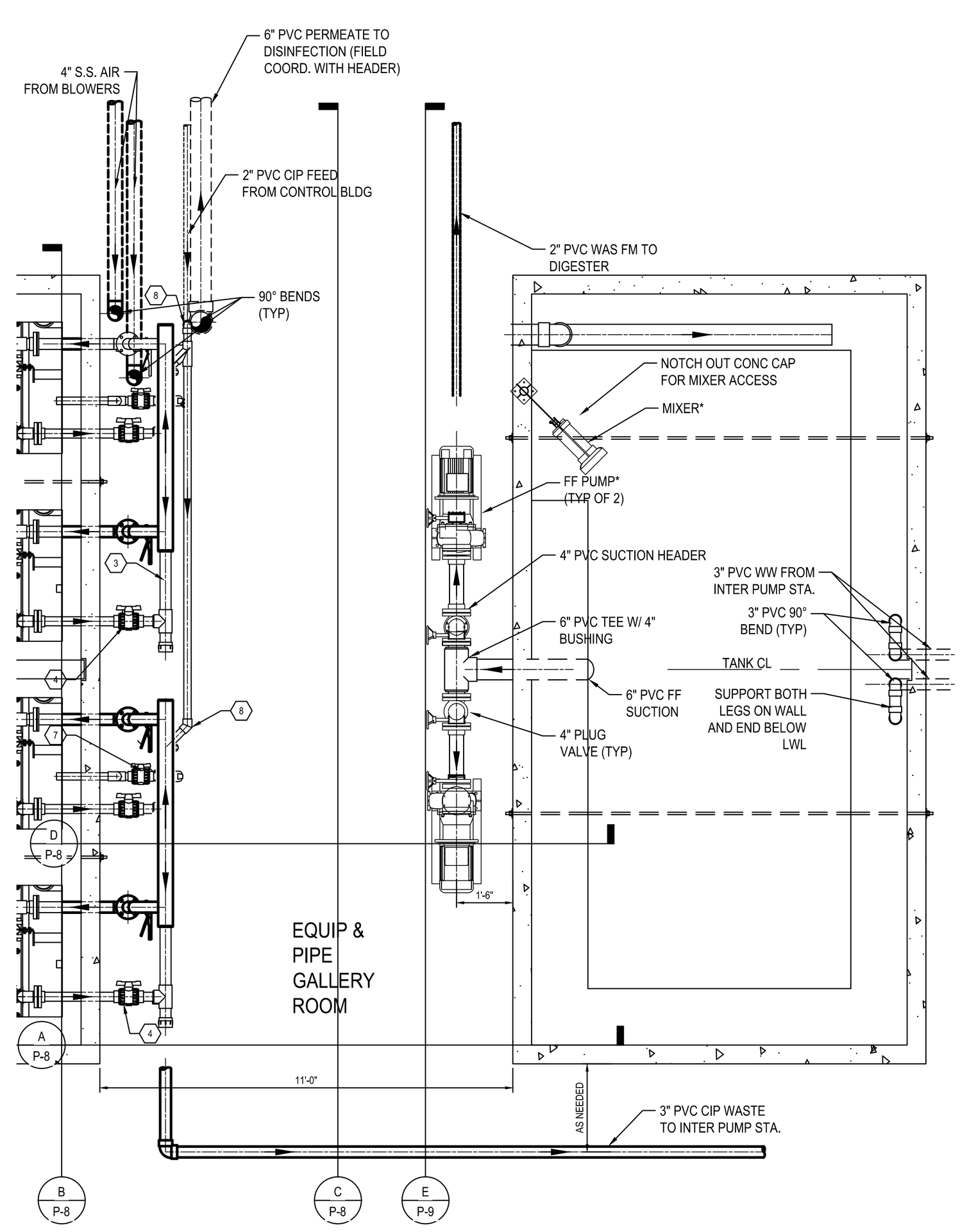
1. EQUIPMENT MAY NOT NECESSARILY BE SHOWN IN TRUE ORIENTATION SO AS TO PROVIDE CLARITY.
2. ALL EQUIPMENT, PIPING, ETC. SHALL BE ADEQUATELY SUPPORTED PER MFR RECOMMENDATIONS. PIPING SHALL NOT BE SUPPORTED BY EQUIPMENT.
3. PROVIDE REQUIRED PIPE SUPPORTS AND APPURTENANCES. SEE PROCESS NOTES ON SHEET G-1.
4. ALL DIMENSIONS SHOWN ARE SUBJECT TO NORMAL CONSTRUCTION TOLERANCES FOR FABRICATIONS OF THIS SIZE. VERIFY PIPE ELEVS IN FIELD AND CONNECT EQUIPMENT AS REQD TO AVOID CONFLICTS, ETC.
5. SEE OTHER SHEETS FOR ADDITIONAL PROJECT WORK.
6. SEE SITE PIPING PLAN FOR CONTINUATION.
7. ITEMS MARKED WITH AN ASTERISK (*) AND ALL ITEMS WITHIN THE TANK INTERIOR ARE BY MBR MFR. ALL OTHER PIPING/FTGS BETWEEN TANKS, SITE PIPING, MANUAL VALVES, PIPE SUPPORTS ARE BY GENERAL CONTRACTOR.
8. GC IS RESPONSIBLE FOR HAVING TANK PIPE PENETRATIONS FORMED BY PRECAST TANK MFR TO ACCOMMODATE OUTSIDE DIAMETER AND MECH. PIPE SEAL PER DETAIL. THESE SHALL BE PER APPROVED SUBMITTALS.

CODED NOTES:

1. 2" WAS MAG METER*
2. 6" PVC GRAVITY PERMEATE
3. 3" PVC MBR PERMEATE
4. 3" PVC PERMEATE BALL VALVE (TYP OF 4)
5. 3" PVC MBR PERMEATE FTG (90° BEND, TEE, CAP, ETC. AS REQD)
6. 2" PVC MBR CIP FEED (MBR CLEANING)
7. 2" PVC MBR CIP BALL VALVE (TYP OF 4)
8. 2" PVC MBR CIP FTG (90° BEND, TEE, CAP, ETC. AS NEEDED)
9. 4" S.S. AIR SUPPLY (TYP OF 2)
10. 4" S.S. AIR FTGS (AS REQD)
11. 4" S.S. AIR SUPPLY (TYP OF 2)
12. 3" S.S. AIR SUPPLY FTGS (AS REQD)
13. 3" AIR SERVICE BFV (TYP OF 4)
14. 2" WAS ELECT. ACTUATED BALL VALVE*



1 MBR PLAN VIEW
SCALE: 1/2"=1'-0"



2 EQUIPMENT GALLERY LOWER PLAN VIEW
SCALE: 1/2"=1'-0"

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CHECKED BY:	MAC
DATE:	05/03/23
SCALE:	AS NOTED

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ANOXIC TANK & MBR PROCESS PLANS

WASTEWATER TREATMENT PLANT & COLLECTION SYS IMPROVEMENTS

VILLAGE OF INTERLAKEN

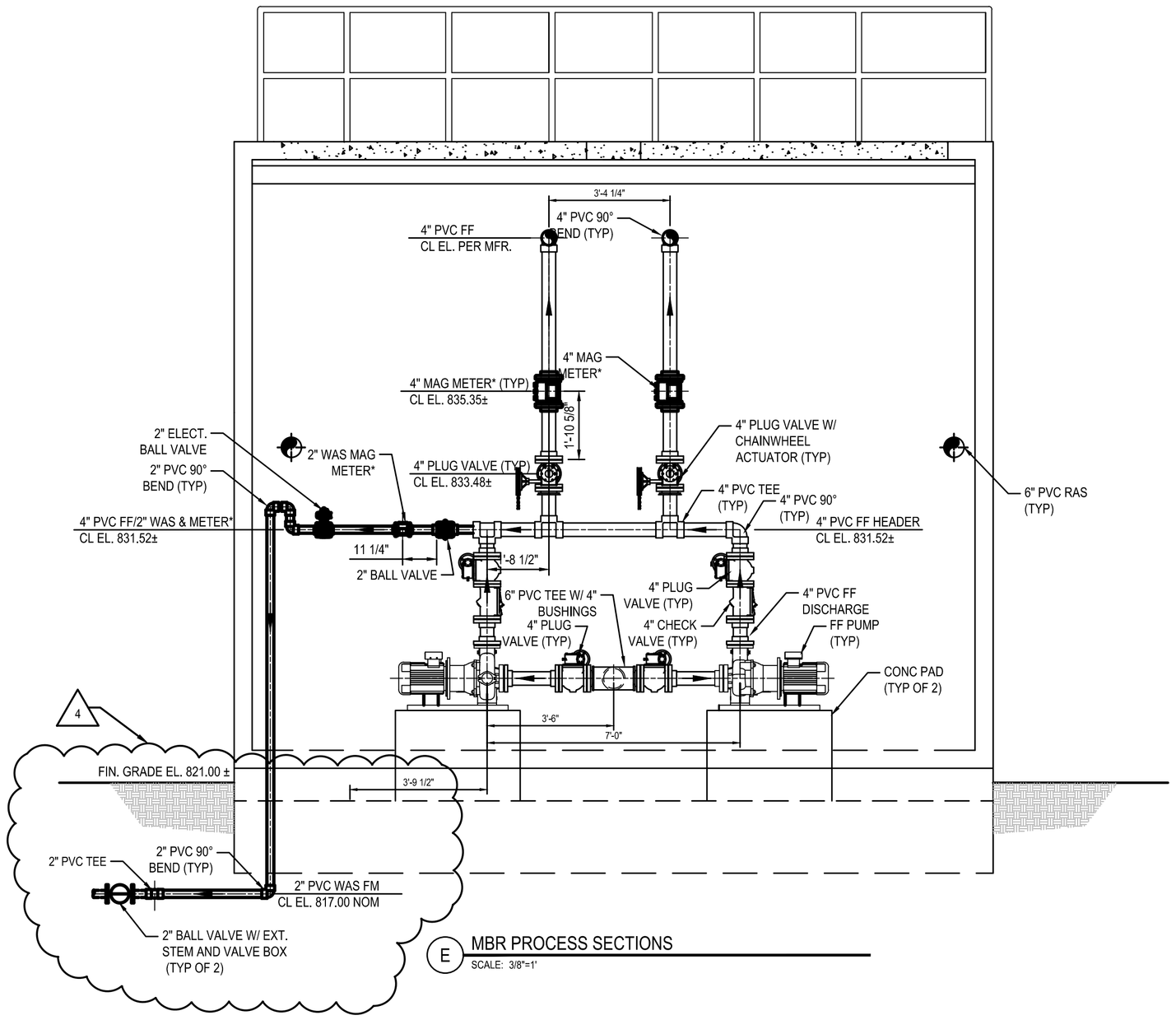
INTERLAKEN, NY 14847

P-7

PROJECT NO: 1319-027

NOTES:

1. EQUIPMENT MAY NOT NECESSARILY BE SHOWN IN TRUE ORIENTATION SO AS TO PROVIDE CLARITY.
2. ALL EQUIPMENT, PIPING, ETC. SHALL BE ADEQUATELY SUPPORTED PER MFR RECOMMENDATIONS. PIPING SHALL NOT BE SUPPORTED BY EQUIPMENT.
3. PROVIDE REQUIRED PIPE SUPPORTS AND APPURTENANCES. SEE PROCESS NOTES ON SHEET G-1.
4. ALL DIMENSIONS SHOWN ARE SUBJECT TO NORMAL CONSTRUCTION TOLERANCES FOR FABRICATIONS OF THIS SIZE. VERIFY PIPE ELEVS IN FIELD AND CONNECT EQUIPMENT AS REQD TO AVOID CONFLICTS, ETC.
5. SEE OTHER SHEETS FOR ADDITIONAL PROJECT WORK.
6. SEE SITE PIPING PLAN FOR CONTINUATION.
7. ITEMS MARKED WITH AN ASTERISK (*) AND ALL ITEMS WITHIN THE TANK INTERIOR ARE BY MBR MFR. ALL OTHER PIPING/FTGS BETWEEN TANKS, SITE PIPING, MANUAL VALVES, PIPE SUPPORTS ARE MY GENERAL CONTRACTOR.



E MBR PROCESS SECTIONS
SCALE: 3/8"=1'

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CHECKED BY:	MAC
DATE:	05/03/23
SCALE:	AS NOTED

#	DATE:	DESCRIPTION OF REVISION:	BY:
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ANOXIC TANK & MBR PROCESS SECTIONS

WASTEWATER TREATMENT PLANT & COLLECTION SYS IMPROVEMENTS

VILLAGE OF INTERLAKEN

INTERLAKEN, NY 14847

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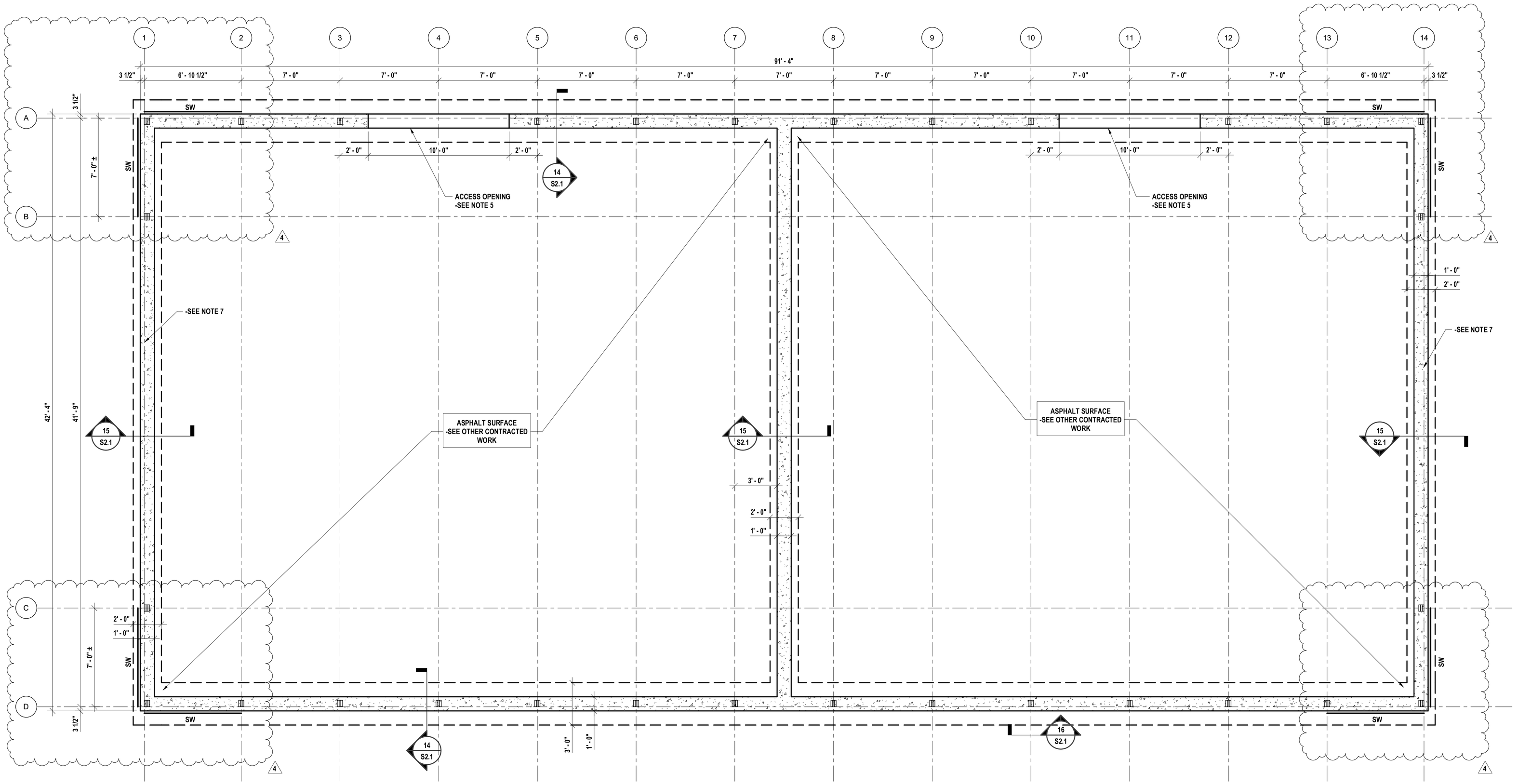
PROJECT NO: 1319-027



1 FOUNDATION PLAN - MORTON BUILDING

1/4" = 1'-0"

FOUNDATION PLAN NOTES:

1. TOP OF ASPHALT ELEVATION: EL.= 0'-0" (828.50' ± V.I.F.).
2. TOP OF FOOTING ELEVATION = (-3'-6").
3. SEE SHEET S0.1 FOR STRUCTURAL GENERAL NOTES.
4. SEE SHEET S2.1 FOR TYPICAL DETAILS.
5. OPENINGS IN FOUNDATION WALL SHALL HAVE A CHANNEL INSTALLED FOR A WOODEN GATE. -ELEVATION SHALL MATCH ASPHALT ELEVATION. -SEE OTHER CONCTRACTED WORK FOR ADDITIONAL INFORMATION.
6. GRIDS "A, B, 1, AND 14" INDICATE THE OUTSIDE FACE OF THE COLUMN. ALL OTHER GRIDS INDICATE THE CENTER OF COLUMN.
7. BUILDING MANUFACTURER MAY PLACE COLUMNS ON THE "1 & 14" GRID AS REQUIRED.
8. OPEN AIR STRUCTURE NO WALLS INCLUDED.
9. BEDROCK MAY BE ENCOUNTERED WHEN PLACING FOUNDATIONS. SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION.
10. SW = MORTON STEEL CLAD SHEAR WALLS.

4

DRAWN BY:	MKB
CHECKED BY:	BSS
DATE:	05/03/2023
PHASE:	CD

#	DATE:	DESCRIPTION OF REVISION:
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ALBANY, NY 607 - 798 - 8081 WWW.HUNT-EAS.COM
NY CERTIFICATE NO. 0018220 PA CERTIFICATE NO. TSC2203131464-1

FOUNDATION PLANS - MORTON BUILDING

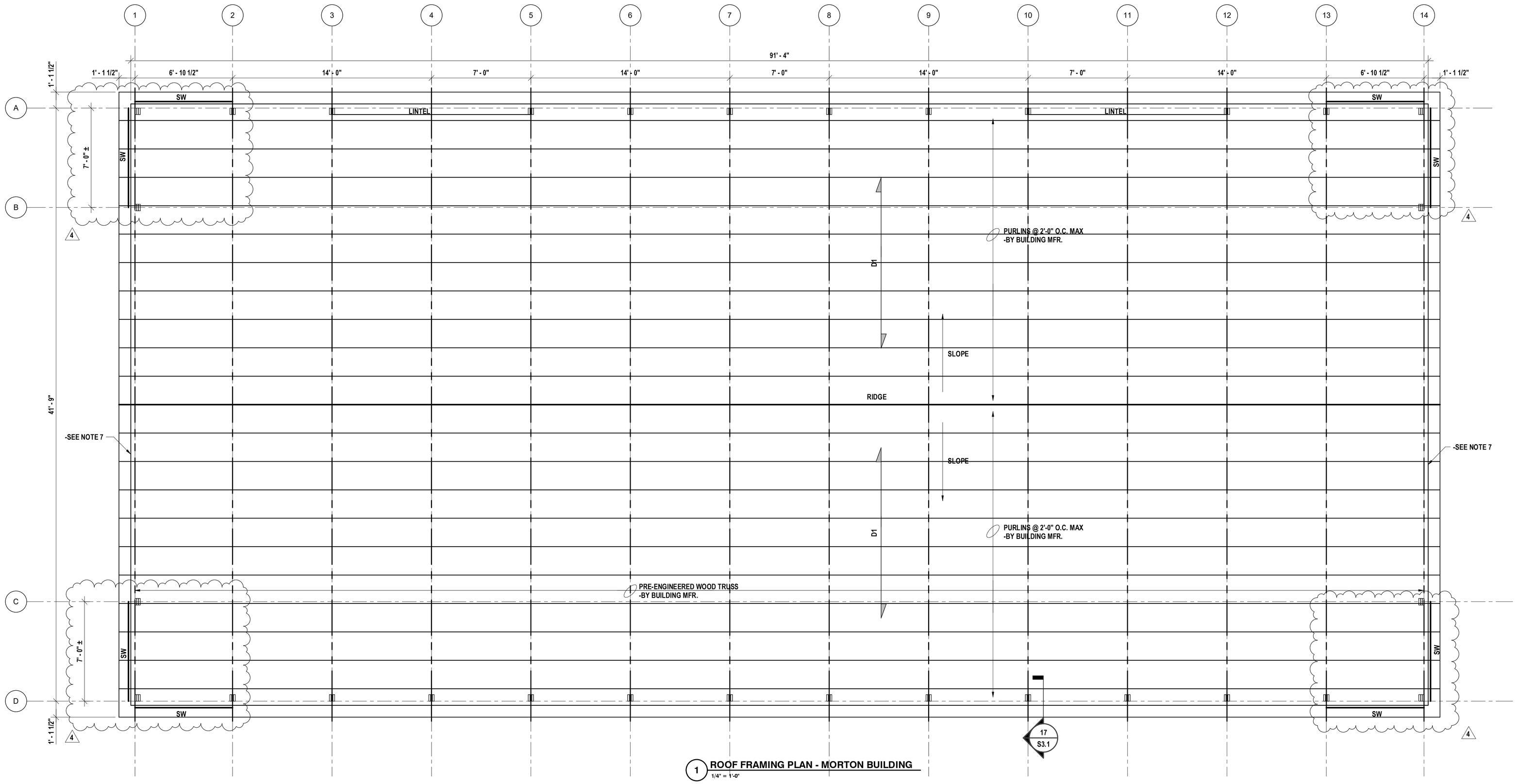
WASTEWATER TREATMENT PLANT & COLLECTION SYS IMPROVEMENTS

VILLAGE OF INTERLAKEN

INTERLAKEN, NY 14847

S1.2

PROJECT NO: 1319-027



1 ROOF FRAMING PLAN - MORTON BUILDING
1/4" = 1'-0"

ROOF FRAMING PLAN NOTES:

1. ROOF TRUSS HEEL ELEVATION: EL.= +11'-6" (840.00')
2. ROOF SLOPE = 4" PER FOOT.
3. LINTELS AT DOORWAYS SHALL BE PROVIDED BY THE BUILDING MANUFACTURER.
   - LINTEL SHALL BE NO LOWER THAN 10'-0" A.F.F.
4. ALL EXTERIOR EXPOSED FRAMING TO BE PRESERVATIVE TREATED PER SPECIFICATION.
5. TYPICAL OVERHANG SHALL BE 1'-1 1/2" MIN.
6. D1 = MORTON ANNEALED ROOF PANELS.
7. PROVIDE PAINTED T-III WALL PANELS AT GABLE END OF TRUSS.
8. BUILDING MANUFACTURER MAY PLACE COLUMNS ON THE "1 & 14" GRID AS REQUIRED.
9. OPEN STRUCTURE AT BOTTOM OF TRUSS.
10. SW = MORTON STEEL CLAD SHEAR WALLS.

DRAWN BY:	MKB
CHECKED BY:	BSS
DATE:	05/03/2023
PHASE:	CD

#	DATE:	DESCRIPTION OF REVISION:
1	11/15/2023	NYS DEC REVISIONS/RESUBMIT
2	12/28/2023	NYS DEC APPROVAL
3	02/25/2024	ISSUED FOR BID
4	03/27/2024	BID ADDENDUM #2

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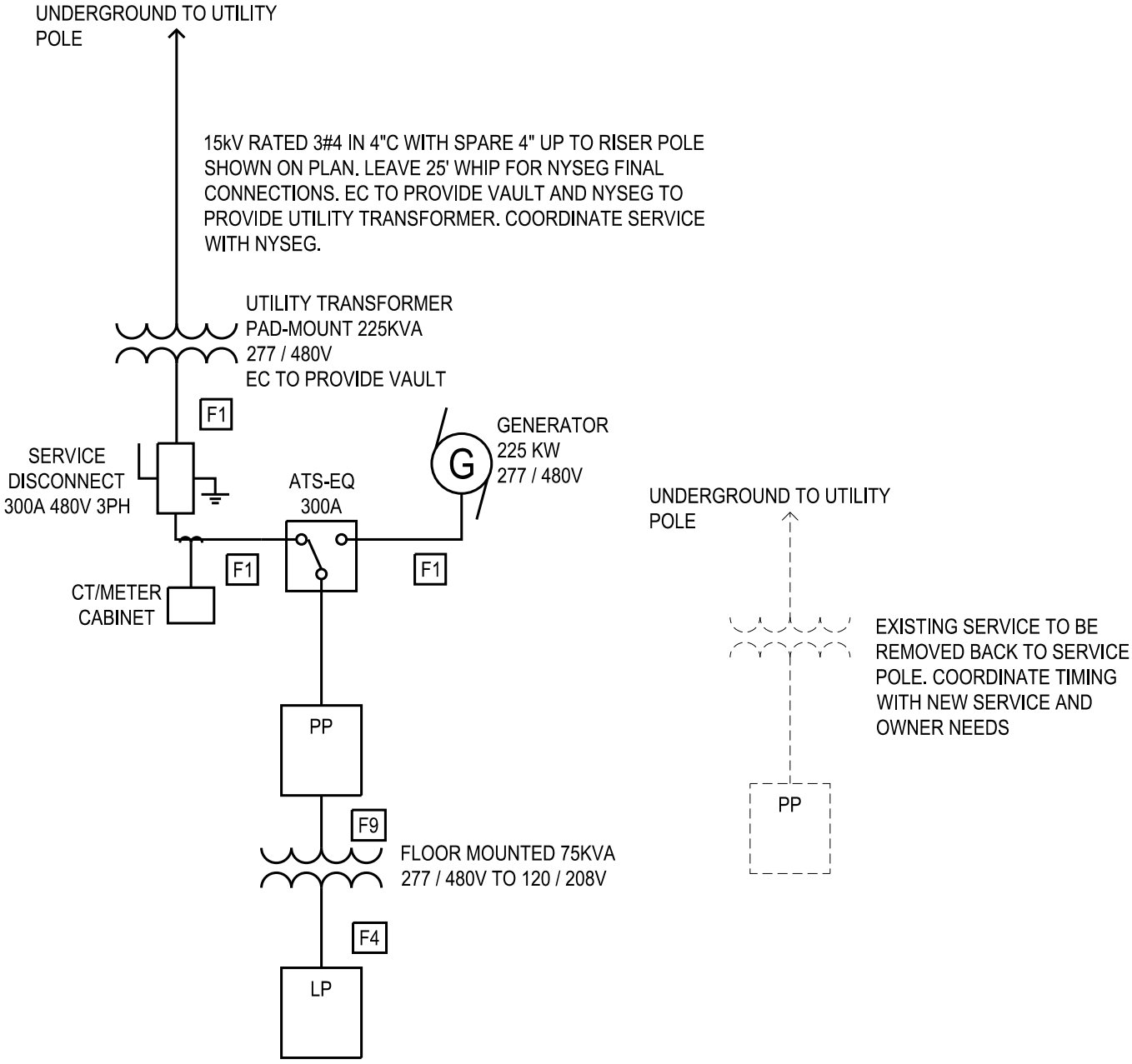
ALBANY, NY 607 - 798 - 8081 WWW.HUNT-EAS.COM
NY CERTIFICATE NO. 0018220 PA CERTIFICATE NO. TSCZ20031314641

FRAMING PLANS - MORTON BUILDING

WASTEWATER TREATMENT PLANT & COLLECTION SYS IMPROVEMENTS
VILLAGE OF INTERLAKEN
INTERLAKEN, NY 14847

S1.3

PROJECT NO: 1319-027



2 ONE LINE DIAGRAM
N/A

REVISED ONE LINE DIAGRAM

WWTP & COLLECTION SYS IMPROVEMENTS

VILLAGE OF INTERLAKEN

INTERLAKEN, NY 14847

HUNT ENGINEERS | ARCHITECTS | SURVEYORS
HORSEHEADS, NY 607 - 358 - 1000 ROCHESTER, NY 585 - 327 - 7950
TOWANDA, PA 570 - 265 - 4868 BINGHAMTON, NY 607 - 798 - 8081
ALBANY, NY 607 - 798 - 8081 WWW.HUNT-EAS.COM
NY CERTIFICATE NO. 0018220 PA CERTIFICATE NO. TSC2203131464-1

AD2-E1

DATE: 3/27/2024

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